

Chemical Analysis Report

NE-DIST-2020-02-13-01

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

Event Description: **LSJR South West Boat**

Request ID: **RQ-2020-02-10-16**

Customer: **NE-DIST**

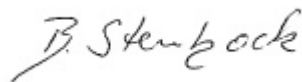
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

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

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 06-MAR-2020 16:33



Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Mill Log CR Downstream of Test Site

Collection Date/Time: 02/12/2020 10:35

Field ID: 20030304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157353	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P378899	
	EPA 300.0 Rev. 2.1	Chloride	32		mg Cl/L	P379511	
		Sulfate	7.6		mg SO4/L	P379513	
	SM 2120 B-2011	Color (true)	110		PCU	P378904	
	SM 2320 B-2011	Total Alkalinity	28		mg CaCO3/L	P379406	
	SM 2540 C-2011	TDS	107		mg/L	P379527	
	SM 2540 D-2011	TSS	2	U	mg/L	P379340	
	SM 4500 F-C-2011	Fluoride	0.20		mg F/L	P379409	
2157354	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P379459	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P379161	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P379539	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P379503	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P379078	
2157355	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P378912	
2157400	EPA 8321B	2,4-D	0.0020	U	ug/L	P378897	
		Acesulfame K**	0.10	UQ	ug/L	P379066	
		AMPA**	0.10	U	ug/L	P379066	
		Sucralose**	0.096		ug/L	P379066	
		Acetaminophen**	0.0080	U	ug/L	P378897	
		Acetamiprid**	0.0020	U	ug/L	P378897	
		Endothall**	0.25	UQ	ug/L	P379066	
		Glufosinate**	0.10	U	ug/L	P379066	
		Glyphosate**	0.10	U	ug/L	P379066	
		Afidopyropen**	0.0020	UJ	ug/L	P378897	
		Bentazon	0.028		ug/L	P378897	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P378897	
		Carbamazepine**	8.0E-04	U	ug/L	P378897	
		Clothianidin**	0.0020	U	ug/L	P378897	
		Dinotefuran**	0.0020	U	ug/L	P378897	
		Diuron	0.0020	U	ug/L	P378897	
		Fenuron	0.016	U	ug/L	P378897	
		Fluridone**	8.0E-04	U	ug/L	P378897	
		Imazapyr**	0.27		ug/L	P378897	
		Hydrocodone**	0.0020	U	ug/L	P378897	
		Ibuprofen**	0.020	U	ug/L	P378897	
		Imidacloprid	0.0020	U	ug/L	P378897	
		Linuron	0.0040	U	ug/L	P378897	
		Mandestrobin**	0.0020	UJ	ug/L	P378897	
		MCP	0.0020	U	ug/L	P378897	
		Naproxen**	0.0080	U	ug/L	P378897	
		Primidone**	0.0040	U	ug/L	P378897	
		Pyraclostrobin**	0.0020	U	ug/L	P378897	
		Thiamethoxam**	0.0020	U	ug/L	P378897	

Field ID: 20030304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157400	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P378897	
		Triclopyr**	0.0040	U	ug/L	P378897	

Ref. Method and Comment:

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

EPA 8321B: Q - Sample analyzed beyond holding time due to technical difficulties.

Sample Location: Black CR @ RR Bridge Below Mill Log CR

Collection Date/Time: 02/12/2020 10:55

Field ID: 20030204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157356	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P378899	
	EPA 300.0 Rev. 2.1	Chloride	14	A	mg Cl/L	P379679	
		Sulfate	5.5	A	mg SO4/L	P379682	
	SM 2120 B-2011	Color (true)	130		PCU	P378904	
	SM 2320 B-2011	Total Alkalinity	22		mg CaCO3/L	P379406	
	SM 2540 C-2011	TDS	71		mg/L	P379527	
	SM 2540 D-2011	TSS	2	I	mg/L	P379340	
	SM 4500 F-C-2011	Fluoride	0.075	I	mg F/L	P379409	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P379068	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P379161	
2157360	EPA 353.2 Rev. 2.0	NO2NO3-N	0.055		mg N/L	P379539	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P379503	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P379078	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.049		mg P/L	P378912	
	dissolved						

