

Chemical Analysis Report

SO-DIST-2020-09-17-01

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

Event Description: **Charlotte Cricks +BOB**

Request ID: **RQ-2020-09-14-53**

Customer: **SO-DIST**

Project ID: **SMP**

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FLDEP South District Office
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 07-OCT-2020 18:12



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: Cleveland Cemetary Ditch @ Riverside Rd.

Collection Date/Time: 09/16/2020 08:50

Field ID: G3SD0076

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196565	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P387516	
	EPA 300.0 Rev. 2.1	Bromide	0.53		mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	161		mg CaCO3/L	P387674	
	SM 2540 D-2011	TSS	2	I	mg/L	P387841	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P387680	
2196566	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P387770	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P387613	
	EPA 365.1 Rev. 2.0	Total-P	0.25		mg P/L	P387858	
	SM 5310 B-2011	Organic Carbon	41		mg C/L	P387836	
2196567	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.21		mg P/L	P387521	
2196605	EPA 8321B	2,4-D	0.0032	I	ug/L	P387502	
		Acesulfame K**	0.11	I	ug/L	P387598	MS
		AMPA**	0.43		ug/L	P387598	MS
		Sucralose**	0.66		ug/L	P387598	MS
		Acetaminophen**	0.0080	U	ug/L	P387502	
		Acetamiprid**	0.0020	U	ug/L	P387502	
		Endothall**	0.25	U	ug/L	P387598	
		Glufosinate**	0.10	U	ug/L	P387598	MS
		Glyphosate**	0.52		ug/L	P387598	
		Afidopyropen**	0.0020	U	ug/L	P387502	
		Bentazon	0.0020	I	ug/L	P387502	
		Benzovindiflupyr**	0.0020	U	ug/L	P387502	
		Carbamazepine**	0.0040		ug/L	P387502	
		Clothianidin**	0.0020	U	ug/L	P387502	
		Dinotefuran**	0.0020	U	ug/L	P387502	
		Diuron	0.0020	U	ug/L	P387502	
		Fenuron	0.016	U	ug/L	P387502	
		Fluridone**	0.0013	I	ug/L	P387502	
		Imazapyr**	0.26		ug/L	P387502	
		Hydrocodone**	0.0020	U	ug/L	P387502	
		Ibuprofen**	0.020	U	ug/L	P387502	
		Imidacloprid	0.010		ug/L	P387502	
		Linuron	0.0040	U	ug/L	P387502	
		Mandestrobin**	0.0020	U	ug/L	P387502	
		MCP	0.0020	U	ug/L	P387502	
		Naproxen**	0.0080	U	ug/L	P387502	RPD
		Primidone**	0.0040	U	ug/L	P387502	
		Pyraclostrobin**	0.0020	U	ug/L	P387502	
		Thiamethoxam**	0.0020	U	ug/L	P387502	
		Tolfenpyrad**	0.0020	U	ug/L	P387502	
		Triclopyr**	0.0040	U	ug/L	P387502	

Field ID: G3SD0076

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Bobcat Creek In Preserve East

