

Chemical Analysis Report

CEN-DIST-2020-08-27-02

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

Event Description: **Turnbull/Strickland/Rose**
Request ID: **RQ-2020-08-24-50**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 21-SEP-2020 11:27

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Strickland Bay @ 100m East (downstream) Of Rr Crossing **Collection Date/Time: 08/26/2020 13:10**

Field ID: G5CE0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192790	EPA 180.1 Rev. 2.0	Turbidity	4.9		NTU	P386639	
	EPA 300.0 Rev. 2.1	Bromide	0.58		mg Br/L	P387262	MS
	SM 2320 B-2011	Total Alkalinity	57		mg CaCO3/L	P386788	
	SM 2540 D-2011	TSS	4	I A	mg/L	P386814	
	SM 4500 F-C-2011	Fluoride	0.085	I	mg F/L	P386792	
2192792	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P387020	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P386770	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.081		mg N/L	P386778	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P386680	
	SM 5310 B-2011	Organic Carbon	37		mg C/L	P386726	
2192794	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P386651	
2192812	EPA 8321B	2,4-D	0.022		ug/L	P386628	
		Acesulfame K**	0.10	U	ug/L	P386663	
		AMPA**	0.39	I	ug/L	P386663	
		Sucralose**	0.88		ug/L	P386663	
		Acetaminophen**	0.0080	U	ug/L	P386628	
		Acetamiprid**	0.0020	U	ug/L	P386628	
		Endothall**	0.25	U	ug/L	P386663	
		Glufosinate**	0.10	U	ug/L	P386663	
		Glyphosate**	0.70		ug/L	P386663	
		Afidopyropen**	0.0020	U	ug/L	P386628	
		Bentazon	0.062		ug/L	P386628	
		Benzovindiflupyr**	0.0020	U	ug/L	P386628	
		Carbamazepine**	0.0010	I	ug/L	P386628	
		Clothianidin**	0.013		ug/L	P386628	
		Dinotefuran**	0.0021	I	ug/L	P386628	
		Diuron	0.0020	U	ug/L	P386628	
		Fenuron	0.016	U	ug/L	P386628	
		Fluridone**	0.058		ug/L	P386628	
		Imazapyr**	0.36		ug/L	P386628	
		Hydrocodone**	0.0020	U	ug/L	P386628	
		Ibuprofen**	0.020	U	ug/L	P386628	
		Imidacloprid	0.060		ug/L	P386628	
		Linuron	0.0040	U	ug/L	P386628	
		Mandestrobin**	0.0020	U	ug/L	P386628	
		MCP	0.0040	I	ug/L	P386628	
		Naproxen**	0.0080	U	ug/L	P386628	
		Primidone**	0.0040	U	ug/L	P386628	
		Pyraclostrobin**	0.0020	U	ug/L	P386628	
		Thiamethoxam**	0.0093		ug/L	P386628	
		Tolfenpyrad**	0.0020	U	ug/L	P386628	
		Triclopyr**	0.0040	U	ug/L	P386628	

Field ID: G5CE0081

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192817	EPA 200.7 Rev. 4.4	Iron	1.44E+03		ug/L	P386749	
		Manganese	14.9		ug/L	P386749	
		Zinc	5.0	U	ug/L	P386749	
	EPA 200.8 Rev. 5.4	Aluminum	423		ug/L	P386749	
		Antimony	0.085	I	ug/L	P386749	
		Arsenic	1.60		ug/L	P386749	
		Cadmium	0.020	U	ug/L	P386749	
		Chromium	0.96	I	ug/L	P386749	
		Copper	1.71		ug/L	P386749	
		Lead	0.72		ug/L	P386749	
		Nickel	0.55	I	ug/L	P386749	
		Selenium	0.20	U	ug/L	P386749	
		Silver	0.010	U	ug/L	P386749	
		Thallium	0.10	U	ug/L	P386749	

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: Rose Bay @ 125m Ne Of Boat Ramp

Collection Date/Time: 08/26/2020 11:39

Field ID: G5CE0073

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192814	EPA 8321B	2,4-D	0.023		ug/L	P386628	
		Acesulfame K**	0.10	UJ	ug/L	P386663	SUR
		AMPA**	1.0	U	ug/L	P386663	
		Sucralose**	0.25		ug/L	P386663	
		Acetaminophen**	0.0080	U	ug/L	P386628	
		Acetamiprid**	0.0020	U	ug/L	P386628	
		Endothall**	0.25	UJ	ug/L	P386663	SUR
		Glufosinate**	1.0	U	ug/L	P386663	
		Glyphosate**	1.0	U	ug/L	P386663	
		Afidopyropen**	0.0020	U	ug/L	P386628	
		Bentazon	0.049		ug/L	P386628	
		Benzovindiflupyr**	0.0020	U	ug/L	P386628	
		Carbamazepine**	0.0021	I	ug/L	P386628	
		Clothianidin**	0.0078	I	ug/L	P386628	
		Dinotefuran**	0.0020	U	ug/L	P386628	
		Diuron	0.0033	I	ug/L	P386628	
		Fenuron	0.016	U	ug/L	P386628	
		Fluridone**	0.028		ug/L	P386628	
		Imazapyr**	0.12		ug/L	P386628	
		Hydrocodone**	0.0020	U	ug/L	P386628	
		Ibuprofen**	0.020	U	ug/L	P386628	
		Imidacloprid	0.030		ug/L	P386628	
		Linuron	0.0040	U	ug/L	P386628	
		Mandestrobin**	0.0020	U	ug/L	P386628	
		MCPP	0.0020	I	ug/L	P386628	
		Naproxen**	0.0080	U	ug/L	P386628	
		Primidone**	0.0042	I	ug/L	P386628	
		Pyraclostrobin**	0.0020	U	ug/L	P386628	
		Thiamethoxam**	0.0039	I	ug/L	P386628	
		Tolfenpyrad**	0.0020	U	ug/L	P386628	
		Triclopyr**	0.0040	U	ug/L	P386628	

