

Chemical Analysis Report

NE-DIST-2020-07-31-01

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

Event Description: **Nassau East Boat 2020**
Request ID: **RQ-2020-07-13-20**
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: 25-AUG-2020 17:17



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: Thomas Creek 7 Miles Down From Ethel

Collection Date/Time: 07/30/2020 10:10

Field ID: G4NE0299

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187681	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P385469	
	EPA 300.0 Rev. 2.1	Bromide	0.32		mg Br/L	P386265	
	SM 2320 B-2011	Total Alkalinity	25		mg CaCO3/L	P385565	
	SM 2540 D-2011	TSS	12		mg/L	P385874	
	SM 4500 F-C-2011	Fluoride	0.084	I	mg F/L	P385568	
2187683	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P385486	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P386136	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P385533	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P385644	
	SM 5310 B-2011	Organic Carbon	44		mg C/L	P385840	
2187685	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P385499	
2187707	EPA 8321B	2,4-D	0.0020	U	ug/L	P385439	
		Acesulfame K**	0.10	U	ug/L	P385502	
		AMPA**	0.10	U	ug/L	P385502	
		Sucralose**	0.10	U	ug/L	P385502	
		Acetaminophen**	0.0080	U	ug/L	P385439	
		Acetamiprid**	0.0020	U	ug/L	P385439	
		Endothall**	0.25	U	ug/L	P385502	
		Glufosinate**	0.10	U	ug/L	P385502	
		Glyphosate**	0.10	U	ug/L	P385502	
		Afidopyropen**	0.0020	U	ug/L	P385439	
		Bentazon	8.0E-04	U	ug/L	P385439	
		Benzovindiflupyr**	0.0020	U	ug/L	P385439	
		Carbamazepine**	8.0E-04	U	ug/L	P385439	
		Clothianidin**	0.0020	U	ug/L	P385439	
		Dinotefuran**	0.0020	U	ug/L	P385439	
		Diuron	0.0020	U	ug/L	P385439	
		Fenuron	0.016	U	ug/L	P385439	
		Fluridone**	8.0E-04	U	ug/L	P385439	
		Imazapyr**	0.033		ug/L	P385439	
		Hydrocodone**	0.0020	U	ug/L	P385439	
		Ibuprofen**	0.020	U	ug/L	P385439	
		Imidacloprid	0.0020	U	ug/L	P385439	
		Linuron	0.0040	U	ug/L	P385439	
		Mandestrobin**	0.0020	U	ug/L	P385439	
		MCP	0.0020	U	ug/L	P385439	
		Naproxen**	0.0080	U	ug/L	P385439	
		Primidone**	0.0040	U	ug/L	P385439	
		Pyraclostrobin**	0.0020	U	ug/L	P385439	
		Thiamethoxam**	0.0020	U	ug/L	P385439	
		Tolfenpyrad**	0.0020	U	ug/L	P385439	
		Triclopyr**	0.0040	U	ug/L	P385439	
2187715	EPA 200.7 Rev. 4.4	Iron	1.47E+03		ug/L	P385537	

Field ID: G4NE0299

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187715	EPA 200.7 Rev. 4.4	Manganese	44.7		ug/L	P385537	
		Zinc	5.0	U	ug/L	P385537	
	EPA 200.8 Rev. 5.4	Aluminum	682		ug/L	P385537	
		Antimony	0.075	I	ug/L	P385537	
		Arsenic	1.36		ug/L	P385537	
		Cadmium	0.020	U	ug/L	P385537	
		Chromium	1.4	I	ug/L	P385537	
		Copper	0.65	I	ug/L	P385537	
		Lead	1.05		ug/L	P385537	
		Nickel	0.90	I	ug/L	P385537	
		Selenium	0.20	U	ug/L	P385537	
		Silver	0.010	U	ug/L	P385537	
		Thallium	0.10	U	ug/L	P385537	

Ref. Method and Comment:

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

EPA 8321B: MDL elevated due to matrix interference.

