

Chemical Analysis Report

SE-DIST-2021-07-08-01

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

Event Description: **SMP - Stuart Truck**

Request ID: **RQ-2021-07-05-62**

Customer: **SE-DIST**

Project ID: **SMP**

Send Reports to:

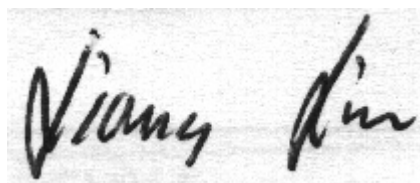
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

For additional information please contact

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-AUG-2021 13:05

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: South Fork SLR @ Hosford Park

Collection Date/Time: 07/07/2021 13:40

Field ID: G2SE0043

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2260647	EPA 180.1 Rev. 2.0	Turbidity	5.4	A	NTU	P400698	
	SM 2320 B-2011	Total Alkalinity	213		mg CaCO3/L	P401020	
	SM 2540 D-2011	TSS	8	I	mg/L	P400859	
	SM 4500 F-C-2011	Fluoride	0.23		mg F/L	P401023	
2260649	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P401093	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.97		mg N/L	P401034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P400727	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P400748	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P401073	
2260651	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.082		mg P/L	P400679	
2260665	EPA 200.7 Rev. 4.4	Calcium	94.7		mg/L	P400847	
		Iron	230		ug/L	P400847	
		Magnesium	25.8		mg/L	P400847	
		Manganese	35.5		ug/L	P400847	
		Zinc	6.7	I	ug/L	P400847	
	EPA 200.8 Rev. 5.4	Aluminum	77		ug/L	P400847	
		Antimony	0.064	I	ug/L	P400847	
		Arsenic	2.91		ug/L	P400847	
		Beryllium	0.012	I	ug/L	P400847	
		Cadmium	0.020	U	ug/L	P400847	
		Chromium	0.54	I	ug/L	P400847	
		Copper	1.56		ug/L	P400847	
		Lead	0.20	U	ug/L	P400847	
		Nickel	0.52	I	ug/L	P400847	
		Selenium	0.20	U	ug/L	P400847	
		Silver	0.010	U	ug/L	P400847	
		Thallium	0.10	U	ug/L	P400847	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 07/07/2021 14:00

Field ID: FB_07072021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2260653	EPA 180.1 Rev. 2.0	Turbidity	0.25		NTU	P400698	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P401144	
	SM 2540 D-2011	TSS	2	U	mg/L	P400859	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401023	
2260654	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P401168	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P401722	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P400727	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P400748	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P401073	
2260655	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P400679	
2260664	EPA 8321B	2,4-D	0.0020	U	ug/L	P400703	
		Acesulfame K	0.10	U	ug/L	P400700	MS
		2,4,5-T	0.0040	U	ug/L	P400703	
		AMPA	0.10	U	ug/L	P400700	
		Acetaminophen	0.0080	U	ug/L	P400703	
		Acetamiprid	0.0020	U	ug/L	P400703	
		Endothall	0.25	U	ug/L	P400700	
		Glufosinate	0.10	U	ug/L	P400700	
		Glyphosate	0.10	U	ug/L	P400700	
		Afidopyropen	0.0020	U	ug/L	P400703	
		Bentazon	8.0E-04	U	ug/L	P400703	
		Sucralose	0.010	U	ug/L	P400700	
		Benzovindiflupyr	0.0020	U	ug/L	P400703	
		Carbamazepine	8.0E-04	U	ug/L	P400703	
		Clothianidin	0.0020	U	ug/L	P400703	
		Dinotefuran	0.0020	U	ug/L	P400703	
		Diuron	0.0020	U	ug/L	P400703	
		Fenuron	0.016	U	ug/L	P400703	
		Fluridone	8.0E-04	U	ug/L	P400703	
		Imazapyr	0.0040	U	ug/L	P400703	MS
		Hydrocodone	0.0020	U	ug/L	P400703	
		Ibuprofen	0.020	U	ug/L	P400703	
		Imidacloprid	0.0020	U	ug/L	P400703	MS
		Linuron	0.0040	U	ug/L	P400703	
		Mandestrobin	0.0020	U	ug/L	P400703	
		MCP	0.0020	U	ug/L	P400703	
		Naproxen	0.0080	U	ug/L	P400703	
		Primidone	0.0040	U	ug/L	P400703	
		Pyraclostrobin	0.0020	U	ug/L	P400703	
		Thiamethoxam	0.0020	U	ug/L	P400703	MS
		Tolfenpyrad	0.0020	U	ug/L	P400703	
		Triclopyr	0.0040	U	ug/L	P400703	
2260667	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P400847	