Ref. Method and Comment:

EPA 8321B: Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Strickland Bay @ 525m East (downstream) Of Rr Crossing **Collection Date/Time: 08/26/2020 13:00**

Field ID: G5CE0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192791	EPA 180.1 Rev. 2.0	Turbidity	6.9	A	NTU	P386640	
	EPA 300.0 Rev. 2.1	Bromide	1.8		mg Br/L	P387262	MS
	SM 2320 B-2011	Total Alkalinity	62		mg CaCO3/L	P386788	
	SM 2540 D-2011	TSS	7	I	mg/L	P386814	
	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P386792	
2192793	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P387020	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P386868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.086		mg N/L	P386778	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P386680	
	SM 5310 B-2011	Organic Carbon	36		mg C/L	P386726	
2192795	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P386651	
2192813	EPA 8321B	Acesulfame K**	1.0	U	ug/L	P386663	
		2,4-D	0.027		ug/L	P386628	
		AMPA**	0.20	I	ug/L	P386663	
		Sucralose**	0.88		ug/L	P386663	
		Acetaminophen**	0.0080	U	ug/L	P386628	
		Endothall**	2.5	U	ug/L	P386663	
		Acetamiprid**	0.0020	U	ug/L	P386628	
		Glufosinate**	0.10	U	ug/L	P386663	
		Glyphosate**	1.6		ug/L	P386663	
		Afidopyropen**	0.0020	U	ug/L	P386628	
		Bentazon	0.069		ug/L	P386628	
		Benzovindiflupyr**	0.0020	U	ug/L	P386628	
		Carbamazepine**	0.0011	I	ug/L	P386628	
		Clothianidin**	0.015		ug/L	P386628	
		Dinotefuran**	0.0023	I	ug/L	P386628	
		Diuron	0.0020	U	ug/L	P386628	
		Fenuron	0.016	U	ug/L	P386628	
		Fluridone**	0.067		ug/L	P386628	
		Imazapyr**	0.38		ug/L	P386628	
		Hydrocodone**	0.0020	U	ug/L	P386628	
		Ibuprofen**	0.020	U	ug/L	P386628	
		Imidacloprid	0.067		ug/L	P386628	
		Linuron	0.0040	U	ug/L	P386628	
		Mandestrobin**	0.0020	U	ug/L	P386628	
		MCPD	0.0031	I	ug/L	P386628	
		Naproxen**	0.0089	I	ug/L	P386628	
		Primidone**	0.0040	U	ug/L	P386628	
		Pyraclostrobin**	0.0020	U	ug/L	P386628	
		Thiamethoxam**	0.010		ug/L	P386628	
		Tolfenpyrad**	0.0020	U	ug/L	P386628	
		Triclopyr**	0.0040	U	ug/L	P386628	

Field ID: G5CE0082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192818	EPA 200.7 Rev. 4.4	Iron	1.55E+03		ug/L	P386749	
		Manganese	16.0		ug/L	P386749	
		Zinc	5.0	U	ug/L	P386749	
	EPA 200.8 Rev. 5.4	Aluminum	433		ug/L	P386749	
		Antimony	0.085	I	ug/L	P386749	
		Arsenic	1.77		ug/L	P386749	
		Cadmium	0.020	U	ug/L	P386749	
		Chromium	1.0	I	ug/L	P386749	
		Copper	1.83		ug/L	P386749	
		Lead	0.81		ug/L	P386749	
		Nickel	0.57	I	ug/L	P386749	
		Selenium	0.29	I	ug/L	P386749	
		Silver	0.010	U	ug/L	P386749	
		Thallium	0.10	U	ug/L	P386749	

Ref. Method and Comment:

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

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

Sample Location: Rose Bay @ 200m E Of Boat Ramp

Collection Date/Time: 08/26/2020 11:28

Field ID: G5CE0098

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192815	EPA 8321B	2,4-D	0.024		ug/L	P386628	
		Acesulfame K**	0.10	UJ	ug/L	P386663	SUR
		AMPA**	1.0	U	ug/L	P386663	
		Sucralose**	0.51		ug/L	P386663	
		Acetaminophen**	0.0080	U	ug/L	P386628	
		Acetamiprid**	0.0020	U	ug/L	P386628	
		Endothall**	0.25	UJ	ug/L	P386663	SUR
		Glufosinate**	1.0	U	ug/L	P386663	
		Glyphosate**	1.0	U	ug/L	P386663	
		Afidopyropen**	0.0020	U	ug/L	P386628	
		Bentazon	0.044		ug/L	P386628	
		Benzovindiflupyr**	0.0020	U	ug/L	P386628	
		Carbamazepine**	0.0021	I	ug/L	P386628	
		Clothianidin**	0.0070	I	ug/L	P386628	
		Dinotefuran**	0.0020	U	ug/L	P386628	
		Diuron	0.0033	I	ug/L	P386628	
		Fenuron	0.016	U	ug/L	P386628	
		Fluridone**	0.023		ug/L	P386628	
		Imazapyr**	0.099		ug/L	P386628	
		Hydrocodone**	0.0020	U	ug/L	P386628	
		Ibuprofen**	0.020	U	ug/L	P386628	
		Imidacloprid	0.026		ug/L	P386628	
		Linuron	0.0040	U	ug/L	P386628	
		Mandestrobin**	0.0020	U	ug/L	P386628	
		MCPP	0.0020	U	ug/L	P386628	
		Naproxen**	0.0080	U	ug/L	P386628	
		Primidone**	0.0046	I	ug/L	P386628	
		Pyraclostrobin**	0.0020	U	ug/L	P386628	
		Thiamethoxam**	0.0039	I	ug/L	P386628	
		Tolfenpyrad**	0.0020	U	ug/L	P386628	
		Triclopyr**	0.0040	U	ug/L	P386628	