Collection Date/Time: 09/16/2020 09:40

Field ID: G3SD0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196574	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P387516	
	EPA 300.0 Rev. 2.1	Bromide	0.058		mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	33		mg CaCO3/L	P387674	
	SM 2540 D-2011	TSS	6	IA	mg/L	P387842	
	SM 4500 F-C-2011	Fluoride	0.19		mg F/L	P387680	
2196575	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P387781	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.039		mg N/L	P387613	
	EPA 365.1 Rev. 2.0	Total-P	0.64		mg P/L	P387858	
	SM 5310 B-2011	Organic Carbon	45		mg C/L	P387836	
2196576	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.51		mg P/L	P387521	
2196606	EPA 8321B	2,4-D	0.0046	I	ug/L	P387502	
		Acesulfame K**	0.10	U	ug/L	P387598	MS
		AMPA**	0.10	U	ug/L	P387598	MS
		Sucralose**	0.024	I	ug/L	P387598	MS
		Acetaminophen**	0.0080	U	ug/L	P387502	
		Acetamiprid**	0.0020	U	ug/L	P387502	
		Endothall**	0.25	U	ug/L	P387598	
		Glufosinate**	0.10	U	ug/L	P387598	MS
		Glyphosate**	0.10	U	ug/L	P387598	
		Afidopyropen**	0.0020	U	ug/L	P387502	
		Bentazon	8.0E-04	U	ug/L	P387502	
		Benzovindiflupyr**	0.0020	U	ug/L	P387502	
		Carbamazepine**	8.0E-04	U	ug/L	P387502	
		Clothianidin**	0.0020	U	ug/L	P387502	
		Dinotefuran**	0.0020	U	ug/L	P387502	
		Diuron	0.0020	U	ug/L	P387502	
		Fenuron	0.016	U	ug/L	P387502	
		Fluridone**	8.0E-04	U	ug/L	P387502	
		Imazapyr**	0.0040	U	ug/L	P387502	
		Hydrocodone**	0.0020	U	ug/L	P387502	
		Ibuprofen**	0.020	U	ug/L	P387502	
		Imidacloprid	0.015		ug/L	P387502	
		Linuron	0.0040	U	ug/L	P387502	
		Mandestrobin**	0.0020	U	ug/L	P387502	
		MCPP	0.0020	U	ug/L	P387502	
		Naproxen**	0.0080	U	ug/L	P387502	RPD
		Primidone**	0.0040	U	ug/L	P387502	
		Pyraclostrobin**	0.0020	U	ug/L	P387502	
		Thiamethoxam**	0.0020	U	ug/L	P387502	
		Tolfenpyrad**	0.0020	U	ug/L	P387502	
		Triclopyr**	0.0040	U	ug/L	P387502	
2196609	EPA 200.7 Rev. 4.4	Iron	2.03E+03		ug/L	P387692	

Field ID: G3SD0131

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196609	EPA 200.7 Rev. 4.4	Magnesium	4.73		mg/L	P387692	
		Zinc	7.2	I	ug/L	P387692	
	EPA 200.8 Rev. 5.4	Aluminum	298		ug/L	P387692	
		Antimony	0.098	I	ug/L	P387692	
		Arsenic	2.11		ug/L	P387692	
		Cadmium	0.041	I	ug/L	P387692	
		Chromium	1.4	I	ug/L	P387692	
		Copper	1.17		ug/L	P387692	
		Lead	0.47		ug/L	P387692	
		Nickel	1.2	I	ug/L	P387692	
		Selenium	0.27	I	ug/L	P387692	
		Silver	0.010	U	ug/L	P387692	
		Thallium	0.10	U	ug/L	P387692	
	SM 2340B	Hardness	61.1		mg/L	P387692	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Big Slough Canal

Collection Date/Time: 09/16/2020 10:40

Field ID: G3SD0161

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196571	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P387516	
	EPA 300.0 Rev. 2.1	Bromide	0.18		mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	117		mg CaCO3/L	P387674	
	SM 2540 D-2011	TSS	4	I	mg/L	P387841	
	SM 4500 F-C-2011	Fluoride	0.28		mg F/L	P387680	
2196572	EPA 350.1 Rev. 2.0	Ammonia-N	0.070		mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1	J	mg N/L	P387781	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.091		mg N/L	P387613	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P387858	
	SM 5310 B-2011	Organic Carbon	23		mg C/L	P387836	
2196573	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.18		mg P/L	P387521	
2196608	EPA 200.7 Rev. 4.4	Iron	940		ug/L	P387692	
		Magnesium	10.3		mg/L	P387692	
		Zinc	5.0	U	ug/L	P387692	
	EPA 200.8 Rev. 5.4	Aluminum	93		ug/L	P387692	
		Antimony	0.13	I	ug/L	P387692	
		Arsenic	2.04		ug/L	P387692	
		Cadmium	0.020	U	ug/L	P387692	
		Chromium	0.66	I	ug/L	P387692	
		Copper	0.79	I	ug/L	P387692	
		Lead	0.20	U	ug/L	P387692	
		Nickel	0.76	I	ug/L	P387692	
		Selenium	0.31	I	ug/L	P387692	
		Silver	0.010	U	ug/L	P387692	
		Thallium	0.10	U	ug/L	P387692	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Big Slough @ Butler Park

