

Chemical Analysis Report

NE-DIST-2021-10-19-02

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

Event Description: **ICW Boat and Arlington**

Request ID: **RQ-2021-10-18-14**

Customer: **NE-DIST**

Project ID: **SMP**

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Date Certified: 16-NOV-2021 10:11



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: Little Pottsburg Creek at Atlantic Blvd

Collection Date/Time: 10/18/2021 12:30

Field ID: 20030679

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2284530	EPA 180.1 Rev. 2.0	Turbidity	9.3		NTU	P405260	
	SM 2320 B-2011	Total Alkalinity	76		mg CaCO3/L	P405391	
	SM 2540 D-2011	TSS	17	A	mg/L	P405880	
	SM 4500 F-C-2011	Fluoride	0.25		mg F/L	P405394	
2284531	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P405589	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P405571	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P405670	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P405466	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P405621	
2284532	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P405270	
2284538	EPA 8321B	Acesulfame K	0.10	U	ug/L	P405304	
		2,4-D	0.014		ug/L	P405338	
		AMPA	1.0	U	ug/L	P405304	
		2,4,5-T	0.0040	U	ug/L	P405338	
		Acetaminophen	0.0080	U	ug/L	P405338	
		Endothall	0.25	U	ug/L	P405304	
		Acetamiprid	0.0020	U	ug/L	P405338	
		Glufosinate	1.0	U	ug/L	P405304	
		Glyphosate	1.0	U	ug/L	P405304	
		Afidopyropen	0.0020	UJ	ug/L	P405338	LCS
		Sucralose	0.73		ug/L	P405304	
		Bentazon	0.014		ug/L	P405338	
		Benzovindiflupyr	0.0020	U	ug/L	P405338	
		Carbamazepine	0.0015	I	ug/L	P405338	
		Clothianidin	0.0020	U	ug/L	P405338	
		Dinotefuran	0.0020	U	ug/L	P405338	
		Diuron	0.075		ug/L	P405338	
		Fenuron	0.016	U	ug/L	P405338	
		Fluridone	0.0049		ug/L	P405338	
		Imazapyr	0.078		ug/L	P405338	
		Hydrocodone	0.0020	U	ug/L	P405338	
		Ibuprofen	0.020	U	ug/L	P405338	
		Imidacloprid	0.053		ug/L	P405338	
		Linuron	0.0040	U	ug/L	P405338	
		Mandestrobin	0.0020	U	ug/L	P405338	
		MCP	0.0040	U	ug/L	P405338	
		Naproxen	0.0080	U	ug/L	P405338	
		Primidone	0.0040	U	ug/L	P405338	
		Pyraclostrobin	0.0020	U	ug/L	P405338	
		Silvex	0.0040	U	ug/L	P405338	
		Thiamethoxam	0.0020	U	ug/L	P405338	
		Tolfenpyrad	0.0020	U	ug/L	P405338	
		Triclopyr	0.0040	U	ug/L	P405338	

Field ID: 20030679

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2284540	EPA 200.7 Rev. 4.4	Calcium	84.1		mg/L	P405355	
		Iron	290		ug/L	P405355	
		Magnesium	154		mg/L	P405355	
		Manganese	25.5		ug/L	P405355	
	EPA 200.8 Rev. 5.4	Zinc	7.5	I	ug/L	P405355	
		Aluminum	137		ug/L	P405355	
		Antimony	0.16	I	ug/L	P405355	
		Arsenic	1.67		ug/L	P405355	
		Beryllium	0.023	I	ug/L	P405355	
		Cadmium	0.020	U	ug/L	P405355	
		Chromium	0.44	I	ug/L	P405355	
		Copper	1.46		ug/L	P405355	
		Lead	1.12		ug/L	P405355	
		Nickel	0.52	I	ug/L	P405355	
		Selenium	0.20	U	ug/L	P405355	
		Silver	0.010	U	ug/L	P405355	
		Thallium	0.10	U	ug/L	P405355	