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: Little Black Creek 200m above mouth

Collection Date/Time: 02/12/2020 11:15

Field ID: G2NE1184

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157357	EPA 180.1 Rev. 2.0	Turbidity	2.3	A	NTU	P378899	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P379679	
		Sulfate	5.0		mg SO4/L	P379682	
	SM 2120 B-2011	Color (true)	120		PCU	P378904	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P379406	
	SM 2540 C-2011	TDS	73		mg/L	P379528	
	SM 2540 D-2011	TSS	2	I	mg/L	P379341	
	SM 4500 F-C-2011	Fluoride	0.076	I	mg F/L	P379409	
2157361	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P379068	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P379161	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.049		mg N/L	P379539	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P379503	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P379078	
2157365	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.054		mg P/L	P378913	

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: South fork Black Creek upstream of North Fork Black CR **Collection Date/Time: 02/12/2020 12:05**

Field ID: G2NE1127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157358	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P378899	
	EPA 300.0 Rev. 2.1	Chloride	10		mg Cl/L	P379679	
		Sulfate	3.6		mg SO4/L	P379682	
	SM 2120 B-2011	Color (true)	150		PCU	P378904	
	SM 2320 B-2011	Total Alkalinity	9.7		mg CaCO3/L	P379406	
	SM 2540 C-2011	TDS	58		mg/L	P379528	
	SM 2540 D-2011	TSS	3	I	mg/L	P379341	
	SM 4500 F-C-2011	Fluoride	0.080	I	mg F/L	P379409	
2157362	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P379068	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P379161	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P379539	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P379503	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P379078	
2157366	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.088		mg P/L	P378913	

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: Swimming Pen CR @ SR 220

Collection Date/Time: 02/12/2020 13:05

Field ID: 20030191

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2157359	EPA 180.1 Rev. 2.0	Turbidity	7.8		NTU	P378899	
	EPA 300.0 Rev. 2.1	Chloride	600		mg Cl/L	P379679	
		Sulfate	110		mg SO4/L	P379682	
	SM 2120 B-2011	Color (true)	100		PCU	P378905	
	SM 2320 B-2011	Total Alkalinity	72		mg CaCO3/L	P379406	
	SM 2540 C-2011	TDS	1.22E+03		mg/L	P379528	
	SM 2540 D-2011	TSS	12		mg/L	P379341	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P379409	
2157363	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P379082	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P379165	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P379540	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P379504	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P379078	
2157367	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P378913	

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: P378899

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379511

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379513

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379679

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379682

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379068

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379082

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379459

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379161

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379165

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379539

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379540

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379503

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379504

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378912

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378913

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

Reference Method: EPA 8321B
Batch ID: P378897

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P378897

Component	Result	Code	Units
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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P379066

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: P378904

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P378905

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P379406

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

Reference Method: SM 2540 C-2011
Batch ID: P379527

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P379528

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379340

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P379341

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P379409

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P379078

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379511

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379513

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379679

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379068

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379082

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379459

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379161

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379165

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379539

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379540

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: P379503

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379504

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: P378912

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378913

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

Reference Method: EPA 8321B
Batch ID: P378897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	142		P	30 - 160
Acetaminophen	75.2		P	30 - 160
Acetamiprid	87.9		P	30 - 160
Afidopyropen	89.4		P	30 - 160
Bentazon	82.7		P	30 - 160
Benzovindiflupyr	76.7		P	30 - 160
Carbamazepine	91.3		P	30 - 160
Clothianidin	74.9		P	30 - 160
Dinotefuran	82.5		P	30 - 160
Diuron	73.8		P	30 - 160
Fenuron	104		P	30 - 160
Fluridone	86.7		P	30 - 160
Hydrocodone	76.0		P	30 - 160
Ibuprofen	93.9		P	30 - 160
Imazapyr	95.5		P	30 - 160
Imidacloprid	94.3		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P378897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	69.4		P	30 - 160
Mandestrobin	88.5		P	30 - 160
MCP	149		P	30 - 160
Naproxen	73.2		P	30 - 160
Primidone	95.1		P	30 - 160
Pyraclostrobin	79.9		P	30 - 160
Thiamethoxam	82.5		P	30 - 160
Tolfenpyrad	46.2		P	30 - 160
Triclopyr	117		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P379066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	79.0		P	40 - 150
AMPA	72.2		P	40 - 150
Endothall	93.4		P	40 - 150
Glufosinate	114		P	40 - 150
Glyphosate	103		P	40 - 140
Sucralose	106		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P378904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P378905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P379406