Ref. Method and Comment:

EPA 8321B: Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Turnbull Bay @ 640m S Of Divito Park

Collection Date/Time: 08/26/2020 12:35

Field ID: G5CE0100

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2192787	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P386639	
	EPA 300.0 Rev. 2.1	Bromide	25		mg Br/L	P387262	MS
	SM 2320 B-2011	Total Alkalinity	121		mg CaCO3/L	P386790	
	SM 2540 D-2011	TSS	8	I	mg/L	P386815	
	SM 4500 F-C-2011	Fluoride	0.64		mg F/L	P386794	RPD
2192788	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P387017	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P386807	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.079		mg N/L	P386747	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P386854	
	SM 5310 B-2011	Organic Carbon	16		mg C/L	P386727	
2192789	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.086		mg P/L	P386650	
2192816	EPA 200.7 Rev. 4.4	Chromium	4.5	I	ug/L	P386652	
		Iron	560		ug/L	P386652	
		Manganese	13		ug/L	P386652	
		Zinc	15	U	ug/L	P386652	
	EPA 200.8 Rev. 5.4	Aluminum	422		ug/L	P386652	
		Antimony	0.20	U	ug/L	P386652	
		Arsenic	2.50		ug/L	P386652	
		Cadmium	0.080	U	ug/L	P386652	
		Copper	1.6	U	ug/L	P386652	
		Lead	0.80	U	ug/L	P386652	
		Nickel	2.0	U	ug/L	P386652	
		Selenium	0.80	U	ug/L	P386652	
		Silver	0.040	U	ug/L	P386652	
		Thallium	0.40	U	ug/L	P386652	

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: P386639

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386640

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386652

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386749

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: P386652

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
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 200.8 Rev. 5.4
Batch ID: P386749

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Component	Result	Code	Units
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: P387262

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387020

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386770

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386747

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386778

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386680

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386854

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P386650

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P386651

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

Reference Method: EPA 8321B
 Batch ID: P386628

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P386663

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: P386788

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

Reference Method: SM 2320 B-2011
Batch ID: P386790

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

Reference Method: SM 2540 D-2011
Batch ID: P386814

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P386815

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P386792

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P386726

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: P386727

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: P386652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	97.9		P	85 - 115
Iron	105		P	85 - 115
Manganese	102		P	85 - 115
Zinc	99.7		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	85 - 115
Manganese	101		P	85 - 115
Zinc	99.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.7		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	102		P	85 - 115
Cadmium	100		P	85 - 115
Copper	95.6		P	85 - 115
Lead	104		P	85 - 115
Nickel	94.7		P	85 - 115
Selenium	101		P	85 - 115
Silver	104		P	85 - 115
Thallium	108		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	93.4		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.5		P	85 - 115
Cadmium	96.1		P	85 - 115
Chromium	103		P	85 - 115
Copper	96.8		P	85 - 115
Lead	98.1		P	85 - 115
Nickel	95.6		P	85 - 115
Selenium	97.6		P	85 - 115
Silver	107		P	85 - 115
Thallium	99.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.7		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387020

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: P386770

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386868

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386747

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386778

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386680

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: P386854

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	108		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P386650

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P386651

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

Reference Method: EPA 8321B

Batch ID: P386628

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	30 - 160
Acetaminophen	79.4		P	30 - 160
Acetamiprid	67.8		P	30 - 160
Afidopyropen	41.3		P	30 - 160
Bentazon	81.7		P	30 - 160
Benzovindiflupyr	66.7		P	30 - 160
Carbamazepine	57.6		P	30 - 160
Clothianidin	75.5		P	30 - 160
Dinotefuran	87.3		P	30 - 160
Diuron	56.0		P	30 - 160
Fenuron	87.4		P	30 - 160
Fluridone	85.9		P	30 - 160
Hydrocodone	78.3		P	30 - 160
Ibuprofen	93.7		P	30 - 160
Imazapyr	115		P	30 - 160
Imidacloprid	88.9		P	30 - 160
Linuron	64.9		P	30 - 160
Mandestrobin	70.1		P	30 - 160
MCP	120		P	30 - 160
Naproxen	68.7		P	30 - 160
Primidone	84.7		P	30 - 160
Pyraclostrobin	59.9		P	30 - 160
Thiamethoxam	91.2		P	30 - 160
Tolfenpyrad	44.4		P	30 - 160
Triclopyr	92.4		P	30 - 160

Reference Method: EPA 8321B

Batch ID: P386663

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	75.5		P	40 - 150
Endothall	101		P	40 - 150
Glufosinate	95.1		P	40 - 150
Glyphosate	116		P	40 - 140
Sucralose	101		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P386788

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P386790

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P386792

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

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

Reference Method: SM 5310 B-2011
Batch ID: P386726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P386727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192703	Chromium	98.9	99.7	P/P	70 - 130
2192703	Iron	102	97.9	P/P	70 - 130
2192703	Manganese	101	101	P/P	70 - 130
2192703	Zinc	101	101	P/P	70 - 130