Ref. Method and Comment:

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

EPA 8321B: MS accuracy for dinotefuran could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: FB10182021

Collection Date/Time: 10/18/2021 12:35

Field ID: FB10182021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2284533	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P405260	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P405391	
	SM 2540 D-2011	TSS	2	U	mg/L	P405880	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P405394	
2284534	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P405590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P405568	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P405464	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P405429	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P405621	
2284535	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P405269	
2284539	EPA 8321B	2,4-D	0.0020	U	ug/L	P405338	
		Acesulfame K	0.10	U	ug/L	P405304	
		2,4,5-T	0.0040	U	ug/L	P405338	
		AMPA	0.10	U	ug/L	P405304	
		Acetaminophen	0.0080	U	ug/L	P405338	
		Acetamiprid	0.0020	U	ug/L	P405338	
		Endothall	0.25	U	ug/L	P405304	
		Glufosinate	0.10	U	ug/L	P405304	
		Glyphosate	0.10	U	ug/L	P405304	
		Afidopyropen	0.0020	UJ	ug/L	P405338	LCS
		Bentazon	8.0E-04	U	ug/L	P405338	
		Sucralose	0.010	U	ug/L	P405304	
		Benzovindiflupyr	0.0020	U	ug/L	P405338	
		Carbamazepine	8.0E-04	U	ug/L	P405338	
		Clothianidin	0.0020	U	ug/L	P405338	
		Dinotefuran	0.0020	U	ug/L	P405338	
		Diuron	0.0020	U	ug/L	P405338	
		Fenuron	0.016	U	ug/L	P405338	
		Fluridone	8.0E-04	U	ug/L	P405338	
		Imazapyr	0.0040	U	ug/L	P405338	
		Hydrocodone	0.0020	U	ug/L	P405338	
		Ibuprofen	0.020	U	ug/L	P405338	
		Imidacloprid	0.0020	U	ug/L	P405338	
		Linuron	0.0040	U	ug/L	P405338	
		Mandestrobin	0.0020	U	ug/L	P405338	
		MCP	0.0040	U	ug/L	P405338	
		Naproxen	0.0080	U	ug/L	P405338	
		Primidone	0.0040	U	ug/L	P405338	
		Pyraclostrobin	0.0020	U	ug/L	P405338	
		Silvex	0.0040	U	ug/L	P405338	
		Thiamethoxam	0.0020	U	ug/L	P405338	
		Tolfenpyrad	0.0020	U	ug/L	P405338	
		Triclopyr	0.0040	U	ug/L	P405338	

Field ID: FB10182021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2284541	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P405355	
		Iron	30	U	ug/L	P405355	
		Magnesium	0.040	U	mg/L	P405355	
		Manganese	1.0	U	ug/L	P405355	
		Zinc	5.0	U	ug/L	P405355	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P405355	
		Antimony	0.050	U	ug/L	P405355	
		Arsenic	0.050	U	ug/L	P405355	
		Beryllium	0.010	U	ug/L	P405355	
		Cadmium	0.020	U	ug/L	P405355	
		Chromium	0.40	U	ug/L	P405355	
		Copper	0.40	U	ug/L	P405355	
		Lead	0.20	U	ug/L	P405355	
		Nickel	0.50	U	ug/L	P405355	
		Selenium	0.20	U	ug/L	P405355	
		Silver	0.010	U	ug/L	P405355	
		Thallium	0.10	U	ug/L	P405355	

Ref. Method and Comment:

EPA 8321B: MS accuracy for dinotefuran could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405260

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405355

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: P405355

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: P405589

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405590

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405568

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405571

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: P405464

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405670

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405429

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405466

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405269

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405270

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

Reference Method: EPA 8321B
Batch ID: P405304

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: P405338

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P405338

Component	Result	Code	Units
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	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	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: P405391