Collection Date/Time: 09/16/2020 11:20

Field ID: G3SD0168

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2196568	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P387516	
	EPA 300.0 Rev. 2.1	Bromide	0.14		mg Br/L	P387642	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P387674	
	SM 2540 D-2011	TSS	5	I	mg/L	P387841	
	SM 4500 F-C-2011	Fluoride	0.26		mg F/L	P387680	
2196569	EPA 350.1 Rev. 2.0	Ammonia-N	0.045		mg N/L	P387580	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P387770	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P387613	
	EPA 365.1 Rev. 2.0	Total-P	0.39		mg P/L	P387547	
	SM 5310 B-2011	Organic Carbon	32		mg C/L	P387836	
2196570	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P387521	
2196607	EPA 200.7 Rev. 4.4	Iron	1.26E+03		ug/L	P387692	
		Magnesium	11.4		mg/L	P387692	
		Zinc	5.0	U	ug/L	P387692	
	EPA 200.8 Rev. 5.4	Aluminum	181		ug/L	P387692	
		Antimony	0.073	I	ug/L	P387692	
		Arsenic	1.69		ug/L	P387692	
		Cadmium	0.032	I	ug/L	P387692	
		Chromium	1.0	I	ug/L	P387692	
		Copper	2.60		ug/L	P387692	
		Lead	0.31	I	ug/L	P387692	
		Nickel	0.85	I	ug/L	P387692	
		Selenium	0.26	I	ug/L	P387692	
		Silver	0.010	U	ug/L	P387692	
		Thallium	0.10	U	ug/L	P387692	
	SM 2340B	Hardness	148		mg/L	P387692	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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: P387516

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387692

Component	Result	Code	Units
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387692

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: P387642

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387770

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387613

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387547

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

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

Reference Method: EPA 8321B
Batch ID: P387502

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: P387598

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: P387674

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

Reference Method: SM 2540 D-2011
Batch ID: P387841

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P387842

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P387836

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: P387692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	110		P	85 - 115
Magnesium	109		P	85 - 115
Zinc	99.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	100		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	102		P	85 - 115
Copper	103		P	85 - 115
Lead	101		P	85 - 115
Nickel	102		P	85 - 115
Selenium	97.6		P	85 - 115
Silver	98.9		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387642

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387770

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

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: P387613

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387547

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387858

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387521

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

Reference Method: EPA 8321B
 Batch ID: P387502

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	30 - 160
Acetaminophen	85.7		P	30 - 160
Acetamiprid	68.4		P	30 - 160
Afidopyropen	60.5		P	30 - 160
Bentazon	56.0		P	30 - 160
Benzovindiflupyr	64.6		P	30 - 160
Carbamazepine	57.3		P	30 - 160
Clothianidin	78.9		P	30 - 160
Dinotefuran	88.9		P	30 - 160
Diuron	50.5		P	30 - 160
Fenuron	89.3		P	30 - 160
Fluridone	70.0		P	30 - 160
Hydrocodone	83.3		P	30 - 160
Ibuprofen	71.2		P	30 - 160
Imazapyr	99.5		P	30 - 160
Imidacloprid	96.1		P	30 - 160
Linuron	63.5		P	30 - 160
Mandestrobin	77.6		P	30 - 160
MCPP	108		P	30 - 160
Naproxen	105		P	30 - 160
Primidone	71.9		P	30 - 160
Pyraclostrobin	55.2		P	30 - 160
Thiamethoxam	80.1		P	30 - 160
Tolfenpyrad	36.5		P	30 - 160
Triclopyr	104		P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P387598

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	75.3		P	40 - 150
AMPA	86.3		P	40 - 150
Endothall	104		P	40 - 150
Glufosinate	92.5		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P387598

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	105		P	40 - 140
Sucralose	105		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P387674