Field ID: FB_07072021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2260667	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P400847	
		Magnesium	0.040	U	mg/L	P400847	
		Manganese	1.0	U	ug/L	P400847	
		Zinc	5.0	U	ug/L	P400847	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P400847	
		Antimony	0.050	U	ug/L	P400847	
		Arsenic	0.050	U	ug/L	P400847	
		Beryllium	0.010	U	ug/L	P400847	
		Cadmium	0.020	U	ug/L	P400847	
		Chromium	0.40	U	ug/L	P400847	
		Copper	0.40	U	ug/L	P400847	
		Lead	0.20	U	ug/L	P400847	
		Nickel	0.50	U	ug/L	P400847	
		Selenium	0.20	U	ug/L	P400847	
		Silver	0.010	U	ug/L	P400847	
		Thallium	0.10	U	ug/L	P400847	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 07/08/2021.

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high 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: Roebuck Creek @ Locks

Collection Date/Time: 07/07/2021 13:00

Field ID: G2SE0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2260648	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P400698	
	SM 2320 B-2011	Total Alkalinity	215		mg CaCO3/L	P401020	
	SM 2540 D-2011	TSS	6	I	mg/L	P400859	
	SM 4500 F-C-2011	Fluoride	0.21		mg F/L	P401023	
2260650	EPA 350.1 Rev. 2.0	Ammonia-N	0.054		mg N/L	P401093	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P401034	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P400727	
	EPA 365.1 Rev. 2.0	Total-P	0.49		mg P/L	P400748	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P401073	
2260652	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.34		mg P/L	P400696	
2260666	EPA 200.7 Rev. 4.4	Calcium	94.6		mg/L	P400847	
		Iron	610		ug/L	P400847	
		Magnesium	3.43		mg/L	P400847	
		Manganese	46.3		ug/L	P400847	
		Zinc	8.4	I	ug/L	P400847	
	EPA 200.8 Rev. 5.4	Aluminum	42		ug/L	P400847	
		Antimony	0.050	U	ug/L	P400847	
		Arsenic	1.04		ug/L	P400847	
		Beryllium	0.012	I	ug/L	P400847	
		Cadmium	0.020	U	ug/L	P400847	
		Chromium	0.40	U	ug/L	P400847	
		Copper	0.40	U	ug/L	P400847	
		Lead	0.20	U	ug/L	P400847	
		Nickel	0.50	U	ug/L	P400847	
		Selenium	0.20	U	ug/L	P400847	
		Silver	0.010	U	ug/L	P400847	
		Thallium	0.10	U	ug/L	P400847	

Ref. Method and Comment:

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

SM 4500 F-C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400698

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400847

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400847

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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 350.1 Rev. 2.0
Batch ID: P401093

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401168

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401034

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401722

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: P400727

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400748

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400679

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400696

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

Reference Method: EPA 8321B
Batch ID: P400700

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: EPA 8321B
Batch ID: P400703

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400703

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

Reference Method: SM 2320 B-2011

Batch ID: P401020

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

Reference Method: SM 2320 B-2011

Batch ID: P401144

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

Reference Method: SM 2540 D-2011

Batch ID: P400859

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P401023

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P401073

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: P400847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	109		P	85 - 115
Magnesium	112		P	85 - 115
Manganese	101		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400847

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	108		P	85 - 115
Antimony	112		P	85 - 115
Arsenic	105		P	85 - 115
Beryllium	110		P	85 - 115
Cadmium	111		P	85 - 115
Chromium	103		P	85 - 115
Copper	96.7		P	85 - 115
Lead	104		P	85 - 115
Nickel	95.8		P	85 - 115
Selenium	112		P	85 - 115
Silver	104		P	85 - 115
Thallium	111		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401093

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401168

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: P401034

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P401722

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400727

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400748

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400696

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	95.0		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P400700