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

Reference Method: SM 2540 D-2011

Batch ID: P405880

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P405394

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P405621

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: P405355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	108		P	85 - 115
Magnesium	110		P	85 - 115
Manganese	103		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P405355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.2		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	94.3		P	85 - 115
Beryllium	95.5		P	85 - 115
Cadmium	95.3		P	85 - 115
Chromium	93.1		P	85 - 115
Copper	92.9		P	85 - 115
Lead	97.3		P	85 - 115
Nickel	94.1		P	85 - 115
Selenium	97.3		P	85 - 115
Silver	93.7		P	85 - 115
Thallium	96.6		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405589

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405568

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405571

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.4		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405464

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405670

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405429

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405466

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: P405269

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	93.5		P	90 - 110

Reference Method: EPA 8321B

Batch ID: P405304

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	79.9		P	40 - 150
AMPA	97.0		P	40 - 160
Endothall	70.3		P	40 - 150
Glufosinate	109		P	40 - 160
Glyphosate	86.6		P	40 - 160
Sucralose	91.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P405338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	40 - 150
2,4,5-T	113		P	40 - 150
Acetaminophen	124		P	30 - 150
Acetamiprid	79.2		P	40 - 150
Afidopyropen	19.5		F	40 - 150
Bentazon	87.9		P	30 - 150
Benzovindiflupyr	87.7		P	40 - 150
Carbamazepine	93.8		P	40 - 150
Clothianidin	72.2		P	40 - 150
Dinotefuran	81.6		P	40 - 150
Diuron	80.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P405338

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	90.6		P	40 - 150
Fluridone	88.8		P	40 - 150
Hydrocodone	83.6		P	40 - 150
Ibuprofen	84.9		P	40 - 150
Imazapyr	96.3		P	40 - 150
Imidacloprid	92.1		P	40 - 150
Linuron	79.9		P	40 - 150
Mandestrobin	86.8		P	40 - 150
MCPP	121		P	40 - 150
Naproxen	72.1		P	40 - 150
Primidone	84.8		P	40 - 150
Pyraclostrobin	82.9		P	40 - 150
Silvex	88.6		P	40 - 150
Thiamethoxam	88.5		P	40 - 150
Tolfenpyrad	46.3		P	30 - 150
Triclopyr	102		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P405391

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P405394

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

Reference Method: SM 5310 B-2011
Batch ID: P405621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283902	Calcium	109	107	P/P	80 - 120
2283902	Iron	109	106	P/P	80 - 120
2283902	Magnesium	112	108	P/P	80 - 120
2283902	Manganese	104	103	P/P	80 - 120
2283902	Zinc	104	103	P/P	80 - 120
2283931	Calcium	97.6		P	80 - 120
2283931	Iron	105		P	80 - 120
2283931	Magnesium	104		P	80 - 120
2283931	Manganese	106		P	80 - 120
2283931	Zinc	106		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283902	Aluminum	100	101	P/P	80 - 120
2283902	Antimony	104	105	P/P	80 - 120
2283902	Arsenic	96.7	97.4	P/P	80 - 120
2283902	Beryllium	98.8	95.1	P/P	80 - 120
2283902	Cadmium	100	101	P/P	80 - 120
2283902	Chromium	96.9	97.1	P/P	80 - 120
2283902	Copper	98.2	98.5	P/P	80 - 120
2283902	Lead	101	102	P/P	80 - 120
2283902	Nickel	96.7	96.3	P/P	80 - 120
2283902	Selenium	101	98.1	P/P	80 - 120
2283902	Silver	96.5	96.5	P/P	80 - 120
2283902	Thallium	101	102	P/P	80 - 120
2283931	Aluminum	98.9		P	80 - 120
2283931	Antimony	107		P	80 - 120
2283931	Arsenic	98.4		P	80 - 120
2283931	Beryllium	97.1		P	80 - 120
2283931	Cadmium	103		P	80 - 120
2283931	Chromium	101		P	80 - 120
2283931	Copper	94.0		P	80 - 120
2283931	Lead	101		P	80 - 120
2283931	Nickel	96.4		P	80 - 120
2283931	Selenium	98.0		P	80 - 120
2283931	Silver	97.4		P	80 - 120
2283931	Thallium	103		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405589