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	93 - 104

Reference Method: SM 4500 F-C-2011

Batch ID: P387680

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	90 - 106

Reference Method: SM 5310 B-2011

Batch ID: P387836

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196364	Iron	106		P	80 - 120
2196364	Magnesium	102		P	80 - 120
2196364	Zinc	99.2		P	80 - 120
2197193	Iron	111	110	P/P	80 - 120
2197193	Magnesium	111	109	P/P	80 - 120
2197193	Zinc	102	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196364	Aluminum	99.7		P	80 - 120
2196364	Antimony	103		P	80 - 120
2196364	Arsenic	100		P	80 - 120
2196364	Cadmium	101		P	80 - 120
2196364	Chromium	104		P	80 - 120
2196364	Copper	98.6		P	80 - 120
2196364	Lead	101		P	80 - 120
2196364	Nickel	99.5		P	80 - 120
2196364	Selenium	94.2		P	80 - 120
2196364	Silver	117		P	80 - 120
2196364	Thallium	103		P	80 - 120
2197193	Aluminum	98.9	99.2	P/P	80 - 120
2197193	Antimony	103	104	P/P	80 - 120
2197193	Arsenic	99.4	99.3	P/P	80 - 120
2197193	Cadmium	101	101	P/P	80 - 120
2197193	Chromium	103	102	P/P	80 - 120
2197193	Copper	101	101	P/P	80 - 120
2197193	Lead	99.9	101	P/P	80 - 120
2197193	Nickel	100	100	P/P	80 - 120
2197193	Selenium	96.0	95.6	P/P	80 - 120
2197193	Silver	98.5	98.6	P/P	80 - 120
2197193	Thallium	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P387642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196574	Bromide	93.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196548	Ammonia-N	99.1	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196554	Kjeldahl Nitrogen	99.8	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P387781

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196572	Kjeldahl Nitrogen	103	110	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P387613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196548	NO2NO3-N	99.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196569	Total-P	101	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P387858

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196548	Total-P	106	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196640	O-Phosphate-P	98.4	101	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P387502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196584	Acetaminophen	64.4	70.3	P/P	30 - 160
2196584	Acetamiprid	60.4	62.3	P/P	30 - 160
2196584	Afidopyropen	52.4	52.5	P/P	30 - 160
2196584	Benzovindiflupyr	49.7	49.3	P/P	30 - 160
2196584	Carbamazepine	43.5	45.9	P/P	30 - 160
2196584	Clothianidin	62.7	61.1	P/P	30 - 160
2196584	Dinotefuran	72.0	78.1	P/P	30 - 160
2196584	Diuron	37.9	40.5	P/P	30 - 160
2196584	Fenuron	66.7	69.0	P/P	30 - 160
2196584	Hydrocodone	61.3	66.2	P/P	30 - 160
2196584	Ibuprofen	45.2	52.3	P/P	30 - 160
2196584	Linuron	43.5	47.8	P/P	30 - 160
2196584	Mandestrobin	58.9	60.1	P/P	30 - 160
2196584	MCP	86.9	85.5	P/P	30 - 160
2196584	Naproxen	83.7	58.6	P/P	30 - 160
2196584	Primidone	66.5	63.0	P/P	30 - 160
2196584	Pyraclostrobin	48.0	50.9	P/P	30 - 160
2196584	Thiamethoxam	72.4	75.9	P/P	30 - 160
2196584	Tolfenpyrad	33.9	31.9	P/P	30 - 160
2196584	Triclopyr	91.3	88.1	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P387598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196261	Acesulfame K	34.2	35.1	F/F	40 - 150
2196261	AMPA	6.76	7.01	F/F	40 - 150
2196261	Endothall	110	128	P/P	40 - 150
2196261	Glufosinate	37.8	39.4	F/F	40 - 150
2196261	Glyphosate	72.6	73.3	P/P	40 - 140
2196261	Sucralose	29.5	32.1	F/F	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P387680

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196638	Fluoride	96.2	96.9	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P387836

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2196931	Organic Carbon	98.8	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387516

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196553	Turbidity	2.71	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P387692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197193	Iron	0.994	Spike	P	0 - 20
2197193	Magnesium	1.28	Spike	P	0 - 20
2197193	Zinc	2.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P387692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2197193	Aluminum	0.262	Spike	P	0 - 20
2197193	Antimony	0.385	Spike	P	0 - 20
2197193	Arsenic	0.131	Spike	P	0 - 20
2197193	Cadmium	0.0458	Spike	P	0 - 20
2197193	Chromium	0.497	Spike	P	0 - 20
2197193	Copper	0.364	Spike	P	0 - 20
2197193	Lead	0.996	Spike	P	0 - 20
2197193	Nickel	0.285	Spike	P	0 - 20
2197193	Selenium	0.450	Spike	P	0 - 20
2197193	Silver	0.124	Spike	P	0 - 20
2197193	Thallium	1.63	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P387580