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P379409

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P379078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157208	Chloride	101		P	90 - 110
2157293	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379513

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157208	Sulfate	99.8		P	90 - 110
2157293	Sulfate	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157356	Chloride	98.2		P	90 - 110
2157514	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379682

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157356	Sulfate	97.6		P	90 - 110
2157514	Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156693	Ammonia-N	99.0	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157363	Ammonia-N	96.8	99.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157310	Ammonia-N	98.8	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157310	Kjeldahl Nitrogen	108	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379165

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157389	Kjeldahl Nitrogen	97.3	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379539

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157362	NO2NO3-N	98.4	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157363	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157303	Total-P	104	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157363	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157292	O-Phosphate-P	98.0	99.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157518	O-Phosphate-P	98.1	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P378897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156805	2,4-D	129	139	P/P	30 - 160
2156805	Acetaminophen	91.9	99.8	P/P	30 - 160
2156805	Acetamiprid	80.4	80.3	P/P	30 - 160
2156805	Afidopyropen	91.1	96.4	P/P	30 - 160
2156805	Bentazon	54.7	56.7	P/P	30 - 160
2156805	Benzovindiflupyr	66.1	65.6	P/P	30 - 160
2156805	Carbamazepine	66.1	75.3	P/P	30 - 160
2156805	Clothianidin	86.5	88.4	P/P	30 - 160
2156805	Dinotefuran	118	128	P/P	30 - 160
2156805	Diuron	59.9	53.9	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P378897

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2156805	Fenuron	86.0	82.4	P/P	30 - 160
2156805	Fluridone	79.1	80.2	P/P	30 - 160
2156805	Hydrocodone	94.9	103	P/P	30 - 160
2156805	Ibuprofen	82.2	76.6	P/P	30 - 160
2156805	Imazapyr	80.2	88.3	P/P	30 - 160
2156805	Imidacloprid	152	129	P/P	30 - 160
2156805	Linuron	58.3	57.7	P/P	30 - 160
2156805	Mandestrobin	75.9	75.1	P/P	30 - 160
2156805	MCP	135	148	P/P	30 - 160
2156805	Naproxen	75.0	67.8	P/P	30 - 160
2156805	Primidone	90.7	86.7	P/P	30 - 160
2156805	Pyraclostrobin	57.2	66.4	P/P	30 - 160
2156805	Thiamethoxam	130	134	P/P	30 - 160
2156805	Tolfenpyrad	53.3	55.4	P/P	30 - 160
2156805	Triclopyr	115	120	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P379066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157328	Acesulfame K	76.9	79.0	P/P	40 - 150
2157328	AMPA	79.5	75.9	P/P	40 - 150
2157328	Endothall	55.1	60.7	P/P	40 - 150
2157328	Glufosinate	111	121	P/P	40 - 150
2157328	Glyphosate	124	123	P/P	40 - 140
2157328	Sucralose	111	108	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P379409

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157235	Fluoride	97.8	98.9	P/P	89 - 106

Reference Method: SM 5310 B-2011
Batch ID: P379078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2157361	Organic Carbon	98.0	96.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P378899

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157357	Turbidity	15.3	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157208	Chloride	0.345	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379513

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157208	Sulfate	0.0970	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157356	Chloride	0.165	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P379682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157356	Sulfate	0.0877	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156693	Ammonia-N	1.25	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157363	Ammonia-N	2.60	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P379459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157310	Ammonia-N	0.693	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157310	Kjeldahl Nitrogen	0.719	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P379165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157389	Kjeldahl Nitrogen	0.484	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379539