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.6		P	40 - 150
AMPA	109		P	40 - 150
Endothall	117		P	40 - 150
Glufosinate	87.2		P	40 - 150
Glyphosate	97.9		P	40 - 150
Sucralose	95.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P400703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	98.8		P	40 - 150
Acetaminophen	85.0		P	30 - 150
Acetamiprid	85.3		P	40 - 150
Afidopyropen	67.8		P	40 - 150
Bentazon	105		P	30 - 150
Benzovindiflupyr	77.0		P	40 - 150
Carbamazepine	91.0		P	40 - 150
Clothianidin	93.8		P	40 - 150
Dinotefuran	79.9		P	40 - 150
Diuron	78.0		P	40 - 150
Fenuron	92.4		P	40 - 150
Fluridone	75.9		P	40 - 150
Hydrocodone	88.6		P	40 - 150
Ibuprofen	78.8		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	95.4		P	40 - 150
Linuron	83.6		P	40 - 150
Mandestrobin	80.5		P	40 - 150
MCPP	95.0		P	40 - 150
Naproxen	105		P	40 - 150
Primidone	92.4		P	40 - 150
Pyraclostrobin	76.4		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400703

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	96.0		P	40 - 150
Tolfenpyrad	45.2		P	30 - 150
Triclopyr	101		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P401020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	94 - 106

Reference Method: SM 2320 B-2011
Batch ID: P401144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P401023

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

Reference Method: SM 5310 B-2011
Batch ID: P401073

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2261183	Calcium	109		P	80 - 120
2261183	Iron	108		P	80 - 120
2261183	Magnesium	111		P	80 - 120
2261183	Manganese	103		P	80 - 120
2261183	Zinc	106		P	80 - 120
2261511	Calcium	106		P	80 - 120
2261511	Iron	112	114	P/P	80 - 120
2261511	Magnesium	115	117	P/P	80 - 120
2261511	Manganese	106	106	P/P	80 - 120
2261511	Zinc	110	110	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2261183	Aluminum	107		P	80 - 120
2261183	Antimony	110		P	80 - 120
2261183	Arsenic	104		P	80 - 120
2261183	Beryllium	108		P	80 - 120
2261183	Cadmium	110		P	80 - 120
2261183	Chromium	103		P	80 - 120
2261183	Copper	96.0		P	80 - 120
2261183	Lead	106		P	80 - 120
2261183	Nickel	97.7		P	80 - 120
2261183	Selenium	109		P	80 - 120
2261183	Silver	103		P	80 - 120
2261183	Thallium	111		P	80 - 120
2261511	Aluminum	106	109	P/P	80 - 120
2261511	Antimony	115	118	P/P	80 - 120
2261511	Arsenic	106	108	P/P	80 - 120
2261511	Beryllium	114	115	P/P	80 - 120
2261511	Cadmium	111	112	P/P	80 - 120
2261511	Chromium	104	106	P/P	80 - 120
2261511	Copper	95.9	98.2	P/P	80 - 120
2261511	Lead	107	109	P/P	80 - 120
2261511	Nickel	96.1	97.4	P/P	80 - 120
2261511	Selenium	113	113	P/P	80 - 120
2261511	Silver	103	103	P/P	80 - 120
2261511	Thallium	112	115	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401093

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2259668	Ammonia-N	96.8	95.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401168

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260603	Ammonia-N	97.4	97.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P401722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2261963	Kjeldahl Nitrogen	98.7	114	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260649	NO2NO3-N	95.9	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400748

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260604	Total-P	103	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260611	O-Phosphate-P	95.0	98.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400696

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260681	O-Phosphate-P	92.7	94.4	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P400700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260307	Acesulfame K	172	153	F/F	40 - 150
2260307	AMPA	95.0	96.1	P/P	40 - 150
2260307	Endothall	143	136	P/P	40 - 150
2260307	Glufosinate	97.1	91.5	P/P	40 - 150
2260307	Glyphosate	102	105	P/P	40 - 150
2260307	Sucralose	98.5	93.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P400703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260307	2,4,5-T	98.8	110	P/P	40 - 150
2260307	Acetaminophen	121	124	P/P	30 - 150
2260307	Acetamiprid	100	102	P/P	40 - 150
2260307	Afidopyropen	82.9	73.7	P/P	40 - 150
2260307	Benzovindiflupyr	84.5	87.5	P/P	40 - 150
2260307	Carbamazepine	105	106	P/P	40 - 150
2260307	Clothianidin	131	128	P/P	40 - 150
2260307	Dinotefuran	126	117	P/P	40 - 150
2260307	Diuron	71.6	73.9	P/P	40 - 150
2260307	Fenuron	95.0	93.1	P/P	40 - 150
2260307	Fluridone	84.5	84.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P400703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260307	Hydrocodone	105	100	P/P	40 - 150
2260307	Ibuprofen	81.4	67.0	P/P	40 - 150
2260307	Imazapyr	155	170	F/F	40 - 150
2260307	Imidacloprid	191	171	F/F	40 - 150
2260307	Linuron	89.2	90.5	P/P	40 - 150
2260307	Mandestrobin	96.4	93.5	P/P	40 - 150
2260307	MCPP	126	122	P/P	40 - 150
2260307	Naproxen	113	107	P/P	40 - 150
2260307	Primidone	114	98.9	P/P	40 - 150
2260307	Pyraclostrobin	81.6	82.8	P/P	40 - 150
2260307	Thiamethoxam	160	155	F/F	40 - 150
2260307	Tolfenpyrad	49.4	52.3	P/P	30 - 150
2260307	Triclopyr	120	123	P/P	40 - 150