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196548	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196554	Kjeldahl Nitrogen	2.35	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P387781

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196572	Kjeldahl Nitrogen	3.37	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196548	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196569	Total-P	0.956	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P387858

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196548	Total-P	1.83	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196640	O-Phosphate-P	2.21	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P387502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196584	2,4-D	0.746	Spike	P	0 - 30
2196584	Acetaminophen	5.99	Spike	P	0 - 30
2196584	Acetamiprid	3.09	Spike	P	0 - 30
2196584	Afidopyropen	0.0707	Spike	P	0 - 30
2196584	Bentazon	5.75	Spike	P	0 - 30
2196584	Benzovindiflupyr	0.915	Spike	P	0 - 30
2196584	Carbamazepine	4.60	Spike	P	0 - 30
2196584	Clothianidin	1.92	Spike	P	0 - 30
2196584	Dinotefuran	7.70	Spike	P	0 - 30
2196584	Diuron	5.30	Spike	P	0 - 30
2196584	Fenuron	3.37	Spike	P	0 - 30
2196584	Fluridone	5.80	Spike	P	0 - 30
2196584	Hydrocodone	7.77	Spike	P	0 - 30
2196584	Ibuprofen	14.6	Spike	P	0 - 30
2196584	Imazapyr	1.78	Spike	P	0 - 30
2196584	Imidacloprid	2.89	Spike	P	0 - 30
2196584	Linuron	9.41	Spike	P	0 - 30
2196584	Mandestrobin	1.89	Spike	P	0 - 30
2196584	MCPP	1.56	Spike	P	0 - 30
2196584	Naproxen	35.3	Spike	F	0 - 30
2196584	Primidone	4.56	Spike	P	0 - 30
2196584	Pyraclostrobin	5.86	Spike	P	0 - 30
2196584	Thiamethoxam	4.33	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P387502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196584	Tolfenpyrad	5.93	Spike	P	0 - 30
2196584	Triclopyr	3.58	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P387598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196261	Acesulfame K	2.58	Spike	P	0 - 30
2196261	AMPA	3.67	Spike	P	0 - 30
2196261	Endothall	15.0	Spike	P	0 - 30
2196261	Glufosinate	4.11	Spike	P	0 - 30
2196261	Glyphosate	0.902	Spike	P	0 - 30
2196261	Sucralose	8.26	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
 Batch ID: P387674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196638	Total Alkalinity	0.889	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
 Batch ID: P387680

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196638	Fluoride	0.463	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P387836

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2196931	Organic Carbon	2.20	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2196605
Field Sample ID: G3SD0076

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	55.7	P	30 - 160
EPA 8321B	Diuron-d6	45.6	P	30 - 160
EPA 8321B	Endothall-d6	96.5	P	30 - 160
EPA 8321B	Endothall-d6	96.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	46.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	46.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	61.7	P	30 - 160
EPA 8321B	Primidone-d5	53.4	P	30 - 160
EPA 8321B	Sucralose-d6	83.3	P	30 - 160
EPA 8321B	Sucralose-d6	83.3	P	30 - 160

Lab Sample ID: 2196606
Field Sample ID: G3SD0131

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	64.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.2	P	30 - 160
EPA 8321B	Diuron-d6	40.3	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.6	P	30 - 160
EPA 8321B	Primidone-d5	43.6	P	30 - 160
EPA 8321B	Sucralose-d6	99.5	P	30 - 160
EPA 8321B	Sucralose-d6	99.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101022

Included Lab Sample IDs: 2196565, 2196568, 2196571, 2196574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	100	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101044

Included Lab Sample IDs: 2196605, 2196606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	120	P/P	50 - 150
Acetaminophen	114	108	P/P	60 - 160
Acetamiprid	114	114	P/P	50 - 150
Afidopyropen	103	83.9	P/P	50 - 150
Bentazon	114	100	P/P	50 - 160
Benzovindiflupyr	107	110	P/P	50 - 150
Carbamazepine	102	102	P/P	60 - 150
Clothianidin	93.0	101	P/P	60 - 150
Dinotefuran	93.2	89.7	P/P	50 - 150
Diuron	104	105	P/P	60 - 160
Fenuron	107	111	P/P	60 - 150
Fluridone	114	107	P/P	60 - 160
Hydrocodone	105	106	P/P	60 - 150
Ibuprofen	94.4	87.6	P/P	50 - 160
Imazapyr	107	118	P/P	50 - 160
Imidacloprid	92.2	97.2	P/P	60 - 150
Linuron	103	90.5	P/P	60 - 150
Mandestrobin	100	104	P/P	50 - 150
MCPP	113	107	P/P	50 - 150
Naproxen	105	82.8	P/P	50 - 160
Primidone	104	86.6	P/P	60 - 150
Pyraclostrobin	89.2	101	P/P	60 - 150
Thiamethoxam	99.9	98.6	P/P	50 - 150
Tolfenpyrad	86.6	96.0	P/P	60 - 150
Triclopyr	112	109	P/P	50 - 150