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192874	Iron	108	110	P/P	80 - 120
2192874	Manganese	106	105	P/P	80 - 120
2192874	Zinc	108	106	P/P	80 - 120
2192988	Iron	105		P	80 - 120
2192988	Manganese	101		P	80 - 120
2192988	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192703	Aluminum	104	102	P/P	70 - 130
2192703	Antimony	107	104	P/P	70 - 130
2192703	Arsenic	118	117	P/P	70 - 130
2192703	Cadmium	105	106	P/P	70 - 130
2192703	Copper	108	107	P/P	70 - 130
2192703	Lead	108	115	P/P	70 - 130
2192703	Nickel	106	109	P/P	70 - 130
2192703	Selenium	118	115	P/P	70 - 130
2192703	Silver	99.0	98.0	P/P	70 - 130
2192703	Thallium	114	118	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192874	Aluminum	94.7	93.5	P/P	80 - 120
2192874	Antimony	100	98.9	P/P	80 - 120
2192874	Arsenic	100	97.9	P/P	80 - 120
2192874	Cadmium	98.1	97.3	P/P	80 - 120
2192874	Chromium	103	102	P/P	80 - 120
2192874	Copper	97.5	95.7	P/P	80 - 120
2192874	Lead	101	101	P/P	80 - 120
2192874	Nickel	97.2	95.7	P/P	80 - 120
2192874	Selenium	98.0	96.1	P/P	80 - 120
2192874	Silver	106	107	P/P	80 - 120
2192874	Thallium	101	103	P/P	80 - 120
2192988	Aluminum	93.2		P	80 - 120
2192988	Antimony	105		P	80 - 120
2192988	Arsenic	107		P	80 - 120
2192988	Cadmium	101		P	80 - 120
2192988	Chromium	105		P	80 - 120
2192988	Copper	99.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192988	Lead	102		P	80 - 120
2192988	Nickel	99.2		P	80 - 120
2192988	Selenium	104		P	80 - 120
2192988	Silver	106		P	80 - 120
2192988	Thallium	107		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192715	Bromide	91.5	89.4	P/F	90 - 110
2192716	Bromide	87.1		F	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192089	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192843	Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192445	Kjeldahl Nitrogen	101	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193097	Kjeldahl Nitrogen	94.7	96.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2193045	Kjeldahl Nitrogen	106	109	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386747

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192743	NO2NO3-N	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P386778

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192748	NO2NO3-N	96.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192710	Total-P	106	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192611	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P386650

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192829	O-Phosphate-P	101	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P386651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192837	O-Phosphate-P	99.4	99.2	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P386628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192762	2,4-D	109	101	P/P	30 - 160
2192762	Acetaminophen	98.0	97.9	P/P	30 - 160
2192762	Acetamiprid	75.2	76.2	P/P	30 - 160
2192762	Afidopyropen	51.8	50.0	P/P	30 - 160
2192762	Bentazon	49.0	46.4	P/P	30 - 160
2192762	Benzovindiflupyr	68.0	67.2	P/P	30 - 160
2192762	Carbamazepine	44.4	44.8	P/P	30 - 160
2192762	Clothianidin	77.0	84.7	P/P	30 - 160
2192762	Dinotefuran	103	103	P/P	30 - 160
2192762	Diuron	51.9	51.7	P/P	30 - 160
2192762	Fenuron	85.5	82.7	P/P	30 - 160
2192762	Fluridone	72.5	82.1	P/P	30 - 160
2192762	Hydrocodone	79.0	78.9	P/P	30 - 160
2192762	Ibuprofen	78.2	67.8	P/P	30 - 160
2192762	Imazapyr	72.7	74.5	P/P	30 - 160
2192762	Imidacloprid	123	134	P/P	30 - 160
2192762	Linuron	59.7	65.1	P/P	30 - 160
2192762	Mandestrobin	67.6	67.9	P/P	30 - 160
2192762	MCP	118	109	P/P	30 - 160
2192762	Naproxen	62.5	43.6	P/P	30 - 160
2192762	Primidone	90.4	89.0	P/P	30 - 160
2192762	Pyraclostrobin	59.4	57.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P386628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192762	Thiamethoxam	108	112	P/P	30 - 160
2192762	Tolfenpyrad	50.2	47.4	P/P	30 - 160
2192762	Triclopyr	90.6	95.8	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P386663

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192461	Acesulfame K	106	102	P/P	40 - 150
2192461	AMPA	51.1	53.9	P/P	40 - 150
2192461	Endothall	146	132	P/P	40 - 150
2192461	Glufosinate	100	93.9	P/P	40 - 150
2192461	Glyphosate	84.6	90.2	P/P	40 - 140
2192461	Sucralose	100	107	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P386792

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192663	Fluoride	98.9	97.1	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192824	Fluoride	100	105	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P386726

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2192444	Organic Carbon	95.2	94.5	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P386727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2191540	Organic Carbon	94.9	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192715	Turbidity	6.17	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192791	Turbidity	1.60	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192703	Chromium	0.761	Spike	P	0 - 20
2192703	Iron	3.75	Spike	P	0 - 20
2192703	Manganese	0.200	Spike	P	0 - 20
2192703	Zinc	0.340	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192874	Iron	1.61	Spike	P	0 - 20
2192874	Manganese	0.817	Spike	P	0 - 20
2192874	Zinc	1.50	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192703	Aluminum	2.04	Spike	P	0 - 20
2192703	Antimony	2.43	Spike	P	0 - 20
2192703	Arsenic	0.516	Spike	P	0 - 20
2192703	Cadmium	1.67	Spike	P	0 - 20
2192703	Copper	1.07	Spike	P	0 - 20
2192703	Lead	5.50	Spike	P	0 - 20
2192703	Nickel	3.29	Spike	P	0 - 20
2192703	Selenium	3.13	Spike	P	0 - 20
2192703	Silver	0.988	Spike	P	0 - 20
2192703	Thallium	4.15	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192874	Aluminum	1.03	Spike	P	0 - 20
2192874	Antimony	1.49	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386749