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284372	Ammonia-N	97.8	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284465	Ammonia-N	97.4	96.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284446	Kjeldahl Nitrogen	97.1	94.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284501	Kjeldahl Nitrogen	101	92.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284491	NO2NO3-N	99.2	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284942	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405429

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284490	Total-P	105	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284390	Total-P	107	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284468	O-Phosphate-P	94.6	94.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284505	O-Phosphate-P	100	98.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P405304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284225	Acesulfame K	92.0	87.2	P/P	40 - 150
2284225	AMPA	83.8	82.9	P/P	40 - 160
2284225	Endothall	74.4	78.0	P/P	40 - 150
2284225	Glufosinate	91.9	96.6	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P405304

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284225	Glyphosate	66.5	70.7	P/P	40 - 160
2284225	Sucralose	88.1	101	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405338

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284310	2,4-D	129	127	P/P	40 - 150
2284310	2,4,5-T	127	116	P/P	40 - 150
2284310	Acetaminophen	109	97.8	P/P	30 - 150
2284310	Acetamiprid	89.5	79.4	P/P	40 - 150
2284310	Afidopyropen	82.4	78.4	P/P	40 - 150
2284310	Bentazon	50.6	60.9	P/P	30 - 150
2284310	Benzovindiflupyr	89.8	88.8	P/P	40 - 150
2284310	Carbamazepine	106	99.3	P/P	40 - 150
2284310	Clothianidin	91.9	90.8	P/P	40 - 150
2284310	Diuron	83.7	64.4	P/P	40 - 150
2284310	Fenuron	89.4	86.5	P/P	40 - 150
2284310	Fluridone	84.1	87.3	P/P	40 - 150
2284310	Hydrocodone	92.2	87.8	P/P	40 - 150
2284310	Ibuprofen	86.2	72.8	P/P	40 - 150
2284310	Imazapyr	91.6	96.4	P/P	40 - 150
2284310	Imidacloprid	123	122	P/P	40 - 150
2284310	Linuron	91.8	85.8	P/P	40 - 150
2284310	Mandestrobin	81.9	86.8	P/P	40 - 150
2284310	MCPP	126	129	P/P	40 - 150
2284310	Naproxen	89.1	67.6	P/P	40 - 150
2284310	Primidone	86.5	99.7	P/P	40 - 150
2284310	Pyraclostrobin	83.0	81.6	P/P	40 - 150
2284310	Silvex	107	109	P/P	40 - 150
2284310	Thiamethoxam	119	122	P/P	40 - 150
2284310	Tolfenpyrad	48.3	56.3	P/P	30 - 150
2284310	Triclopyr	110	121	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P405394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284463	Fluoride	103	102	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284490	Organic Carbon	96.2	95.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405260

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284464	Turbidity	3.66	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405355

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283902	Calcium	1.24	Spike	P	0 - 20
2283902	Iron	2.83	Spike	P	0 - 20
2283902	Magnesium	3.10	Spike	P	0 - 20
2283902	Manganese	1.20	Spike	P	0 - 20
2283902	Zinc	1.19	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283902	Aluminum	1.17	Spike	P	0 - 20
2283902	Antimony	0.462	Spike	P	0 - 20
2283902	Arsenic	0.772	Spike	P	0 - 20
2283902	Beryllium	3.78	Spike	P	0 - 20
2283902	Cadmium	1.06	Spike	P	0 - 20
2283902	Chromium	0.261	Spike	P	0 - 20
2283902	Copper	0.332	Spike	P	0 - 20
2283902	Lead	0.384	Spike	P	0 - 20
2283902	Nickel	0.389	Spike	P	0 - 20
2283902	Selenium	3.11	Spike	P	0 - 20
2283902	Silver	0.0328	Spike	P	0 - 20
2283902	Thallium	1.19	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405589