Reference Method: SM 5310 B-2011
Batch ID: P401073

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2260915	Organic Carbon	96.8	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400698

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260647	Turbidity	3.73	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400847

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261511	Calcium	1.01	Spike	P	0 - 20
2261511	Iron	1.47	Spike	P	0 - 20
2261511	Magnesium	1.33	Spike	P	0 - 20
2261511	Manganese	0.136	Spike	P	0 - 20
2261511	Zinc	0.103	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400847

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261511	Aluminum	3.03	Spike	P	0 - 20
2261511	Antimony	1.73	Spike	P	0 - 20
2261511	Arsenic	2.28	Spike	P	0 - 20
2261511	Beryllium	0.862	Spike	P	0 - 20
2261511	Cadmium	0.703	Spike	P	0 - 20
2261511	Chromium	1.93	Spike	P	0 - 20
2261511	Copper	2.32	Spike	P	0 - 20
2261511	Lead	1.81	Spike	P	0 - 20
2261511	Nickel	1.41	Spike	P	0 - 20
2261511	Selenium	0.440	Spike	P	0 - 20
2261511	Silver	0.256	Spike	P	0 - 20
2261511	Thallium	2.34	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401093

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2259668	Ammonia-N	1.05	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P401168

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260603	Ammonia-N	0.255	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P401034

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260885	Kjeldahl Nitrogen	1.36	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P401722

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261963	Kjeldahl Nitrogen	10.7	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400727

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260649	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400748

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260604	Total-P	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400679

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260611	O-Phosphate-P	2.45	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400696

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260681	O-Phosphate-P	1.82	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P400700

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260307	Acesulfame K	11.8	Spike	P	0 - 30
2260307	AMPA	0.850	Spike	P	0 - 30
2260307	Endothall	4.68	Spike	P	0 - 30
2260307	Glufosinate	5.90	Spike	P	0 - 30
2260307	Glyphosate	2.42	Spike	P	0 - 30
2260307	Sucralose	5.01	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400703

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260307	2,4-D	1.58	Spike	P	0 - 30
2260307	2,4,5-T	10.4	Spike	P	0 - 30
2260307	Acetaminophen	2.59	Spike	P	0 - 30
2260307	Acetamidrid	1.66	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P400703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260307	Afidopyropen	11.7	Spike	P	0 - 30
2260307	Bentazon	7.89	Spike	P	0 - 30
2260307	Benzovindiflupyr	3.34	Spike	P	0 - 30
2260307	Carbamazepine	0.761	Spike	P	0 - 30
2260307	Clothianidin	2.72	Spike	P	0 - 30
2260307	Dinotefuran	4.58	Spike	P	0 - 30
2260307	Diuron	3.13	Spike	P	0 - 30
2260307	Fenuron	1.93	Spike	P	0 - 30
2260307	Fluridone	0.158	Spike	P	0 - 30
2260307	Hydrocodone	4.97	Spike	P	0 - 30
2260307	Ibuprofen	19.3	Spike	P	0 - 30
2260307	Imazapyr	9.48	Spike	P	0 - 30
2260307	Imidacloprid	7.30	Spike	P	0 - 30
2260307	Linuron	1.46	Spike	P	0 - 30
2260307	Mandestrobin	3.08	Spike	P	0 - 30
2260307	MCP	2.99	Spike	P	0 - 30
2260307	Naproxen	5.24	Spike	P	0 - 30
2260307	Primidone	13.9	Spike	P	0 - 30
2260307	Pyraclostrobin	1.45	Spike	P	0 - 30
2260307	Thiamethoxam	3.38	Spike	P	0 - 30
2260307	Tolfenpyrad	5.65	Spike	P	0 - 30
2260307	Triclopyr	2.44	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P401020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261391	Total Alkalinity	1.88	Sample	P	0 - 5.2