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192874	Arsenic	2.51	Spike	P	0 - 20
2192874	Cadmium	0.872	Spike	P	0 - 20
2192874	Chromium	0.742	Spike	P	0 - 20
2192874	Copper	1.88	Spike	P	0 - 20
2192874	Lead	0.404	Spike	P	0 - 20
2192874	Nickel	1.48	Spike	P	0 - 20
2192874	Selenium	1.97	Spike	P	0 - 20
2192874	Silver	0.701	Spike	P	0 - 20
2192874	Thallium	2.03	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192715	Bromide	1.76	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192089	Ammonia-N	0.734	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192843	Ammonia-N	0.804	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192445	Kjeldahl Nitrogen	0.923	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193097	Kjeldahl Nitrogen	1.81	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2193045	Kjeldahl Nitrogen	1.86	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386747

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192743	NO2NO3-N	0.482	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386778

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192748	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192710	Total-P	3.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192611	Total-P	0.621	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386650

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192829	O-Phosphate-P	2.72	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192837	O-Phosphate-P	0.145	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P386628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192762	2,4-D	7.20	Spike	P	0 - 30
2192762	Acetaminophen	0.0857	Spike	P	0 - 30
2192762	Acetamiprid	1.33	Spike	P	0 - 30
2192762	Afidopyropen	3.67	Spike	P	0 - 30
2192762	Bentazon	1.50	Spike	P	0 - 30
2192762	Benzovindiflupyr	1.18	Spike	P	0 - 30
2192762	Carbamazepine	0.601	Spike	P	0 - 30
2192762	Clothianidin	9.44	Spike	P	0 - 30
2192762	Dinotefuran	0.0268	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P386628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192762	Diuron	0.231	Spike	P	0 - 30
2192762	Fenuron	3.35	Spike	P	0 - 30
2192762	Fluridone	10.4	Spike	P	0 - 30
2192762	Hydrocodone	0.0358	Spike	P	0 - 30
2192762	Ibuprofen	14.3	Spike	P	0 - 30
2192762	Imazapyr	1.62	Spike	P	0 - 30
2192762	Imidacloprid	8.34	Spike	P	0 - 30
2192762	Linuron	8.66	Spike	P	0 - 30
2192762	Mandestrobin	0.505	Spike	P	0 - 30
2192762	MCPP	8.29	Spike	P	0 - 30
2192762	Naproxen	28.7	Spike	P	0 - 30
2192762	Primidone	1.55	Spike	P	0 - 30
2192762	Pyraclostrobin	2.58	Spike	P	0 - 30
2192762	Thiamethoxam	3.04	Spike	P	0 - 30
2192762	Tolfenpyrad	5.85	Spike	P	0 - 30
2192762	Triclopyr	5.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P386663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192461	Acesulfame K	3.94	Spike	P	0 - 30
2192461	AMPA	5.38	Spike	P	0 - 30
2192461	Endothall	10.1	Spike	P	0 - 30
2192461	Glufosinate	6.64	Spike	P	0 - 30
2192461	Glyphosate	6.48	Spike	P	0 - 30
2192461	Sucralose	6.56	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P386788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192663	Total Alkalinity	0.197	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
Batch ID: P386790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192824	Total Alkalinity	0.0363	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P386792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192663	Fluoride	1.43	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P386794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192824	Fluoride	2.82	Spike	F	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P386726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2192444	Organic Carbon	0.640	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P386727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2191540	Organic Carbon	0.278	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2192812
Field Sample ID: G5CE0081

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	69.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.5	P	30 - 160
EPA 8321B	Diuron-d6	51.7	P	30 - 160
EPA 8321B	Endothall-d6	49.8	P	30 - 160
EPA 8321B	Endothall-d6	49.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.9	P	30 - 160
EPA 8321B	Primidone-d5	68.9	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160
EPA 8321B	Sucralose-d6	107	P	30 - 160

Lab Sample ID: 2192813
Field Sample ID: G5CE0082

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.2	P	30 - 160
EPA 8321B	Diuron-d6	52.8	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	112	P	30 - 160
EPA 8321B	Primidone-d5	85.2	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2192814
Field Sample ID: G5CE0073

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	81.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	54.2	P	30 - 160
EPA 8321B	Diuron-d6	56.6	P	30 - 160
EPA 8321B	Endothall-d6	523	F	30 - 160
EPA 8321B	Endothall-d6	523	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	101	P	30 - 160
EPA 8321B	Primidone-d5	99.8	P	30 - 160
EPA 8321B	Sucralose-d6	31.1	P	30 - 160
EPA 8321B	Sucralose-d6	31.1	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2192815
Field Sample ID: G5CE0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.1	P	30 - 160
EPA 8321B	Diuron-d6	51.3	P	30 - 160
EPA 8321B	Endothall-d6	558	F	30 - 160
EPA 8321B	Endothall-d6	558	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.7	P	30 - 160
EPA 8321B	Primidone-d5	91.7	P	30 - 160
EPA 8321B	Sucralose-d6	54.6	P	30 - 160
EPA 8321B	Sucralose-d6	54.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100685

Included Lab Sample IDs: 2192787, 2192790, 2192791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100687

Included Lab Sample IDs: 2192789, 2192794, 2192795

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	98.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100718

Included Lab Sample IDs: 2192788, 2192792, 2192793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.2	92.2	P/P	90 - 110
Organic Carbon	94.0	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100723

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	105	105	P/P	60 - 160
Sucralose	105	103	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100725