Sample Location: Thomas CR 6.0 Mi Below City Prison

Collection Date/Time: 07/30/2020 10:25

Field ID: G4NE0008

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187682	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P385469	
	EPA 300.0 Rev. 2.1	Bromide	0.22		mg Br/L	P386265	
	SM 2320 B-2011	Total Alkalinity	23	A	mg CaCO3/L	P385565	
	SM 2540 D-2011	TSS	14		mg/L	P385874	
	SM 4500 F-C-2011	Fluoride	0.076	I	mg F/L	P385568	
2187684	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P385486	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P385970	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.039		mg N/L	P385533	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P385644	
	SM 5310 B-2011	Organic Carbon	45		mg C/L	P385841	
2187686	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P385499	
2187708	EPA 8321B	2,4-D	0.0020	U	ug/L	P385439	
		Acesulfame K**	0.10	U	ug/L	P385502	
		AMPA**	0.10	U	ug/L	P385502	
		Sucralose**	0.10	U	ug/L	P385502	
		Acetaminophen**	0.0080	U	ug/L	P385439	
		Acetamiprid**	0.0020	U	ug/L	P385439	
		Endothall**	0.25	U	ug/L	P385502	
		Glufosinate**	0.10	U	ug/L	P385502	
		Glyphosate**	0.10	U	ug/L	P385502	
		Afidopyropen**	0.0020	U	ug/L	P385439	
		Bentazon	8.0E-04	U	ug/L	P385439	
		Benzovindiflupyr**	0.0020	U	ug/L	P385439	
		Carbamazepine**	8.0E-04	U	ug/L	P385439	
		Clothianidin**	0.0020	U	ug/L	P385439	
		Dinotefuran**	0.0020	U	ug/L	P385439	
		Diuron	0.0020	U	ug/L	P385439	
		Fenuron	0.016	U	ug/L	P385439	
		Fluridone**	8.0E-04	U	ug/L	P385439	
		Imazapyr**	0.037		ug/L	P385439	
		Hydrocodone**	0.0020	U	ug/L	P385439	
		Ibuprofen**	0.020	U	ug/L	P385439	
		Imidacloprid	0.0020	U	ug/L	P385439	
		Linuron	0.0040	U	ug/L	P385439	
		Mandestrobin**	0.0020	U	ug/L	P385439	
		MCP	0.0020	U	ug/L	P385439	
		Naproxen**	0.0080	U	ug/L	P385439	
		Primidone**	0.0040	U	ug/L	P385439	
		Pyraclostrobin**	0.0020	U	ug/L	P385439	
		Thiamethoxam**	0.0020	U	ug/L	P385439	
		Tolfenpyrad**	0.0020	U	ug/L	P385439	
		Triclopyr**	0.0040	U	ug/L	P385439	
2187716	EPA 200.7 Rev. 4.4	Iron	1.42E+03		ug/L	P385537	

Field ID: G4NE0008

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187716	EPA 200.7 Rev. 4.4	Manganese	33.6		ug/L	P385537	
		Zinc	5.0	U	ug/L	P385537	
	EPA 200.8 Rev. 5.4	Aluminum	711		ug/L	P385537	
		Antimony	0.062	I	ug/L	P385537	
		Arsenic	1.16		ug/L	P385537	
		Cadmium	0.020	U	ug/L	P385537	
		Chromium	1.4	I	ug/L	P385537	
		Copper	0.62	I	ug/L	P385537	
		Lead	1.03		ug/L	P385537	
		Nickel	0.87	I	ug/L	P385537	
		Selenium	0.20	U	ug/L	P385537	
		Silver	0.010	U	ug/L	P385537	
		Thallium	0.10	U	ug/L	P385537	

Ref. Method and Comment:

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

EPA 8321B: MDL elevated due to matrix interference.

Sample Location: Thomas Creek 5 Miles Down From Ethel

Collection Date/Time: 07/30/2020 10:45

Field ID: G4NE0298

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187687	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P385469	
	EPA 300.0 Rev. 2.1	Bromide	0.10		mg Br/L	P386266	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P385565	
	SM 2540 D-2011	TSS	7	I	mg/L	P385875	
	SM 4500 F-C-2011	Fluoride	0.046	I	mg F/L	P385726	
2187689	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P385486	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P385731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P385533	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P385644	
	SM 5310 B-2011	Organic Carbon	46		mg C/L	P385841	
2187691	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P385499	
2187717	EPA 200.7 Rev. 4.4	Iron	1.12E+03		ug/L	P385537	
		Manganese	18.1		ug/L	P385537	
		Zinc	5.0	U	ug/L	P385537	
		Aluminum	602		ug/L	P385537	
	EPA 200.8 Rev. 5.4	Antimony	0.059	I	ug/L	P385537	
		Arsenic	0.82		ug/L	P385537	
		Cadmium	0.020	U	ug/L	P385537	
		Chromium	1.0	I	ug/L	P385537	
		Copper	0.60	I	ug/L	P385537	
		Lead	0.97		ug/L	P385537	
		Nickel	0.85	I	ug/L	P385537	
		Selenium	0.20	U	ug/L	P385537	
		Silver	0.010	U	ug/L	P385537	
		Thallium	0.10	U	ug/L	P385537	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/07/2020.