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101059

Included Lab Sample IDs: 2196565, 2196568, 2196571, 2196574

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101061

Included Lab Sample IDs: 2196567, 2196570, 2196573, 2196576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.4	96.1	P/P	90 - 110
O-Phosphate-P	99.6	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101085

Included Lab Sample IDs: 2196566, 2196569, 2196572, 2196575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.8	93.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101102

Included Lab Sample IDs: 2196566, 2196569, 2196572, 2196575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	99.0	P/P	90 - 110
NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101113

Included Lab Sample IDs: 2196605, 2196606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	71.7	81.0	P/P	60 - 160
Glufosinate	85.5	83.2	P/P	60 - 160
Glyphosate	120	130	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101124

Included Lab Sample IDs: 2196605, 2196606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	68.0	67.2	P/P	60 - 160
Endothall	119	116	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101132

Included Lab Sample IDs: 2196569

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

Reference Method: SM 2320 B-2011

Run ID: A101133

Included Lab Sample IDs: 2196565, 2196568, 2196571, 2196574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	95.6	P/P	90 - 110
Total Alkalinity	95.6	101	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A101133

Included Lab Sample IDs: 2196565, 2196568, 2196571, 2196574

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101182

Included Lab Sample IDs: 2196605, 2196606

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	113	117	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101190

Included Lab Sample IDs: 2196572, 2196575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.3	95.4	P/P	90 - 110
Kjeldahl Nitrogen	95.4	93.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A101194

Included Lab Sample IDs: 2196566, 2196569, 2196572, 2196575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101208

Included Lab Sample IDs: 2196566, 2196569

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.2	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A101217

Included Lab Sample IDs: 2196607, 2196608, 2196609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	105	102	P/P	90 - 110
Magnesium	102	100	P/P	90 - 110
Zinc	96.3	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101226

Included Lab Sample IDs: 2196566, 2196572, 2196575

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101342

Included Lab Sample IDs: 2196607, 2196608, 2196609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.9	99.1	P/P	90 - 110
Antimony	104	105	P/P	90 - 110
Arsenic	98.2	97.2	P/P	90 - 110
Cadmium	98.7	99.3	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Copper	96.7	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101342

Included Lab Sample IDs: 2196607, 2196608, 2196609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	100	101	P/P	90 - 110
Nickel	97.1	96.7	P/P	90 - 110
Selenium	96.4	95.3	P/P	90 - 110
Thallium	98.7	99.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101367