Included Lab Sample IDs: 2192788

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100726

Included Lab Sample IDs: 2192792, 2192793

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100733

Included Lab Sample IDs: 2192816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	96.6	95.4	P/P	90 - 110
Iron	97.4	97.0	P/P	90 - 110
Manganese	100	101	P/P	90 - 110
Zinc	98.8	96.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100738

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	65.5	62.9	P/P	60 - 160
Acesulfame K	68.7	72.6	P/P	60 - 160
Acesulfame K	71.2	68.7	P/P	60 - 160
Endothall	102	109	P/P	60 - 160
Endothall	109	108	P/P	60 - 160
Endothall	113	106	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100742

Included Lab Sample IDs: 2192792, 2192793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A100747

Included Lab Sample IDs: 2192787, 2192790, 2192791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	101	101	P/P	90 - 110
Total Alkalinity	99.1	105	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100747

Included Lab Sample IDs: 2192787, 2192790, 2192791

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

Reference Method: EPA 8321B

Run ID: A100758

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	124	143	P/P	50 - 150
2,4-D	143	122	P/P	50 - 150
Acetaminophen	123	118	P/P	60 - 160
Acetaminophen	126	123	P/P	60 - 160
Acetamiprid	128	134	P/P	50 - 150
Acetamiprid	134	134	P/P	50 - 150
Afidopyropen	82.2	85.8	P/P	50 - 150
Afidopyropen	85.8	78.0	P/P	50 - 150
Benzovindiflupyr	112	120	P/P	50 - 150
Benzovindiflupyr	114	112	P/P	50 - 150
Carbamazepine	103	111	P/P	60 - 150
Carbamazepine	111	104	P/P	60 - 150
Clothianidin	106	107	P/P	60 - 150
Clothianidin	111	106	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100758

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	108	111	P/P	50 - 150
Dinotefuran	110	108	P/P	50 - 150
Diuron	109	107	P/P	60 - 160
Diuron	113	109	P/P	60 - 160
Fenuron	126	131	P/P	60 - 150
Fenuron	131	131	P/P	60 - 150
Hydrocodone	114	113	P/P	60 - 150
Hydrocodone	123	114	P/P	60 - 150
Ibuprofen	124	125	P/P	50 - 160
Ibuprofen	125	106	P/P	50 - 160
Imidacloprid	101	99.4	P/P	60 - 150
Imidacloprid	116	101	P/P	60 - 150
Linuron	111	127	P/P	60 - 150
Linuron	127	114	P/P	60 - 150
Mandestrobin	121	124	P/P	50 - 150
Mandestrobin	124	123	P/P	50 - 150
MCPP	126	129	P/P	50 - 150
MCPP	129	132	P/P	50 - 150
Naproxen	106	109	P/P	50 - 160
Naproxen	109	104	P/P	50 - 160
Primidone	113	118	P/P	60 - 150
Primidone	118	118	P/P	60 - 150
Pyraclostrobin	118	119	P/P	60 - 150
Pyraclostrobin	119	125	P/P	60 - 150
Thiamethoxam	123	123	P/P	50 - 150
Thiamethoxam	134	123	P/P	50 - 150
Tolfenpyrad	114	109	P/P	60 - 150
Tolfenpyrad	116	114	P/P	60 - 150
Triclopyr	107	116	P/P	50 - 150
Triclopyr	122	107	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A100779

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	82.6	81.6	P/P	60 - 160
AMPA	85.0	82.5	P/P	60 - 160
Glufosinate	88.1	90.7	P/P	60 - 160
Glufosinate	96.4	93.7	P/P	60 - 160
Glyphosate	108	107	P/P	60 - 160
Glyphosate	117	111	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100780

Included Lab Sample IDs: 2192788, 2192792

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	94.1	P/P	90 - 110
Kjeldahl Nitrogen	96.5	95.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A100781

Included Lab Sample IDs: 2192812, 2192813, 2192814, 2192815

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	151	157	P/P	50 - 160
Bentazon	154	151	P/P	50 - 160
Fluridone	111	124	P/P	60 - 160
Fluridone	118	111	P/P	60 - 160
Imazapyr	145	155	P/P	50 - 160
Imazapyr	150	145	P/P	50 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100789

Included Lab Sample IDs: 2192817, 2192818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	103	105	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Manganese	100	101	P/P	90 - 110
Manganese	102	100	P/P	90 - 110
Zinc	100	102	P/P	90 - 110
Zinc	104	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100807

Included Lab Sample IDs: 2192793

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100832

Included Lab Sample IDs: 2192788, 2192792, 2192793

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.9	P/P	90 - 110
Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100864

Included Lab Sample IDs: 2192816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	104	104	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Cadmium	98.7	100	P/P	90 - 110
Copper	95.4	99.2	P/P	90 - 110
Lead	102	98.8	P/P	90 - 110
Nickel	96.0	98.3	P/P	90 - 110
Selenium	103	104	P/P	90 - 110
Silver	98.6	102	P/P	90 - 110
Thallium	107	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100907

Included Lab Sample IDs: 2192816

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100913

Included Lab Sample IDs: 2192817, 2192818

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	95.8	95.9	P/P	90 - 110
Antimony	103	103	P/P	90 - 110
Arsenic	97.1	97.3	P/P	90 - 110
Cadmium	95.1	96.1	P/P	90 - 110
Chromium	98.8	99.4	P/P	90 - 110
Copper	93.6	92.4	P/P	90 - 110
Lead	95.8	96.1	P/P	90 - 110
Nickel	94.8	94.3	P/P	90 - 110
Selenium	97.6	98.5	P/P	90 - 110
Thallium	95.3	95.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100925