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157362	NO2NO3-N	0.443	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P379540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157363	NO2NO3-N	1.00	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157303	Total-P	2.99	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P379504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157363	Total-P	0.561	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157292	O-Phosphate-P	1.12	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P378913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157518	O-Phosphate-P	0.508	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P378897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2156805	2,4-D	6.90	Spike	P	0 - 30
2156805	Acetaminophen	8.28	Spike	P	0 - 30
2156805	Acetamiprid	0.213	Spike	P	0 - 30
2156805	Afidopyropen	5.69	Spike	P	0 - 30
2156805	Bentazon	2.56	Spike	P	0 - 30
2156805	Benzovindiflupyr	0.886	Spike	P	0 - 30
2156805	Carbamazepine	13.1	Spike	P	0 - 30
2156805	Clothianidin	2.14	Spike	P	0 - 30
2156805	Dinotefuran	8.05	Spike	P	0 - 30
2156805	Diuron	10.6	Spike	P	0 - 30
2156805	Fenuron	4.23	Spike	P	0 - 30
2156805	Fluridone	1.36	Spike	P	0 - 30
2156805	Hydrocodone	7.89	Spike	P	0 - 30
2156805	Ibuprofen	7.00	Spike	P	0 - 30
2156805	Imazapyr	9.66	Spike	P	0 - 30
2156805	Imidacloprid	16.8	Spike	P	0 - 30
2156805	Linuron	1.03	Spike	P	0 - 30
2156805	Mandestrobin	1.08	Spike	P	0 - 30
2156805	MCPP	8.92	Spike	P	0 - 30
2156805	Naproxen	10.1	Spike	P	0 - 30
2156805	Primidone	4.52	Spike	P	0 - 30
2156805	Pyraclostrobin	14.8	Spike	P	0 - 30
2156805	Thiamethoxam	3.30	Spike	P	0 - 30
2156805	Tolfenpyrad	3.88	Spike	P	0 - 30
2156805	Triclopyr	3.87	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P379066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157328	Acesulfame K	2.70	Spike	P	0 - 30
2157328	AMPA	4.71	Spike	P	0 - 30
2157328	Endothall	9.55	Spike	P	0 - 30
2157328	Glufosinate	8.16	Spike	P	0 - 30
2157328	Glyphosate	1.13	Spike	P	0 - 30
2157328	Sucralose	2.78	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P378904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157308	Color (true)	0.224	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P378905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157502	Color (true)	0.884	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P379406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157235	Total Alkalinity	0.763	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P379527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157308	TDS	4.26	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P379528

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157572	TDS	3.96	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P379409

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157235	Fluoride	1.00	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P379078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2157361	Organic Carbon	0.861	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2157400
Field Sample ID: 20030304

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	108	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.9	P	30 - 160
EPA 8321B	Diuron-d6	79.7	P	30 - 160
EPA 8321B	Endothall-d6	141	P	30 - 160
EPA 8321B	Endothall-d6	141	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	129	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	129	P	30 - 160
EPA 8321B	Ibuprofen-d3	104	P	30 - 160
EPA 8321B	Primidone-d5	97.4	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B-2011

Run ID: A97527

Included Lab Sample IDs: 2157353, 2157356, 2157357, 2157358, 2157359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	99.9	P/P	90 - 115
Color (true)	101	101	P/P	90 - 115
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A97528

Included Lab Sample IDs: 2157353, 2157356, 2157357, 2157358, 2157359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A97529

Included Lab Sample IDs: 2157355, 2157364, 2157365, 2157366, 2157367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	97.2	P/P	90 - 110
O-Phosphate-P	97.6	97.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97588

Included Lab Sample IDs: 2157360, 2157361, 2157362

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

Reference Method: SM 5310 B-2011

Run ID: A97590

Included Lab Sample IDs: 2157354, 2157360, 2157361, 2157362, 2157363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	98.8	P/P	90 - 110
Organic Carbon	100	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97592

Included Lab Sample IDs: 2157363

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

Reference Method: EPA 8321B

Run ID: A97596

Included Lab Sample IDs: 2157400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.3	90.7	P/P	50 - 150
Acetaminophen	103	114	P/P	60 - 160
Acetamiprid	115	111	P/P	50 - 150
Afidopyropen	106	106	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A97596