Reference Method: SM 2320 B-2011
Batch ID: P401144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2262394	Total Alkalinity	0.291	Sample	P	0 - 5.2

Reference Method: SM 4500 F-C-2011
Batch ID: P401023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2261391	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P401073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2260915	Organic Carbon	0.645	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2260664

Field Sample ID: FB_07072021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	108	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.9	P	30 - 160
EPA 8321B	Primidone-d5	77.0	P	30 - 160
EPA 8321B	Sucralose-d6	99.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106501

Included Lab Sample IDs: 2260651, 2260652, 2260655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.0	95.4	P/P	90 - 110
O-Phosphate-P	97.1	96.9	P/P	90 - 110
O-Phosphate-P	99.1	98.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106507

Included Lab Sample IDs: 2260647, 2260648, 2260653

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106525

Included Lab Sample IDs: 2260649, 2260650, 2260654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106547

Included Lab Sample IDs: 2260664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	123	P/P	60 - 160
Endothall	123	115	P/P	60 - 160
Sucralose	97.1	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A106551

Included Lab Sample IDs: 2260664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.9	71.1	P/P	60 - 160
Glufosinate	106	86.0	P/P	60 - 160
Glyphosate	106	88.0	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106554

Included Lab Sample IDs: 2260649, 2260650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106559

Included Lab Sample IDs: 2260654

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106570
Included Lab Sample IDs: 2260664

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.4	89.7	P/P	50 - 150
2,4,5-T	107	103	P/P	50 - 150
Acetaminophen	101	103	P/P	60 - 160
Acetamiprid	108	103	P/P	50 - 150
Afidopyropen	106	107	P/P	50 - 150
Bentazon	108	109	P/P	50 - 160
Benzovindiflupyr	104	106	P/P	50 - 150
Carbamazepine	115	103	P/P	60 - 150
Clothianidin	116	95.0	P/P	60 - 150
Dinotefuran	103	106	P/P	50 - 150
Diuron	97.9	107	P/P	60 - 160
Fenuron	100	99.6	P/P	60 - 150
Fluridone	112	101	P/P	60 - 160
Hydrocodone	99.5	106	P/P	60 - 150
Ibuprofen	92.1	69.1	P/P	50 - 160
Imazapyr	106	109	P/P	50 - 150
Imidacloprid	107	95.4	P/P	60 - 150
Linuron	99.3	123	P/P	60 - 150
Mandestrobin	107	101	P/P	50 - 150
MCPP	96.3	104	P/P	50 - 150
Naproxen	78.9	93.6	P/P	50 - 160
Primidone	80.6	92.0	P/P	60 - 150
Pyraclostrobin	108	105	P/P	60 - 150
Thiamethoxam	108	111	P/P	50 - 150
Tolfenpyrad	106	115	P/P	60 - 150
Triclopyr	100	97.7	P/P	50 - 150

Reference Method: SM 2320 B-2011
Run ID: A106641
Included Lab Sample IDs: 2260647, 2260648

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	105	P/P	90 - 110
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A106641
Included Lab Sample IDs: 2260647, 2260648, 2260653

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106650
Included Lab Sample IDs: 2260665, 2260666, 2260667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	99.8	P/P	90 - 110
Aluminum	99.8	101	P/P	90 - 110
Antimony	106	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106650

Included Lab Sample IDs: 2260665, 2260666, 2260667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	107	107	P/P	90 - 110
Arsenic	96.9	96.1	P/P	90 - 110
Arsenic	98.2	96.9	P/P	90 - 110
Beryllium	96.5	96.1	P/P	90 - 110
Beryllium	97.5	96.5	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Cadmium	103	103	P/P	90 - 110
Chromium	98.1	99.3	P/P	90 - 110
Chromium	99.3	98.4	P/P	90 - 110
Copper	93.0	90.7	P/P	90 - 110
Copper	94.7	93.0	P/P	90 - 110
Lead	99.1	99.9	P/P	90 - 110
Lead	99.9	100	P/P	90 - 110
Nickel	93.7	92.7	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Silver	101	102	P/P	90 - 110
Silver	102	101	P/P	90 - 110
Thallium	97.6	96.5	P/P	90 - 110
Thallium	98.3	97.6	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A106660