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284372	Ammonia-N	1.14	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405590

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284465	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405568

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284446	Kjeldahl Nitrogen	1.39	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405571

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284501	Kjeldahl Nitrogen	7.79	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405464

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284491	NO2NO3-N	0.354	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405670

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284942	NO2NO3-N	0.546	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405429

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284490	Total-P	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405466

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284390	Total-P	3.16	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405269

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284468	O-Phosphate-P	0.106	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405270

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284505	O-Phosphate-P	0.917	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P405304

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284225	Acesulfame K	5.41	Spike	P	0 - 30
2284225	AMPA	1.08	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P405304

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284225	Endothall	4.79	Spike	P	0 - 30
2284225	Glufosinate	4.96	Spike	P	0 - 30
2284225	Glyphosate	6.10	Spike	P	0 - 30
2284225	Sucralose	13.5	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405338

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284310	2,4-D	2.03	Spike	P	0 - 30
2284310	2,4,5-T	8.95	Spike	P	0 - 30
2284310	Acetaminophen	11.1	Spike	P	0 - 30
2284310	Acetamiprid	11.9	Spike	P	0 - 30
2284310	Afidopyropen	5.02	Spike	P	0 - 30
2284310	Bentazon	4.64	Spike	P	0 - 30
2284310	Benzovindiflupyr	0.927	Spike	P	0 - 30
2284310	Carbamazepine	5.69	Spike	P	0 - 30
2284310	Clothianidin	1.11	Spike	P	0 - 30
2284310	Dinotefuran	2.15	Spike	P	0 - 30
2284310	Diuron	26.1	Spike	P	0 - 30
2284310	Fenuron	3.28	Spike	P	0 - 30
2284310	Fluridone	3.67	Spike	P	0 - 30
2284310	Hydrocodone	4.89	Spike	P	0 - 30
2284310	Ibuprofen	16.9	Spike	P	0 - 30
2284310	Imazapyr	4.26	Spike	P	0 - 30
2284310	Imidacloprid	0.195	Spike	P	0 - 30
2284310	Linuron	6.78	Spike	P	0 - 30
2284310	Mandestrobin	5.86	Spike	P	0 - 30
2284310	MCPP	1.81	Spike	P	0 - 30
2284310	Naproxen	27.5	Spike	P	0 - 30
2284310	Primidone	14.1	Spike	P	0 - 30
2284310	Pyraclostrobin	1.70	Spike	P	0 - 30
2284310	Silvex	1.12	Spike	P	0 - 30
2284310	Thiamethoxam	1.78	Spike	P	0 - 30
2284310	Tolfenpyrad	15.3	Spike	P	0 - 30
2284310	Triclopyr	9.68	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P405391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284463	Total Alkalinity	3.22	Sample	P	0 - 5.2

Reference Method: SM 2540 D-2011
Batch ID: P405880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284530	TSS	7.06	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P405394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284463	Fluoride	0.473	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P405621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284490	Organic Carbon	0.149	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2284538

Field Sample ID: 20030679

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	89.5	P	30 - 160
EPA 8321B	Endothall-d6	67.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	53.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.2	P	30 - 160
EPA 8321B	Primidone-d5	71.9	P	30 - 160
EPA 8321B	Sucralose-d6	84.4	P	30 - 160

Lab Sample ID: 2284539

Field Sample ID: FB10182021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	97.9	P	30 - 160
EPA 8321B	Diuron-d6	87.7	P	30 - 160
EPA 8321B	Endothall-d6	65.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	85.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.3	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	84.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108414

Included Lab Sample IDs: 2284530, 2284533

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108416

Included Lab Sample IDs: 2284532, 2284535

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	99.0	P/P	90 - 110
O-Phosphate-P	99.0	99.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108464