Included Lab Sample IDs: 2157400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	83.5	74.2	P/P	50 - 160
Benzovindiflupyr	106	105	P/P	50 - 150
Carbamazepine	88.5	90.0	P/P	60 - 150
Clothianidin	90.5	102	P/P	60 - 150
Dinotefuran	111	106	P/P	50 - 150
Diuron	110	96.0	P/P	60 - 150
Fenuron	107	113	P/P	60 - 150
Fluridone	109	105	P/P	60 - 160
Hydrocodone	108	105	P/P	60 - 150
Ibuprofen	85.4	98.5	P/P	50 - 160
Imazapyr	103	109	P/P	50 - 150
Imidacloprid	110	101	P/P	60 - 150
Linuron	106	112	P/P	60 - 150
Mandestrobin	104	104	P/P	50 - 150
MCP	88.4	91.4	P/P	50 - 150
Naproxen	136	94.5	P/P	50 - 160
Primidone	99.2	110	P/P	60 - 150
Pyraclostrobin	100	106	P/P	60 - 150
Thiamethoxam	111	96.3	P/P	50 - 150
Tolfenpyrad	92.9	102	P/P	60 - 150
Triclopyr	78.8	85.1	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A97692

Included Lab Sample IDs: 2157354, 2157360, 2157361, 2157362, 2157363

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	97.1	P/P	90 - 110
Kjeldahl Nitrogen	97.1	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A97738

Included Lab Sample IDs: 2157353, 2157356, 2157357, 2157358, 2157359

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

Reference Method: SM 4500 F-C-2011

Run ID: A97738

Included Lab Sample IDs: 2157353, 2157356, 2157357, 2157358, 2157359

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A97754

Included Lab Sample IDs: 2157354

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A97764

Included Lab Sample IDs: 2157354, 2157360, 2157361, 2157362, 2157363

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A97771

Included Lab Sample IDs: 2157353, 2157356, 2157357, 2157358, 2157359

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.9	98.8	P/P	90 - 110
Chloride	99.5	100	P/P	90 - 110
Sulfate	98.1	98.9	P/P	90 - 110
Sulfate	99.9	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A97817

Included Lab Sample IDs: 2157400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	127	81.6	P/P	60 - 160
Endothall	86.6	95.1	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A97859

Included Lab Sample IDs: 2157354, 2157360, 2157361, 2157362, 2157363

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

Reference Method: EPA 8321B

Run ID: A97908

Included Lab Sample IDs: 2157400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	109	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A97951

Included Lab Sample IDs: 2157400

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	76.1	67.4	P/P	60 - 160
Glufosinate	105	122	P/P	60 - 160
Glyphosate	94.5	113	P/P	60 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					15.3	
EPA 300.0 Rev. 2.1	Chloride	99.9	101	101		0.345	
	Chloride	99.2	98.2	97.5		0.165	
	Sulfate	100	99.8	100		0.0970	
	Sulfate	99.4	98.8	97.6		0.0877	
	Ammonia-N	101	99.0	100			1.25
EPA 350.1 Rev. 2.0	Ammonia-N	100	96.8	99.6			2.60
	Ammonia-N	97.8	98.8	98.0			0.693
	Ammonia-N	97.8	98.8	98.0			0.693
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	108	109			0.719
	Kjeldahl Nitrogen	101	97.3	96.2			0.484
EPA 353.2 Rev. 2.0	NO2NO3-N	102	98.4	98.8			0.443
	NO2NO3-N	102	99.5	100			1.00
EPA 365.1 Rev. 2.0	Total-P	104	104	107			2.99
	Total-P	104	106	106			0.561
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.0	99.1			1.12
	O-Phosphate-P	101	98.1	98.6			0.508
EPA 8321B	2,4-D	142	129	139			6.90
	Acesulfame K	79.0	76.9	79.0			2.70
	Acetaminophen	75.2	91.9	99.8			8.28
	Acetamiprid	87.9	80.4	80.3			0.213
	Afidopyropen	89.4	91.1	96.4			5.69
	AMPA	72.2	79.5	75.9			4.71
	Bentazon	82.7	54.7	56.7			2.56
	Benzovindiflupyr	76.7	66.1	65.6			0.886
	Carbamazepine	91.3	66.1	75.3			13.1
	Clothianidin	74.9	86.5	88.4			2.14
	Dinotefuran	82.5	118	128			8.05
	Diuron	73.8	59.9	53.9			10.6
	Endothall	93.4	55.1	60.7			9.55
	Fenuron	104	86.0	82.4			4.23
	Fluridone	86.7	79.1	80.2			1.36
	Glufosinate	114	111	121			8.16
	Glyphosate	103	124	123			1.13
	Hydrocodone	76.0	94.9	103			7.89
	Ibuprofen	93.9	82.2	76.6			7.00
	Imazapyr	95.5	80.2	88.3			9.66
	Imidacloprid	94.3	152	129			16.8
	Linuron	69.4	58.3	57.7			1.03
	Mandestrobin	88.5	75.9	75.1			1.08
	MCPP	149	135	148			8.92
	Naproxen	73.2	75.0	67.8			10.1
	Primidone	95.1	90.7	86.7			4.52
	Pyraclostrobin	79.9	57.2	66.4			14.8
	Sucralose	106	111	108			2.78
	Thiamethoxam	82.5	130	134			3.30
	Tolfenpyrad	46.2	53.3	55.4			3.88
	Triclopyr	117	115	120			3.87
SM 2120 B-2011	Color (true)	98.9				0.224	
	Color (true)	99.3				0.884	
SM 2320 B-2011	Total Alkalinity	104				0.763	
SM 2540 C-2011	TDS					4.26	
	TDS					3.96	
SM 4500 F-C-2011	Fluoride	99.3	97.8	98.9			1.00
SM 5310 B-2011	Organic Carbon	95.8	98.0	96.7			0.861