Included Lab Sample IDs: 2260649, 2260650, 2260654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106665

Included Lab Sample IDs: 2260649, 2260650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106666

Included Lab Sample IDs: 2260649, 2260650

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	96.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A106671

Included Lab Sample IDs: 2260665, 2260666

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	94.2	92.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A106679

Included Lab Sample IDs: 2260653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106691

Included Lab Sample IDs: 2260654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.8	97.1	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A106709

Included Lab Sample IDs: 2260665, 2260666, 2260667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	102	P/P	95 - 105
Calcium	102	101	P/P	90 - 110
Iron	101	99.3	P/P	90 - 110
Iron	99.3	101	P/P	95 - 105
Magnesium	101	99.5	P/P	90 - 110
Magnesium	99.4	101	P/P	95 - 105
Manganese	100	99.8	P/P	90 - 110
Manganese	100	100	P/P	95 - 105
Zinc	102	104	P/P	95 - 105
Zinc	104	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106945

Included Lab Sample IDs: 2260654

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.73	
EPA 200.7 Rev. 4.4	Calcium	106	109	106				1.01
	Iron	109	108	112	114			1.47
	Magnesium	112	111	115	117			1.33
	Manganese	101	103	106	106			0.136
	Zinc	105	106	110	110			0.103
EPA 200.8 Rev. 5.4	Aluminum	108	106	109	107			3.03
	Antimony	112	115	118	110			1.73
	Arsenic	105	106	108	104			2.28
	Beryllium	110	114	115	108			0.862
	Cadmium	111	111	112	110			0.703
	Chromium	103	104	106	103			1.93
	Copper	96.7	95.9	98.2	96.0			2.32
	Lead	104	107	109	106			1.81
	Nickel	95.8	97.7	96.1	97.4			1.41
	Selenium	112	113	113	109			0.440
	Silver	104	103	103	103			0.256
	Thallium	111	112	115	111			2.34
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	96.8	95.6				1.05
	Ammonia-N	101	97.4	97.0				0.255
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103						1.36
	Kjeldahl Nitrogen	108	98.7	114				10.7
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	97.5	95.9	96.4				0.499
EPA 365.1 Rev. 2.0	Total-P	106	103	105				1.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	95.0	98.3				2.45
	O-Phosphate-P	95.0	92.7	94.4				1.82
EPA 8321B	2,4-D	109						1.58
	2,4,5-T	98.8	98.8	110				10.4
	Acesulfame K	87.6	172	153				11.8
	Acetaminophen	85.0	124	121				2.59
	Acetamiprid	85.3	102	100				1.66
	Afidopyropen	67.8	73.7	82.9				11.7
	AMPA	109	95.0	96.1				0.850
	Bentazon	105						7.89
	Benzovindiflupyr	77.0	87.5	84.5				3.34
	Carbamazepine	91.0	106	105				0.761
	Clothianidin	93.8	128	131				2.72
	Dinotefuran	79.9	117	126				4.58
	Diuron	78.0	73.9	71.6				3.13
	Endothall	117	143	136				4.68
	Fenuron	92.4	93.1	95.0				1.93
	Fluridone	75.9	84.7	84.5				0.158
	Glufosinate	87.2	97.1	91.5				5.90
	Glyphosate	97.9	102	105				2.42
	Hydrocodone	88.6	100	105				4.97
	Ibuprofen	78.8	81.4	67.0				19.3
	Imazapyr	107	170	155				9.48
	Imidacloprid	95.4	171	191				7.30
	Linuron	83.6	90.5	89.2				1.46
	Mandestrobin	80.5	93.5	96.4				3.08
	MCPP	95.0	126	122				2.99
	Naproxen	105	107	113				5.24
	Primidone	92.4	98.9	114				13.9
	Pyraclostrobin	76.4	82.8	81.6				1.45

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	95.6	98.5	93.6		5.01
	Thiamethoxam	96.0	155	160		3.38
	Tolfenpyrad	45.2	52.3	49.4		5.65
	Triclopyr	101	123	120		2.44
SM 2320 B-2011	Total Alkalinity	104			1.88	
	Total Alkalinity	101			0.291	
SM 4500 F-C-2011	Fluoride	101				0.0
SM 5310 B-2011	Organic Carbon	96.6	96.8	97.8		0.645