Sample Location: Thomas CR 4 Mi Below City Prison

Collection Date/Time: 07/30/2020 11:00

Field ID: 19020033

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2187688	EPA 180.1 Rev. 2.0	Turbidity	5.5		NTU	P385469	
	EPA 300.0 Rev. 2.1	Bromide	0.078		mg Br/L	P386266	
	SM 2320 B-2011	Total Alkalinity	15		mg CaCO3/L	P385565	
	SM 2540 D-2011	TSS	8	IA	mg/L	P385875	
	SM 4500 F-C-2011	Fluoride	0.043	I	mg F/L	P385726	
2187690	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P385486	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P385731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.044		mg N/L	P385533	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P385644	
	SM 5310 B-2011	Organic Carbon	43		mg C/L	P385841	
2187692	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P385499	
2187718	EPA 200.7 Rev. 4.4	Iron	1.01E+03		ug/L	P385537	
		Manganese	18.2		ug/L	P385537	
		Zinc	5.0	U	ug/L	P385537	
	EPA 200.8 Rev. 5.4	Aluminum	522		ug/L	P385537	
		Antimony	0.076	I	ug/L	P385537	
		Arsenic	0.75		ug/L	P385537	
		Cadmium	0.020	U	ug/L	P385537	
		Chromium	0.88	I	ug/L	P385537	
		Copper	0.66	I	ug/L	P385537	
		Lead	0.97		ug/L	P385537	
		Nickel	0.72	I	ug/L	P385537	
		Selenium	0.20	U	ug/L	P385537	
		Silver	0.010	U	ug/L	P385537	
		Thallium	0.10	U	ug/L	P385537	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/07/2020.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385469

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385537

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385537

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386265

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386266

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385486

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385731

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: P385970

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386136

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385533

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P385644

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P385499

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

Reference Method: EPA 8321B
Batch ID: P385439

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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P385439

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

Reference Method: EPA 8321B
Batch ID: P385502

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 2320 B-2011
Batch ID: P385565

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

Reference Method: SM 2540 D-2011
Batch ID: P385874

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P385875

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385568

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P385726

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P385840

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P385841

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: P385537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	106		P	85 - 115
Manganese	109		P	85 - 115
Zinc	112		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.6		P	85 - 115
Antimony	97.3		P	85 - 115
Arsenic	97.4		P	85 - 115
Cadmium	97.3		P	85 - 115
Chromium	100		P	85 - 115
Copper	99.9		P	85 - 115
Lead	102		P	85 - 115
Nickel	98.9		P	85 - 115
Selenium	94.6		P	85 - 115
Silver	105		P	85 - 115
Thallium	104		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386265

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386266

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385486

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P385731

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: P385970

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386136

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P385533

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: P385644

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: P385499

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

Reference Method: EPA 8321B
Batch ID: P385439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	112		P	30 - 160
Acetaminophen	85.5		P	30 - 160
Acetamiprid	77.6		P	30 - 160
Afidopyropen	72.0		P	30 - 160
Bentazon	67.8		P	30 - 160
Benzovindiflupyr	68.9		P	30 - 160
Carbamazepine	62.0		P	30 - 160
Clothianidin	74.2		P	30 - 160
Dinotefuran	91.8		P	30 - 160
Diuron	46.4		P	30 - 160
Fenuron	89.3		P	30 - 160
Fluridone	80.7		P	30 - 160
Hydrocodone	84.4		P	30 - 160
Ibuprofen	75.9		P	30 - 160
Imazapyr	89.5		P	30 - 160
Imidacloprid	101		P	30 - 160
Linuron	57.8		P	30 - 160
Mandestrobin	77.1		P	30 - 160
MCPP	121		P	30 - 160
Naproxen	67.9		P	30 - 160
Primidone	75.2		P	30 - 160
Pyraclostrobin	71.0		P	30 - 160
Thiamethoxam	79.3		P	30 - 160
Tolfenpyrad	48.7		P	30 - 160
Triclopyr	90.6		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P385502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	97.5		P	40 - 150
Endothall	93.4		P	40 - 150
Glufosinate	96.6		P	40 - 150
Glyphosate	96.4		P	40 - 140
Sucralose	96.0		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P385565

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

Reference Method: SM 4500 F-C-2011
Batch ID: P385568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P385726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P385840