Included Lab Sample IDs: 2192787, 2192790, 2192791

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	95.4	98.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100945

Included Lab Sample IDs: 2192817, 2192818

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101043

Included Lab Sample IDs: 2192788

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	105	104	P/P	85 - 115

* 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						6.17	
	Turbidity						1.60	
EPA 200.7 Rev. 4.4	Chromium	97.9		98.9	99.7			0.761
	Iron	105		102	97.9			3.75
	Iron	104		108	110	105		1.61
	Manganese	102		101	101			0.200
	Manganese	101		106	105	101		0.817
	Zinc	99.7		101	101			0.340
	Zinc	99.8		108	106	103		1.50
EPA 200.8 Rev. 5.4	Aluminum	99.7		104	102			2.04
	Aluminum	93.4		93.2	94.7	93.5		1.03
	Antimony	101		107	104			2.43
	Antimony	100		105	100	98.9		1.49
	Arsenic	102		118	117			0.516
	Arsenic	99.5		107	100	97.9		2.51
	Cadmium	100		105	106			1.67
	Cadmium	96.1		101	98.1	97.3		0.872
	Chromium	103		105	103	102		0.742
	Copper	95.6		108	107			1.07
	Copper	96.8		99.0	97.5	95.7		1.88
	Lead	104		108	115			5.50
	Lead	98.1		101	102	101		0.404
	Nickel	94.7		106	109			3.29
	Nickel	95.6		99.2	97.2	95.7		1.48
	Selenium	101		118	115			3.13
	Selenium	97.6		104	98.0	96.1		1.97
	Silver	104		99.0	98.0			0.988
	Silver	107		106	106	107		0.701
	Thallium	108		114	118			4.15
	Thallium	99.4		107	101	103		2.03
EPA 300.0 Rev. 2.1	Bromide	96.7		91.5	89.4	87.1		1.76
EPA 350.1 Rev. 2.0	Ammonia-N	98.5		100	101			0.734
	Ammonia-N	101		99.4	101			0.804
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.3		101	99.4			0.923
	Kjeldahl Nitrogen	96.1		94.7	96.7			1.81
	Kjeldahl Nitrogen	96.7		106	109			1.86
EPA 353.2 Rev. 2.0	NO2NO3-N	101		101	102			0.482
	NO2NO3-N	101		96.8				0.0
EPA 365.1 Rev. 2.0	Total-P	104		106	109			3.27
	Total-P	108		103	102			0.621
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3		101	98.0			2.72
	O-Phosphate-P	99.9		99.4	99.2			0.145
EPA 8321B	2,4-D	120		109	101			7.20
	Acesulfame K	104		106	102			3.94
	Acetaminophen	79.4		98.0	97.9			0.0857
	Acetamiprid	67.8		75.2	76.2			1.33
	Afidopyropen	41.3		51.8	50.0			3.67
	AMPA	75.5		51.1	53.9			5.38
	Bentazon	81.7		49.0	46.4			1.50
	Benzovindiflupyr	66.7		68.0	67.2			1.18
	Carbamazepine	57.6		44.4	44.8			0.601
	Clothianidin	75.5		77.0	84.7			9.44
	Dinotefuran	87.3		103	103			0.0268
	Diuron	56.0		51.9	51.7			0.231

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Endothall	101	146	132			10.1
	Fenuron	87.4	85.5	82.7			3.35
	Fluridone	85.9	72.5	82.1			10.4
	Glufosinate	95.1	100	93.9			6.64
	Glyphosate	116	84.6	90.2			6.48
	Hydrocodone	78.3	79.0	78.9			0.0358
	Ibuprofen	93.7	78.2	67.8			14.3
	Imazapyr	115	72.7	74.5			1.62
	Imidacloprid	88.9	123	134			8.34
	Linuron	64.9	59.7	65.1			8.66
	Mandestrobin	70.1	67.6	67.9			0.505
	MCPP	120	118	109			8.29
	Naproxen	68.7	62.5	43.6			28.7
	Primidone	84.7	90.4	89.0			1.55
	Pyraclostrobin	59.9	59.4	57.8			2.58
	Sucralose	101	100	107			6.56
	Thiamethoxam	91.2	108	112			3.04
	Tolfenpyrad	44.4	50.2	47.4			5.85
	Triclopyr	92.4	90.6	95.8			5.62
SM 2320 B-2011	Total Alkalinity	102				0.197	
	Total Alkalinity	101				0.0363	
SM 4500 F-C-2011	Fluoride	98.7	98.9	97.1			1.43
	Fluoride	101	100	105			2.82
SM 5310 B-2011	Organic Carbon	94.2	95.2	94.5			0.640
	Organic Carbon	95.0	94.9	95.2			0.278

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2192787, 2192790, 2192791
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2192816, 2192817, 2192818
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2192816, 2192817, 2192818
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2192787, 2192790, 2192791
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2192788, 2192792, 2192793
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2192788, 2192792, 2192793
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2192788, 2192792, 2192793
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2192788, 2192792, 2192793
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2192789, 2192794, 2192795
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2192812, 2192813, 2192814, 2192815
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2192812, 2192813, 2192814, 2192815
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2192787, 2192790, 2192791
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2192787, 2192790, 2192791
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2192787, 2192790, 2192791
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2192788, 2192792, 2192793