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2157353, 2157356, 2157357, 2157358, 2157359
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2157353, 2157356, 2157357, 2157358, 2157359
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2157353, 2157356, 2157357, 2157358, 2157359
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2157354, 2157360, 2157361, 2157362, 2157363
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2157354, 2157360, 2157361, 2157362, 2157363
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2157354, 2157360, 2157361, 2157362, 2157363
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2157354, 2157360, 2157361, 2157362, 2157363
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2157355, 2157364, 2157365, 2157366, 2157367
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2157400
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2157400
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2157353, 2157356, 2157357, 2157358, 2157359
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2157353, 2157356, 2157357, 2157358, 2157359
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2157353, 2157356, 2157357, 2157358, 2157359
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2157353, 2157356, 2157357, 2157358, 2157359
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2157353, 2157356, 2157357, 2157358, 2157359
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2157354, 2157360, 2157361, 2157362, 2157363

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/13/2020			02/13/2020 16:14	Yen Ta	2157353, 2157356, 2157357, 2157358, 2157359
EPA 300.0 Rev. 2.1	02/13/2020			02/25/2020 06:40	Lipi Saha	2157353
	02/13/2020			02/25/2020 13:28	Lipi Saha	2157356
	02/13/2020			02/25/2020 14:16	Lipi Saha	2157357
	02/13/2020			02/25/2020 14:28	Lipi Saha	2157358
	02/13/2020			02/25/2020 14:40	Lipi Saha	2157359
EPA 350.1 Rev. 2.0	02/13/2020			02/17/2020 09:54	Ping Hua	2157363
	02/13/2020			02/17/2020 10:09	Ping Hua	2157360
	02/13/2020			02/17/2020 10:17	Ping Hua	2157361
	02/13/2020			02/17/2020 10:18	Ping Hua	2157362
	02/13/2020			02/21/2020 11:20	Ping Hua	2157354
EPA 351.2 Rev. 2.0	02/13/2020	02/19/2020 11:45	Sima Feizi	02/20/2020 19:50	Jhamieka S. Greenwood	2157354
	02/13/2020	02/19/2020 11:45	Sima Feizi	02/20/2020 19:52	Jhamieka S. Greenwood	2157360
	02/13/2020	02/19/2020 11:45	Sima Feizi	02/20/2020 19:53	Jhamieka S. Greenwood	2157361
	02/13/2020	02/19/2020 11:45	Sima Feizi	02/20/2020 19:55	Jhamieka S. Greenwood	2157362
	02/13/2020	02/19/2020 11:45	Sima Feizi	02/20/2020 20:07	Jhamieka S. Greenwood	2157363
EPA 353.2 Rev. 2.0	02/13/2020			02/21/2020 11:39	Beverly Y. Sanders	2157354