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

Reference Method: SM 5310 B-2011
Batch ID: P385841

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	106		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187620	Iron	106		P	80 - 120
2187620	Manganese	102		P	80 - 120
2187620	Zinc	104		P	80 - 120
2187711	Iron	106	108	P/P	80 - 120
2187711	Manganese	104	105	P/P	80 - 120
2187711	Zinc	110	110	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187620	Aluminum	96.2		P	80 - 120
2187620	Antimony	100		P	80 - 120
2187620	Arsenic	99.5		P	80 - 120
2187620	Cadmium	98.4		P	80 - 120
2187620	Chromium	99.5		P	80 - 120
2187620	Copper	98.0		P	80 - 120
2187620	Lead	102		P	80 - 120
2187620	Nickel	97.2		P	80 - 120
2187620	Selenium	95.8		P	80 - 120
2187620	Silver	104		P	80 - 120
2187620	Thallium	105		P	80 - 120
2187711	Aluminum	93.3	94.0	P/P	80 - 120
2187711	Antimony	96.0	97.6	P/P	80 - 120
2187711	Arsenic	96.4	96.8	P/P	80 - 120
2187711	Cadmium	95.0	96.9	P/P	80 - 120
2187711	Chromium	99.4	100	P/P	80 - 120
2187711	Copper	99.3	100	P/P	80 - 120
2187711	Lead	101	102	P/P	80 - 120
2187711	Nickel	97.8	98.1	P/P	80 - 120
2187711	Selenium	92.6	92.8	P/P	80 - 120
2187711	Silver	102	104	P/P	80 - 120
2187711	Thallium	102	106	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187681	Bromide	97.9	94.0	P/P	90 - 110
2187682	Bromide	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187687	Bromide	97.4	94.6	P/P	90 - 110
2188922	Bromide	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385486

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P385486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187695	Ammonia-N	100	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P385731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187731	Kjeldahl Nitrogen	109	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P385970

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187623	Kjeldahl Nitrogen	104	87.7	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P386136

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2189206	Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P385533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187650	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P385644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187649	Total-P	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P385499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187652	O-Phosphate-P	98.4	97.7	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P385439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187411	2,4-D	121	128	P/P	30 - 160
2187411	Acetaminophen	115	117	P/P	30 - 160
2187411	Acetamiprid	93.9	83.9	P/P	30 - 160
2187411	Afidopyropen	52.8	47.0	P/P	30 - 160
2187411	Bentazon	54.3	53.7	P/P	30 - 160
2187411	Benzovindiflupyr	72.9	68.8	P/P	30 - 160
2187411	Carbamazepine	63.8	61.2	P/P	30 - 160
2187411	Clothianidin	95.3	93.1	P/P	30 - 160
2187411	Dinotefuran	122	116	P/P	30 - 160
2187411	Diuron	54.2	52.4	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P385439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187411	Fenuron	92.6	93.4	P/P	30 - 160
2187411	Fluridone	82.0	82.2	P/P	30 - 160
2187411	Hydrocodone	63.0	78.8	P/P	30 - 160
2187411	Ibuprofen	81.9	71.5	P/P	30 - 160
2187411	Imazapyr	119	106	P/P	30 - 160
2187411	Imidacloprid	156	150	P/P	30 - 160
2187411	Linuron	69.9	60.9	P/P	30 - 160
2187411	Mandestrobin	80.5	79.8	P/P	30 - 160
2187411	MCP	123	127	P/P	30 - 160
2187411	Naproxen	52.9	54.6	P/P	30 - 160
2187411	Primidone	97.6	91.3	P/P	30 - 160
2187411	Pyraclostrobin	74.8	74.5	P/P	30 - 160
2187411	Thiamethoxam	111	109	P/P	30 - 160
2187411	Tolfenpyrad	48.3	47.1	P/P	30 - 160
2187411	Triclopyr	97.6	112	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P385502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187277	Acesulfame K	88.6	75.7	P/P	40 - 150
2187277	AMPA	102	108	P/P	40 - 150
2187277	Endothall	95.0	98.5	P/P	40 - 150
2187277	Glufosinate	91.8	86.6	P/P	40 - 150
2187277	Glyphosate	91.9	87.8	P/P	40 - 140
2187277	Sucralose	52.6	51.6	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P385568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187682	Fluoride	98.9	97.8	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P385726

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187929	Fluoride	106	105	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P385840

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187541	Organic Carbon	101	103	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P385841

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2187901	Organic Carbon	106	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P385469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187572	Turbidity	3.06	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P385537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187711	Iron	1.43	Spike	P	0 - 20
2187711	Manganese	0.427	Spike	P	0 - 20
2187711	Zinc	0.0153	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P385537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187711	Aluminum	0.656	Spike	P	0 - 20
2187711	Antimony	1.70	Spike	P	0 - 20
2187711	Arsenic	0.286	Spike	P	0 - 20
2187711	Cadmium	1.93	Spike	P	0 - 20
2187711	Chromium	0.596	Spike	P	0 - 20
2187711	Copper	0.859	Spike	P	0 - 20
2187711	Lead	1.86	Spike	P	0 - 20
2187711	Nickel	0.296	Spike	P	0 - 20
2187711	Selenium	0.173	Spike	P	0 - 20
2187711	Silver	1.71	Spike	P	0 - 20
2187711	Thallium	3.08	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187681	Bromide	2.42	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187687	Bromide	2.43	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P385486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187695	Ammonia-N	1.81	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P385731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187731	Kjeldahl Nitrogen	0.286	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P385970