Included Lab Sample IDs: 2196607, 2196608, 2196609

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	99.4	96.9	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						2.71	
EPA 200.7 Rev. 4.4	Iron	110	106	111	110			0.994
	Magnesium	109	102	111	109			1.28
	Zinc	99.4	99.2	102	100			2.05
EPA 200.8 Rev. 5.4	Aluminum	100	98.9	99.2	99.7			0.262
	Antimony	103	103	104	103			0.385
	Arsenic	100	99.4	99.3	100			0.131
	Cadmium	102	101	101	101			0.0458
	Chromium	102	103	102	104			0.497
	Copper	103	101	101	98.6			0.364
	Lead	101	99.9	101	101			0.996
	Nickel	102	100	100	99.5			0.285
	Selenium	97.6	96.0	95.6	94.2			0.450
	Silver	98.9	98.5	98.6	117			0.124
	Thallium	102	102	103	103			1.63
EPA 300.0 Rev. 2.1	Bromide	99.3	93.9					
EPA 350.1 Rev. 2.0	Ammonia-N	98.9	99.1	98.0				1.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	99.8	103				2.35
	Kjeldahl Nitrogen	101	103	110				3.37
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.9	99.4				0.491
EPA 365.1 Rev. 2.0	Total-P	105	101	103				0.956
	Total-P	108	106	108				1.83
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	98.4	101				2.21
EPA 8321B	2,4-D	129						0.746
	Acesulfame K	75.3	34.2	35.1				2.58
	Acetaminophen	85.7	64.4	70.3				5.99
	Acetamiprid	68.4	60.4	62.3				3.09
	Afidopyropen	60.5	52.4	52.5				0.0707
	AMPA	86.3	6.76	7.01				3.67
	Bentazon	56.0						5.75
	Benzovindiflupyr	64.6	49.7	49.3				0.915
	Carbamazepine	57.3	43.5	45.9				4.60
	Clothianidin	78.9	62.7	61.1				1.92
	Dinotefuran	88.9	72.0	78.1				7.70
	Diuron	50.5	37.9	40.5				5.30
	Endothall	104	110	128				15.0
	Fenuron	89.3	66.7	69.0				3.37
	Fluridone	70.0						5.80
	Glufosinate	92.5	37.8	39.4				4.11
	Glyphosate	105	72.6	73.3				0.902
	Hydrocodone	83.3	61.3	66.2				7.77
	Ibuprofen	71.2	45.2	52.3				14.6
	Imazapyr	99.5						1.78
	Imidacloprid	96.1						2.89
	Linuron	63.5	43.5	47.8				9.41
	Mandestrobin	77.6	58.9	60.1				1.89
	MCPP	108	86.9	85.5				1.56
	Naproxen	105	83.7	58.6				35.3
	Primidone	71.9	66.5	63.0				4.56
	Pyraclostrobin	55.2	48.0	50.9				5.86
	Sucralose	105	29.5	32.1				8.26
	Thiamethoxam	80.1	72.4	75.9				4.33
	Tolfenpyrad	36.5	33.9	31.9				5.93
	Triclopyr	104	91.3	88.1				3.58

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
SM 2320 B-2011	Total Alkalinity	99.4			0.889	
SM 4500 F-C-2011	Fluoride	98.1	96.2	96.9		0.463
SM 5310 B-2011	Organic Carbon	94.8	98.8	102		2.20

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2196565, 2196568, 2196571, 2196574
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2196607, 2196608, 2196609
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2196607, 2196608, 2196609
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2196565, 2196568, 2196571, 2196574
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2196566, 2196569, 2196572, 2196575
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2196566, 2196569, 2196572, 2196575
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2196566, 2196569, 2196572, 2196575
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2196566, 2196569, 2196572, 2196575
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2196567, 2196570, 2196573, 2196576
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2196605, 2196606
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2196605, 2196606
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2196565, 2196568, 2196571, 2196574
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2196607, 2196609
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2196565, 2196568, 2196571, 2196574
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2196565, 2196568, 2196571, 2196574
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2196566, 2196569, 2196572, 2196575