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	08/27/2020			08/27/2020 15:06	Yen Ta	2192787, 2192790, 2192791
EPA 200.7 Rev. 4.4	08/27/2020	08/27/2020 17:15	Elliott D. Healy	08/31/2020 20:58	Betina Topolski	2192816
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/02/2020 17:42	Betina Topolski	2192817
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/02/2020 18:18	Betina Topolski	2192818
EPA 200.8 Rev. 5.4	08/27/2020	08/27/2020 17:15	Elliott D. Healy	09/08/2020 21:36	Alexander Thompson	2192816
	08/27/2020	08/27/2020 17:15	Elliott D. Healy	09/10/2020 13:07	Alexander Thompson	2192816
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/10/2020 20:58	Alexander Thompson	2192817
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/10/2020 21:06	Alexander Thompson	2192818
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/11/2020 15:48	Alexander Thompson	2192817
	08/27/2020	08/31/2020 13:30	Elliott D. Healy	09/11/2020 15:56	Alexander Thompson	2192818
EPA 300.0 Rev. 2.1	08/27/2020			09/09/2020 23:30	Lipi Saha	2192787
	08/27/2020			09/09/2020 23:47	Lipi Saha	2192790
	08/27/2020			09/10/2020 00:04	Lipi Saha	2192791
EPA 350.1 Rev. 2.0	08/27/2020			09/05/2020 12:12	Ping Hua	2192788
	08/27/2020			09/05/2020 13:32	Ping Hua	2192792
	08/27/2020			09/05/2020 13:33	Ping Hua	2192793
EPA 351.2 Rev. 2.0	08/27/2020	09/01/2020 11:35	Sima Feizi	09/02/2020 10:41	Virginia P. Brown	2192792
	08/27/2020	09/01/2020 11:35	Sima Feizi	09/02/2020 11:23	Virginia P. Brown	2192788
	08/27/2020	09/02/2020 12:20	David Boose	09/03/2020 14:18	Virginia P. Brown	2192793
EPA 353.2 Rev. 2.0	08/27/2020			08/31/2020 10:27	Beverly Y. Sanders	2192788
	08/27/2020			09/01/2020 10:27	Beverly Y. Sanders	2192792
	08/27/2020			09/01/2020 10:28	Beverly Y. Sanders	2192793
EPA 365.1 Rev. 2.0	08/27/2020	08/28/2020 12:36	Yen Ta	08/31/2020 10:14	Benjamin T. Nordmann	2192792, 2192793
	08/27/2020	09/02/2020 13:46	Yen Ta	09/17/2020 10:32	Lipi Saha	2192788
EPA 365.1 Rev. 2.0 dissolved	08/27/2020			08/27/2020 16:25	Virginia P. Brown	2192789
	08/27/2020			08/27/2020 16:30	Virginia P. Brown	2192794
	08/27/2020			08/27/2020 16:31	Virginia P. Brown	2192795
EPA 8321B	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/28/2020 14:43	Rebecca Ware	2192812
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/28/2020 14:55	Rebecca Ware	2192813
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/28/2020 15:21	Rebecca Ware	2192814
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/28/2020 15:33	Rebecca Ware	2192815
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/31/2020 17:54	Rebecca Ware	2192812
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/31/2020 18:50	Rebecca Ware	2192814
	08/27/2020	08/28/2020 11:00	Rebecca Ware	08/31/2020 19:04	Rebecca Ware	2192815
	08/27/2020	08/28/2020 11:00	Rebecca Ware	09/01/2020 09:46	Rebecca Ware	2192813
	08/27/2020	08/28/2020 11:00	Rebecca Ware	09/01/2020 15:27	Rebecca Ware	2192812
	08/27/2020	08/28/2020 11:00	Rebecca Ware	09/01/2020 15:38	Rebecca Ware	2192813
	08/27/2020	08/28/2020 11:00	Rebecca Ware	09/01/2020 20:22	Rebecca Ware	2192814
	08/27/2020	08/28/2020 11:00	Rebecca Ware	09/01/2020 20:33	Rebecca Ware	2192815
	08/27/2020	08/28/2020 13:20	Hoor Shaik	08/30/2020 07:57	Juyoung Kim	2192812

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/27/2020	08/28/2020 13:20	Hoor Shaik	08/30/2020 08:32	Juyoung Kim	2192813
	08/27/2020	08/28/2020 13:20	Hoor Shaik	08/30/2020 09:41	Juyoung Kim	2192814
	08/27/2020	08/28/2020 13:20	Hoor Shaik	08/30/2020 10:16	Juyoung Kim	2192815
	08/27/2020	08/28/2020 13:20	Hoor Shaik	09/02/2020 04:16	Juyoung Kim	2192812
	08/27/2020	08/28/2020 13:20	Hoor Shaik	09/02/2020 04:51	Juyoung Kim	2192813
	08/27/2020	08/28/2020 13:20	Hoor Shaik	09/02/2020 06:00	Juyoung Kim	2192814
	08/27/2020	08/28/2020 13:20	Hoor Shaik	09/02/2020 06:35	Juyoung Kim	2192815
	08/27/2020			08/28/2020 19:11	Dale L. Simmons	2192790
SM 2320 B-2011	08/27/2020			08/28/2020 20:50	Dale L. Simmons	2192791
	08/27/2020			08/29/2020 02:56	Dale L. Simmons	2192787
SM 2540 D-2011	08/27/2020			08/28/2020 19:46	Madeline Gruver	2192787, 2192790, 2192791
SM 4500 F-C-2011	08/27/2020			08/28/2020 19:11	Dale L. Simmons	2192790
	08/27/2020			08/28/2020 20:50	Dale L. Simmons	2192791
	08/27/2020			08/29/2020 01:02	Dale L. Simmons	2192787
SM 5310 B-2011	08/27/2020			08/30/2020 10:22	Ping Hua	2192792
	08/27/2020			08/30/2020 10:34	Ping Hua	2192793
	08/27/2020			08/30/2020 14:16	Ping Hua	2192788