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187623	Kjeldahl Nitrogen	9.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P386136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2189206	Kjeldahl Nitrogen	1.94	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P385533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187650	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P385644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187649	Total-P	0.583	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P385499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187652	O-Phosphate-P	0.714	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P385439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187411	2,4-D	5.56	Spike	P	0 - 30
2187411	Acetaminophen	2.23	Spike	P	0 - 30
2187411	Acetamiprid	11.2	Spike	P	0 - 30
2187411	Afidopyropen	11.5	Spike	P	0 - 30
2187411	Bentazon	1.13	Spike	P	0 - 30
2187411	Benzovindiflupyr	5.67	Spike	P	0 - 30
2187411	Carbamazepine	4.24	Spike	P	0 - 30
2187411	Clothianidin	2.32	Spike	P	0 - 30
2187411	Dinotefuran	4.87	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P385439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187411	Diuron	3.45	Spike	P	0 - 30
2187411	Fenuron	0.831	Spike	P	0 - 30
2187411	Fluridone	0.245	Spike	P	0 - 30
2187411	Hydrocodone	22.2	Spike	P	0 - 30
2187411	Ibuprofen	13.6	Spike	P	0 - 30
2187411	Imazapyr	11.7	Spike	P	0 - 30
2187411	Imidacloprid	4.00	Spike	P	0 - 30
2187411	Linuron	13.8	Spike	P	0 - 30
2187411	Mandestrobin	0.971	Spike	P	0 - 30
2187411	MCPP	3.34	Spike	P	0 - 30
2187411	Naproxen	3.19	Spike	P	0 - 30
2187411	Primidone	6.70	Spike	P	0 - 30
2187411	Pyraclostrobin	0.364	Spike	P	0 - 30
2187411	Thiamethoxam	1.61	Spike	P	0 - 30
2187411	Tolfenpyrad	2.65	Spike	P	0 - 30
2187411	Triclopyr	14.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P385502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187277	Acesulfame K	15.7	Spike	P	0 - 30
2187277	AMPA	5.76	Spike	P	0 - 30
2187277	Endothall	3.58	Spike	P	0 - 30
2187277	Glufosinate	5.78	Spike	P	0 - 30
2187277	Glyphosate	4.62	Spike	P	0 - 30
2187277	Sucralose	1.75	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P385565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187682	Total Alkalinity	2.80	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P385568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187682	Fluoride	0.958	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
Batch ID: P385726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187929	Fluoride	0.984	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P385840

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187541	Organic Carbon	2.05	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P385841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2187901	Organic Carbon	1.66	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2187707
Field Sample ID: G4NE0299

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.6	P	30 - 160
EPA 8321B	Diuron-d6	45.4	P	30 - 160
EPA 8321B	Endothall-d6	93.9	P	30 - 160
EPA 8321B	Endothall-d6	93.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.1	P	30 - 160
EPA 8321B	Primidone-d5	62.4	P	30 - 160
EPA 8321B	Sucralose-d6	71.2	P	30 - 160
EPA 8321B	Sucralose-d6	71.2	P	30 - 160

Lab Sample ID: 2187708
Field Sample ID: G4NE0008

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	54.4	P	30 - 160
EPA 8321B	Diuron-d6	47.3	P	30 - 160
EPA 8321B	Endothall-d6	96.6	P	30 - 160
EPA 8321B	Endothall-d6	96.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.9	P	30 - 160
EPA 8321B	Primidone-d5	61.4	P	30 - 160
EPA 8321B	Sucralose-d6	72.0	P	30 - 160
EPA 8321B	Sucralose-d6	72.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100210

Included Lab Sample IDs: 2187681, 2187682, 2187687, 2187688

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100213

Included Lab Sample IDs: 2187683, 2187684, 2187689, 2187690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100219

Included Lab Sample IDs: 2187685, 2187686, 2187691, 2187692

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.0	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100229

Included Lab Sample IDs: 2187683, 2187684, 2187689, 2187690

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

Reference Method: SM 2320 B-2011

Run ID: A100241

Included Lab Sample IDs: 2187681, 2187682, 2187687, 2187688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110
Total Alkalinity	103	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100241

Included Lab Sample IDs: 2187681, 2187682

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

Reference Method: EPA 8321B

Run ID: A100248

Included Lab Sample IDs: 2187707, 2187708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.2	89.6	P/P	60 - 160
Glufosinate	94.7	89.8	P/P	60 - 160
Glyphosate	95.7	93.6	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100280