	02/13/2020			02/21/2020 11:40	Beverly Y. Sanders	2157360
	02/13/2020			02/21/2020 11:41	Beverly Y. Sanders	2157361
	02/13/2020			02/21/2020 11:42	Beverly Y. Sanders	2157362
	02/13/2020			02/21/2020 11:49	Beverly Y. Sanders	2157363
EPA 365.1 Rev. 2.0	02/13/2020	02/24/2020 16:08	Yen Ta	02/26/2020 18:07	Benjamin T. Nordmann	2157354
	02/13/2020	02/24/2020 16:08	Yen Ta	02/26/2020 18:08	Benjamin T. Nordmann	2157360
	02/13/2020	02/24/2020 16:08	Yen Ta	02/26/2020 18:09	Benjamin T. Nordmann	2157361
	02/13/2020	02/24/2020 16:08	Yen Ta	02/26/2020 18:10	Benjamin T. Nordmann	2157362
	02/13/2020	02/24/2020 16:08	Yen Ta	02/26/2020 18:16	Benjamin T. Nordmann	2157363
EPA 365.1 Rev. 2.0 dissolved	02/13/2020			02/13/2020 16:30	Carlos Miranda	2157355
	02/13/2020			02/13/2020 16:31	Carlos Miranda	2157364
	02/13/2020			02/13/2020 16:40	Carlos Miranda	2157365
	02/13/2020			02/13/2020 16:41	Carlos Miranda	2157366
	02/13/2020			02/13/2020 16:42	Carlos Miranda	2157367
EPA 8321B	02/13/2020	02/18/2020 09:00	Hoor Shaik	02/19/2020 05:01	Juyoung Kim	2157400
	02/13/2020	02/18/2020 10:00	Rebecca Ware	02/18/2020 12:02	Rebecca Ware	2157400
	02/13/2020	02/18/2020 10:00	Rebecca Ware	02/19/2020 20:43	Rebecca Ware	2157400
	02/13/2020	02/18/2020 10:00	Rebecca Ware	02/26/2020 12:48	Rebecca Ware	2157400
SM 2120 B-2011	02/13/2020			02/13/2020 16:02	Samantha Davila	2157353, 2157356
	02/13/2020			02/13/2020 16:03	Samantha Davila	2157357
	02/13/2020			02/13/2020 16:09	Samantha Davila	2157359
	02/13/2020			02/13/2020 16:31	Samantha Davila	2157358

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2320 B-2011	02/13/2020			02/21/2020 10:00	Dale L. Simmons	2157353
	02/13/2020			02/21/2020 10:12	Dale L. Simmons	2157356
	02/13/2020			02/21/2020 10:23	Dale L. Simmons	2157357
	02/13/2020			02/21/2020 10:34	Dale L. Simmons	2157358
	02/13/2020			02/21/2020 10:56	Dale L. Simmons	2157359
SM 2540 C-2011	02/13/2020			02/18/2020 15:02	Yijie Li	2157353, 2157356, 2157357, 2157358, 2157359
SM 2540 D-2011	02/13/2020			02/18/2020 15:02	Yijie Li	2157353, 2157356, 2157357, 2157358, 2157359
SM 4500 F-C-2011	02/13/2020			02/21/2020 10:00	Dale L. Simmons	2157353
	02/13/2020			02/21/2020 10:12	Dale L. Simmons	2157356
	02/13/2020			02/21/2020 10:23	Dale L. Simmons	2157357
	02/13/2020			02/21/2020 10:34	Dale L. Simmons	2157358
	02/13/2020			02/21/2020 10:56	Dale L. Simmons	2157359
SM 5310 B-2011	02/13/2020			02/17/2020 13:00	Madeline Funaro	2157361
	02/13/2020			02/17/2020 15:33	Madeline Funaro	2157354
	02/13/2020			02/17/2020 15:46	Madeline Funaro	2157360
	02/13/2020			02/17/2020 15:58	Madeline Funaro	2157362
	02/13/2020			02/17/2020 16:11	Madeline Funaro	2157363