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2260647, 2260648, 2260653
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2260665, 2260666, 2260667
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2260665, 2260666, 2260667
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2260649, 2260650, 2260654
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2260649, 2260650, 2260654
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2260649, 2260650, 2260654
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2260649, 2260650, 2260654
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2260651, 2260652, 2260655
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2260664
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2260647, 2260648, 2260653
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2260647, 2260648, 2260653
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2260647, 2260648, 2260653
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2260649, 2260650, 2260654

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/08/2021			07/08/2021 15:03	Sarah A Nixon	2260647, 2260648, 2260653
EPA 200.7 Rev. 4.4	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/16/2021 17:48	Josef B Mick	2260667
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/16/2021 19:23	Josef B Mick	2260665
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/16/2021 19:39	Josef B Mick	2260666
EPA 200.8 Rev. 5.4	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/15/2021 14:45	Alexander Thompson	2260667
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/15/2021 16:30	Alexander Thompson	2260665
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/15/2021 16:40	Alexander Thompson	2260666
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/16/2021 13:42	Alexander Thompson	2260665
	07/08/2021	07/13/2021 14:10	Elliott D. Healy	07/16/2021 13:48	Alexander Thompson	2260666
EPA 350.1 Rev. 2.0	07/08/2021			07/16/2021 14:21	Roberta Tatti	2260649
	07/08/2021			07/16/2021 14:22	Roberta Tatti	2260650
	07/08/2021			07/19/2021 14:11	Roberta Tatti	2260654
EPA 351.2 Rev. 2.0	07/08/2021	07/15/2021 13:51	Benjamin T. Nordmann	07/16/2021 15:18	Letuzia M De Oliveira	2260649
	07/08/2021	07/15/2021 13:51	Benjamin T. Nordmann	07/16/2021 15:20	Letuzia M De Oliveira	2260650
	07/08/2021	07/29/2021 15:45	Benjamin T. Nordmann	07/30/2021 14:05	Virginia P. Brown	2260654
EPA 353.2 Rev. 2.0	07/08/2021			07/09/2021 09:43	Beverly Y. Sanders	2260649
	07/08/2021			07/09/2021 09:50	Beverly Y. Sanders	2260650
	07/08/2021			07/09/2021 09:51	Beverly Y. Sanders	2260654
EPA 365.1 Rev. 2.0	07/08/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 12:41	Shengyu Ding	2260649
	07/08/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 12:42	Shengyu Ding	2260650
	07/08/2021	07/09/2021 14:46	Simonne.V. Calhoun	07/12/2021 14:19	Shengyu Ding	2260654
EPA 365.1 Rev. 2.0 dissolved	07/08/2021			07/08/2021 10:47	Ping Hua	2260655
	07/08/2021			07/08/2021 11:07	Ping Hua	2260651
	07/08/2021			07/08/2021 14:51	Ping Hua	2260652
EPA 8321B	07/08/2021	07/09/2021 12:00	Pramila Ghimire	07/09/2021 14:03	Juyoung Kim	2260664
	07/08/2021	07/09/2021 12:00	Pramila Ghimire	07/09/2021 20:53	Pramila Ghimire	2260664
	07/08/2021	07/12/2021 08:00	Hoor Shaik	07/13/2021 03:18	Juyoung Kim	2260664
SM 2320 B-2011	07/08/2021			07/15/2021 01:47	Dale L. Simmons	2260648
	07/08/2021			07/15/2021 03:26	Dale L. Simmons	2260647
	07/08/2021			07/17/2021 04:51	Dale L. Simmons	2260653
SM 2540 D-2011	07/08/2021			07/12/2021 14:35	Yijie Li	2260647, 2260648, 2260653
SM 4500 F-C-2011	07/08/2021			07/15/2021 01:47	Dale L. Simmons	2260648
	07/08/2021			07/15/2021 01:56	Dale L. Simmons	2260653
	07/08/2021			07/15/2021 03:26	Dale L. Simmons	2260647
SM 5310 B-2011	07/08/2021			07/15/2021 13:19	Madeline Gruver	2260649
	07/08/2021			07/15/2021 13:32	Madeline Gruver	2260650
	07/08/2021			07/15/2021 13:45	Madeline Gruver	2260654