Included Lab Sample IDs: 2187707, 2187708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	89.8	92.6	P/P	60 - 160
Endothall	99.2	100	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A100283

Included Lab Sample IDs: 2187707, 2187708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	105	P/P	50 - 150
2,4-D	104	104	P/P	50 - 150
Acetaminophen	145	143	P/P	60 - 160
Acetaminophen	148	145	P/P	60 - 160
Acetamiprid	133	128	P/P	50 - 150
Acetamiprid	134	133	P/P	50 - 150
Afidopyropen	115	125	P/P	50 - 150
Afidopyropen	125	119	P/P	50 - 150
Bentazon	86.8	94.2	P/P	50 - 160
Bentazon	94.2	103	P/P	50 - 160
Benzovindiflupyr	112	113	P/P	50 - 150
Benzovindiflupyr	115	112	P/P	50 - 150
Carbamazepine	131	131	P/P	60 - 150
Carbamazepine	133	131	P/P	60 - 150
Clothianidin	127	129	P/P	60 - 150
Clothianidin	129	131	P/P	60 - 150
Dinotefuran	116	122	P/P	50 - 150
Dinotefuran	122	112	P/P	50 - 150
Diuron	118	123	P/P	60 - 160
Diuron	119	118	P/P	60 - 160
Fenuron	123	125	P/P	60 - 150
Fenuron	125	123	P/P	60 - 150
Fluridone	108	114	P/P	60 - 160
Fluridone	114	124	P/P	60 - 160
Hydrocodone	125	120	P/P	60 - 150
Hydrocodone	127	125	P/P	60 - 150
Ibuprofen	104	116	P/P	50 - 160
Ibuprofen	116	94.0	P/P	50 - 160
Imazapyr	105	99.3	P/P	50 - 150
Imazapyr	99.3	82.0	P/P	50 - 150
Imidacloprid	137	138	P/P	60 - 150
Imidacloprid	138	129	P/P	60 - 150
Linuron	115	109	P/P	60 - 150
Linuron	118	115	P/P	60 - 150
Mandestrobin	123	124	P/P	50 - 150
Mandestrobin	124	124	P/P	50 - 150
MCPP	110	117	P/P	50 - 150
MCPP	117	111	P/P	50 - 150
Naproxen	61.1	95.7	P/P	50 - 160
Naproxen	79.5	61.1	P/P	50 - 160
Primidone	117	128	P/P	60 - 150
Primidone	128	121	P/P	60 - 150
Pyraclostrobin	103	107	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100283

Included Lab Sample IDs: 2187707, 2187708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	107	106	P/P	60 - 150
Thiamethoxam	133	136	P/P	50 - 150
Thiamethoxam	136	135	P/P	50 - 150
Tolfenpyrad	107	110	P/P	60 - 150
Tolfenpyrad	110	107	P/P	60 - 150
Triclopyr	93.8	97.1	P/P	50 - 150
Triclopyr	97.1	94.2	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100299

Included Lab Sample IDs: 2187715, 2187716, 2187717, 2187718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.1	97.7	P/P	90 - 110
Arsenic	96.4	96.5	P/P	90 - 110
Cadmium	96.1	96.5	P/P	90 - 110
Chromium	96.9	96.9	P/P	90 - 110
Copper	97.7	99.0	P/P	90 - 110
Lead	98.9	98.8	P/P	90 - 110
Nickel	97.4	98.2	P/P	90 - 110
Selenium	96.9	96.9	P/P	90 - 110
Silver	102	102	P/P	90 - 110
Thallium	98.3	98.6	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100313

Included Lab Sample IDs: 2187687, 2187688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100314

Included Lab Sample IDs: 2187683, 2187684, 2187689, 2187690

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100325

Included Lab Sample IDs: 2187715, 2187716, 2187717, 2187718

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100326

Included Lab Sample IDs: 2187715, 2187716, 2187717, 2187718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	95.7	96.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100344

Included Lab Sample IDs: 2187689, 2187690

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	95.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100374

Included Lab Sample IDs: 2187683, 2187684, 2187689, 2187690

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

Reference Method: EPA 8321B

Run ID: A100390

Included Lab Sample IDs: 2187707, 2187708

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	99.2	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100463

Included Lab Sample IDs: 2187684

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100512

Included Lab Sample IDs: 2187683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	94.8	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100541