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	09/17/2020			09/17/2020 15:06	Yen Ta	2196565, 2196568, 2196571, 2196574
EPA 200.7 Rev. 4.4	09/17/2020	09/22/2020 14:45	Elliott D. Healy	09/25/2020 13:49	Betina Topolski	2196607
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	09/25/2020 13:56	Betina Topolski	2196608
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	09/25/2020 14:04	Betina Topolski	2196609
EPA 200.8 Rev. 5.4	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/02/2020 16:31	Alexander Thompson	2196607
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/02/2020 16:39	Alexander Thompson	2196608
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/02/2020 16:47	Alexander Thompson	2196609
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/05/2020 13:37	Alexander Thompson	2196607
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/05/2020 13:41	Alexander Thompson	2196608
	09/17/2020	09/22/2020 14:45	Elliott D. Healy	10/05/2020 13:45	Alexander Thompson	2196609
EPA 300.0 Rev. 2.1	09/17/2020			09/18/2020 16:24	Lipi Saha	2196565
	09/17/2020			09/18/2020 17:15	Lipi Saha	2196574
	09/17/2020			09/18/2020 19:32	Lipi Saha	2196568
	09/17/2020			09/18/2020 19:49	Lipi Saha	2196571
EPA 350.1 Rev. 2.0	09/17/2020			09/19/2020 14:08	Ping Hua	2196566
	09/17/2020			09/19/2020 14:10	Ping Hua	2196569
	09/17/2020			09/19/2020 14:11	Ping Hua	2196572
	09/17/2020			09/19/2020 14:13	Ping Hua	2196575
EPA 351.2 Rev. 2.0	09/17/2020	09/22/2020 11:40	David Boose	09/24/2020 18:51	Elliott Rodriguez	2196572
	09/17/2020	09/22/2020 11:40	David Boose	09/24/2020 19:04	Elliott Rodriguez	2196575
	09/17/2020	09/23/2020 19:10	David Boose	09/25/2020 13:59	Elliott Rodriguez	2196566
	09/17/2020	09/23/2020 19:10	David Boose	09/25/2020 14:01	Elliott Rodriguez	2196569
EPA 353.2 Rev. 2.0	09/17/2020			09/18/2020 10:36	Beverly Y. Sanders	2196569
	09/17/2020			09/18/2020 10:37	Beverly Y. Sanders	2196572
	09/17/2020			09/18/2020 10:39	Beverly Y. Sanders	2196575
	09/17/2020			09/18/2020 11:02	Beverly Y. Sanders	2196566
EPA 365.1 Rev. 2.0	09/17/2020	09/18/2020 13:22	Shengyu Wang	09/21/2020 14:51	Benjamin T. Nordmann	2196569
	09/17/2020	09/25/2020 12:17	Yen Ta	09/28/2020 10:03	Benjamin T. Nordmann	2196566
	09/17/2020	09/25/2020 12:17	Yen Ta	09/28/2020 10:04	Benjamin T. Nordmann	2196572
	09/17/2020	09/25/2020 12:17	Yen Ta	09/28/2020 10:05	Benjamin T. Nordmann	2196575
EPA 365.1 Rev. 2.0 dissolved	09/17/2020			09/17/2020 16:58	Julia Storbeck	2196570
	09/17/2020			09/17/2020 16:59	Julia Storbeck	2196573
	09/17/2020			09/17/2020 17:21	Julia Storbeck	2196567
	09/17/2020			09/17/2020 17:22	Julia Storbeck	2196576
EPA 8321B	09/17/2020	09/18/2020 13:00	Hoor Shaik	09/19/2020 17:10	Juyoung Kim	2196605
	09/17/2020	09/18/2020 13:00	Hoor Shaik	09/19/2020 17:45	Juyoung Kim	2196606
	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/21/2020 11:52	Rebecca Ware	2196605
	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/21/2020 12:03	Rebecca Ware	2196606
	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/21/2020 17:51	Rebecca Ware	2196605
	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/21/2020 18:05	Rebecca Ware	2196606

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/23/2020 12:20	Rebecca Ware	2196605
	09/17/2020	09/21/2020 10:00	Rebecca Ware	09/23/2020 12:32	Rebecca Ware	2196606
SM 2320 B-2011	09/17/2020			09/18/2020 13:23	Dale L. Simmons	2196568
	09/17/2020			09/18/2020 13:36	Dale L. Simmons	2196571
	09/17/2020			09/18/2020 13:48	Dale L. Simmons	2196574
	09/17/2020			09/18/2020 14:43	Dale L. Simmons	2196565
SM 2340B	09/17/2020			09/25/2020 13:49	Betina Topolski	2196607
	09/17/2020			09/25/2020 14:04	Betina Topolski	2196609
SM 2540 D-2011	09/17/2020			09/18/2020 15:11	Yijie Li	2196565, 2196568, 2196571, 2196574
SM 4500 F-C-2011	09/17/2020			09/18/2020 13:23	Dale L. Simmons	2196568
	09/17/2020			09/18/2020 13:36	Dale L. Simmons	2196571
	09/17/2020			09/18/2020 13:48	Dale L. Simmons	2196574
	09/17/2020			09/18/2020 14:43	Dale L. Simmons	2196565
SM 5310 B-2011	09/17/2020			09/24/2020 18:20	Madeline Gruver	2196566
	09/17/2020			09/24/2020 18:33	Madeline Gruver	2196569
	09/17/2020			09/24/2020 18:45	Madeline Gruver	2196572
	09/17/2020			09/24/2020 18:57	Madeline Gruver	2196575