Included Lab Sample IDs: 2284530, 2284533

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

Reference Method: SM 4500 F-C-2011

Run ID: A108464

Included Lab Sample IDs: 2284530, 2284533

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

Reference Method: EPA 8321B

Run ID: A108478

Included Lab Sample IDs: 2284538, 2284539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.8	93.6	P/P	60 - 160
Glufosinate	110	99.3	P/P	60 - 160
Glyphosate	88.9	90.1	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108483

Included Lab Sample IDs: 2284534

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

Reference Method: EPA 8321B

Run ID: A108503

Included Lab Sample IDs: 2284538, 2284539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	85.3	82.8	P/P	60 - 160
Endothall	69.6	66.2	P/P	60 - 160
Sucralose	93.9	92.3	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108504

Included Lab Sample IDs: 2284540, 2284541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.9	P/P	90 - 110
Aluminum	99.8	102	P/P	90 - 110
Antimony	102	103	P/P	90 - 110
Antimony	103	105	P/P	90 - 110
Arsenic	95.1	96.5	P/P	90 - 110
Arsenic	98.8	96.6	P/P	90 - 110
Beryllium	93.0	94.8	P/P	90 - 110
Beryllium	96.3	95.1	P/P	90 - 110
Cadmium	97.8	98.6	P/P	90 - 110
Cadmium	99.5	99.7	P/P	90 - 110
Chromium	93.3	95.1	P/P	90 - 110
Chromium	95.3	95.9	P/P	90 - 110
Copper	97.3	94.6	P/P	90 - 110
Nickel	92.6	94.9	P/P	90 - 110
Nickel	97.2	95.5	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Selenium	98.5	101	P/P	90 - 110
Silver	94.8	95.4	P/P	90 - 110
Silver	95.4	95.7	P/P	90 - 110
Thallium	96.9	96.9	P/P	90 - 110
Thallium	97.3	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108512

Included Lab Sample IDs: 2284534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108517

Included Lab Sample IDs: 2284540, 2284541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.4	97.0	P/P	90 - 110
Lead	94.1	93.9	P/P	90 - 110
Lead	95.3	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108529

Included Lab Sample IDs: 2284531

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	106	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108537

Included Lab Sample IDs: 2284531, 2284534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.2	97.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A108537

Included Lab Sample IDs: 2284531, 2284534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.6	97.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108545

Included Lab Sample IDs: 2284531, 2284534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.1	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108560

Included Lab Sample IDs: 2284531

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A108563

Included Lab Sample IDs: 2284531, 2284534

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.1	101	P/P	90 - 110
Kjeldahl Nitrogen	97.7	99.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108571

Included Lab Sample IDs: 2284540, 2284541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	103	P/P	95 - 105
Calcium	104	104	P/P	90 - 110
Iron	102	103	P/P	95 - 105
Iron	103	103	P/P	90 - 110
Magnesium	105	105	P/P	95 - 105
Magnesium	107	106	P/P	90 - 110
Manganese	102	103	P/P	95 - 105
Manganese	103	104	P/P	90 - 110
Zinc	102	103	P/P	90 - 110
Zinc	98.2	101	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A108578

Included Lab Sample IDs: 2284538, 2284539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	116	98.6	P/P	50 - 150
2,4,5-T	112	103	P/P	50 - 150
Acetaminophen	99.6	100	P/P	60 - 160
Acetamiprid	104	108	P/P	50 - 150
Afidopyropen	100	103	P/P	50 - 150
Bentazon	112	107	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A108578

Included Lab Sample IDs: 2284538, 2284539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Benzovindiflupyr	114	114	P/P	50 - 150
Carbamazepine	112	113	P/P	60 - 150
Clothianidin	92.7	119	P/P	60 - 150
Dinotefuran	108	103	P/P	50 - 150
Diuron	99.7	102	P/P	60 - 160
Fenuron	99.5	101	P/P	60 - 150
Fluridone	116	102	P/P	60 - 160
Hydrocodone	105	99.1	P/P	60 - 150
Ibuprofen	84.2	90.9	P/P	50 - 160
Imazapyr	102	62.2	P/P	50 - 150
Imidacloprid	100	103	P/P	60 - 150
Linuron	128	106	P/P	60 - 150
Mandestrobin	109	104	P/P	50 - 150
MCPP	100	90.8	P/P	50 - 150
Naproxen	111	137	P/P	50 - 160
Primidone	119	108	P/P	60 - 150
Pyraclostrobin	108	103	P/P	60 - 150
Silvex	97.2	99.1	P/P	50 - 150
Thiamethoxam	104	101	P/P	50 - 150
Tolfenpyrad	111	93.8	P/P	60 - 150
Triclopyr	107	94.0	P/P	50 - 150