Included Lab Sample IDs: 2187681, 2187682, 2187687, 2187688

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	101	104	P/P	90 - 110
Bromide	102	98.0	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						3.06	
EPA 200.7 Rev. 4.4	Iron	106	106	106	108			1.43
	Manganese	109	102	104	105			0.427
	Zinc	112	104	110	110			0.0153
EPA 200.8 Rev. 5.4	Aluminum	94.6	93.3	94.0	96.2			0.656
	Antimony	97.3	96.0	97.6	100			1.70
	Arsenic	97.4	96.4	96.8	99.5			0.286
	Cadmium	97.3	95.0	96.9	98.4			1.93
	Chromium	100	99.4	100	99.5			0.596
	Copper	99.9	99.3	100	98.0			0.859
	Lead	102	101	102	102			1.86
	Nickel	98.9	97.8	98.1	97.2			0.296
	Selenium	94.6	92.6	92.8	95.8			0.173
	Silver	105	102	104	104			1.71
	Thallium	104	102	106	105			3.08
EPA 300.0 Rev. 2.1	Bromide	102	97.9	94.0	95.9			2.42
	Bromide	103	97.4	94.6	96.7			2.43
EPA 350.1 Rev. 2.0	Ammonia-N	101	100	98.2				1.81
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	109	109				0.286
	Kjeldahl Nitrogen	96.1	104	87.7				9.19
	Kjeldahl Nitrogen	101	109	106				1.94
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	102				0.494
EPA 365.1 Rev. 2.0	Total-P	104	106	106				0.583
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	98.4	97.7				0.714
EPA 8321B	2,4-D	112	128	121				5.56
	Acesulfame K	104	88.6	75.7				15.7
	Acetaminophen	85.5	115	117				2.23
	Acetamiprid	77.6	93.9	83.9				11.2
	Afidopyropen	72.0	52.8	47.0				11.5
	AMPA	97.5	102	108				5.76
	Bentazon	67.8	53.7	54.3				1.13
	Benzovindiflupyr	68.9	72.9	68.8				5.67
	Carbamazepine	62.0	63.8	61.2				4.24
	Clothianidin	74.2	95.3	93.1				2.32
	Dinotefuran	91.8	122	116				4.87
	Diuron	46.4	54.2	52.4				3.45
	Endothall	93.4	95.0	98.5				3.58
	Fenuron	89.3	92.6	93.4				0.831
	Fluridone	80.7	82.0	82.2				0.245
	Glufosinate	96.6	91.8	86.6				5.78
	Glyphosate	96.4	91.9	87.8				4.62
	Hydrocodone	84.4	63.0	78.8				22.2
	Ibuprofen	75.9	71.5	81.9				13.6
	Imazapyr	89.5	106	119				11.7
	Imidacloprid	101	156	150				4.00
	Linuron	57.8	69.9	60.9				13.8
	Mandestrobin	77.1	80.5	79.8				0.971
	MCPP	121	127	123				3.34
	Naproxen	67.9	54.6	52.9				3.19
	Primidone	75.2	97.6	91.3				6.70
	Pyraclostrobin	71.0	74.8	74.5				0.364
	Sucralose	96.0	52.6	51.6				1.75
	Thiamethoxam	79.3	111	109				1.61
	Tolfenpyrad	48.7	48.3	47.1				2.65

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Triclopyr	90.6	112	97.6		14.0
SM 2320 B-2011	Total Alkalinity	104			2.80	
SM 4500 F-C-2011	Fluoride	101	98.9	97.8		0.958
	Fluoride	95.4	106	105		0.984
SM 5310 B-2011	Organic Carbon	100	101	103		2.05
	Organic Carbon	106	106	102		1.66

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2187681, 2187682, 2187687, 2187688
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2187715, 2187716, 2187717, 2187718
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2187715, 2187716, 2187717, 2187718
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2187681, 2187682, 2187687, 2187688
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2187683, 2187684, 2187689, 2187690
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2187683, 2187684, 2187689, 2187690
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2187683, 2187684, 2187689, 2187690
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2187683, 2187684, 2187689, 2187690
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2187685, 2187686, 2187691, 2187692
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2187707, 2187708
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2187707, 2187708
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2187681, 2187682, 2187687, 2187688
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2187681, 2187682, 2187687, 2187688
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2187681, 2187682, 2187687, 2187688
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2187683, 2187684, 2187689, 2187690

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	07/31/2020			07/31/2020 15:33	Blanca Fach	2187681, 2187682, 2187687, 2187688
EPA 200.7 Rev. 4.4	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/06/2020 17:29	Betina Topolski	2187715
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/06/2020 17:37	Betina Topolski	2187716
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/06/2020 17:45	Betina Topolski	2187717
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/06/2020 17:53	Betina Topolski	2187718
EPA 200.8 Rev. 5.4	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/05/2020 17:00	Alexander Thompson	2187715
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/05/2020 17:07	Alexander Thompson	2187716
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/05/2020 17:15	Alexander Thompson	2187717
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/05/2020 17:22	Alexander Thompson	2187718
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/07/2020 03:08	Alexander Thompson	2187715
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/07/2020 03:16	Alexander Thompson	2187716
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/07/2020 03:24	Alexander Thompson	2187717
	07/31/2020	08/03/2020 14:00	Elliott D. Healy	08/07/2020 03:31	Alexander Thompson	2187718
EPA 300.0 Rev. 2.1	07/31/2020			08/15/2020 01:33	Julia Storbeck	2187681
	07/31/2020			08/15/2020 02:24	Julia Storbeck	2187682
	07/31/2020			08/15/2020 10:40	Julia Storbeck	2187687
	07/31/2020			08/15/2020 12:06	Julia Storbeck	2187688
EPA 350.1 Rev. 2.0	07/31/2020			08/02/2020 14:25	Ping Hua	2187683
	07/31/2020			08/02/2020 14:27	Ping Hua	2187684
	07/31/2020			08/02/2020 14:28	Ping Hua	2187689
	07/31/2020			08/02/2020 14:29	Ping Hua	2187690
EPA 351.2 Rev. 2.0	07/31/2020	08/06/2020 10:53	Sima Feizi	08/07/2020 12:05	Jhamieka S. Greenwood	2187689
	07/31/2020	08/06/2020 10:53	Sima Feizi	08/07/2020 12:07	Jhamieka S. Greenwood	2187690
	07/31/2020	08/13/2020 10:15	Sima Feizi	08/14/2020 11:03	Jhamieka S. Greenwood	2187684
	07/31/2020	08/17/2020 14:20	David Boose	08/18/2020 11:31	Jhamieka S. Greenwood	2187683
EPA 353.2 Rev. 2.0	07/31/2020			08/03/2020 11:00	Beverly Y. Sanders	2187683
	07/31/2020			08/03/2020 11:01	Beverly Y. Sanders	2187684
	07/31/2020			08/03/2020 11:02	Beverly Y. Sanders	2187689
	07/31/2020			08/03/2020 11:04	Beverly Y. Sanders	2187690
EPA 365.1 Rev. 2.0	07/31/2020	08/05/2020 10:35	Lipi Saha	08/06/2020 09:19	Benjamin T. Nordmann	2187683
	07/31/2020	08/05/2020 10:35	Lipi Saha	08/06/2020 09:20	Benjamin T. Nordmann	2187684
	07/31/2020	08/05/2020 10:35	Lipi Saha	08/06/2020 09:21	Benjamin T. Nordmann	2187689
	07/31/2020	08/05/2020 10:35	Lipi Saha	08/06/2020 09:22	Benjamin T. Nordmann	2187690
EPA 365.1 Rev. 2.0 dissolved	07/31/2020			07/31/2020 16:03	Virginia P. Brown	2187685
	07/31/2020			07/31/2020 16:04	Virginia P. Brown	2187686, 2187691
	07/31/2020			07/31/2020 16:05	Virginia P. Brown	2187692
EPA 8321B	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/03/2020 15:31	Rebecca Ware	2187707
	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/03/2020 15:42	Rebecca Ware	2187708
	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/04/2020 14:26	Rebecca Ware	2187707
	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/04/2020 14:40	Rebecca Ware	2187708

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/11/2020 09:33	Rebecca Ware	2187707
	07/31/2020	08/03/2020 11:30	Rebecca Ware	08/11/2020 09:45	Rebecca Ware	2187708
	07/31/2020	08/04/2020 09:00	Hoor Shaik	08/05/2020 21:20	Juyoung Kim	2187707
	07/31/2020	08/04/2020 09:00	Hoor Shaik	08/05/2020 22:29	Juyoung Kim	2187708
SM 2320 B-2011	07/31/2020			08/04/2020 02:45	Dale L. Simmons	2187682
	07/31/2020			08/04/2020 03:07	Dale L. Simmons	2187681
	07/31/2020			08/04/2020 03:53	Dale L. Simmons	2187687
	07/31/2020			08/04/2020 04:06	Dale L. Simmons	2187688
SM 2540 D-2011	07/31/2020			08/05/2020 15:06	Yijie Li	2187681, 2187682, 2187687, 2187688
SM 4500 F-C-2011	07/31/2020			08/04/2020 02:35	Dale L. Simmons	2187682
	07/31/2020			08/04/2020 03:07	Dale L. Simmons	2187681
	07/31/2020			08/05/2020 17:27	Dale L. Simmons	2187687
	07/31/2020			08/05/2020 17:32	Dale L. Simmons	2187688
SM 5310 B-2011	07/31/2020			08/07/2020 22:22	David Boose	2187683
	07/31/2020			08/08/2020 00:36	David Boose	2187684
	07/31/2020			08/08/2020 00:48	David Boose	2187689
	07/31/2020			08/08/2020 01:00	David Boose	2187690