* 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						3.66	
EPA 200.7 Rev. 4.4	Calcium	108	109	107	97.6			1.24
	Iron	108	109	106	105			2.83
	Magnesium	110	112	108	104			3.10
	Manganese	103	104	103	106			1.20
	Zinc	102	104	103	106			1.19
EPA 200.8 Rev. 5.4	Aluminum	97.2	100	101	98.9			1.17
	Antimony	100	104	105	107			0.462
	Arsenic	94.3	96.7	97.4	98.4			0.772
	Beryllium	95.5	98.8	95.1	97.1			3.78
	Cadmium	95.3	100	101	103			1.06
	Chromium	93.1	96.9	97.1	101			0.261
	Copper	92.9	98.2	98.5	94.0			0.332
	Lead	97.3	101	102	101			0.384
	Nickel	94.1	96.7	96.3	96.4			0.389
	Selenium	97.3	101	98.1	98.0			3.11
	Silver	93.7	96.5	96.5	97.4			0.0328
	Thallium	96.6	101	102	103			1.19
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	97.8	99.0				1.14
	Ammonia-N	96.4	97.4	96.0				1.33
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	94.8	97.1	94.9				1.39
	Kjeldahl Nitrogen	96.4	101	92.1				7.79
EPA 353.2 Rev. 2.0	NO2NO3-N	101	99.2	99.8				0.354
	NO2NO3-N	100	99.0	100				0.546
EPA 365.1 Rev. 2.0	Total-P	102	105	107				1.46
	Total-P	106	107	103				3.16
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	94.6	94.7				0.106
	O-Phosphate-P	93.5	100	98.9				0.917
EPA 8321B	2,4-D	120	129	127				2.03
	2,4,5-T	113	127	116				8.95
	Acesulfame K	79.9	92.0	87.2				5.41
	Acetaminophen	124	109	97.8				11.1
	Acetamiprid	79.2	89.5	79.4				11.9
	Afidopyropen	19.5	82.4	78.4				5.02
	AMPA	97.0	83.8	82.9				1.08
	Bentazon	87.9	50.6	60.9				4.64
	Benzovindiflupyr	87.7	89.8	88.8				0.927
	Carbamazepine	93.8	106	99.3				5.69
	Clothianidin	72.2	91.9	90.8				1.11
	Dinotefuran	81.6						2.15
	Diuron	80.5	83.7	64.4				26.1
	Endothall	70.3	74.4	78.0				4.79
	Fenuron	90.6	89.4	86.5				3.28
	Fluridone	88.8	84.1	87.3				3.67
	Glufosinate	109	91.9	96.6				4.96
	Glyphosate	86.6	66.5	70.7				6.10
	Hydrocodone	83.6	92.2	87.8				4.89
	Ibuprofen	84.9	86.2	72.8				16.9
	Imazapyr	96.3	91.6	96.4				4.26
	Imidacloprid	92.1	123	122				0.195
	Linuron	79.9	91.8	85.8				6.78
	Mandestrobin	86.8	81.9	86.8				5.86
	MCPD	121	126	129				1.81
	Naproxen	72.1	89.1	67.6				27.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8321B	Primidone	84.8	86.5	99.7		14.1
	Pyraclostrobin	82.9	83.0	81.6		1.70
	Silvex	88.6	107	109		1.12
	Sucralose	91.2	88.1	101		13.5
	Thiamethoxam	88.5	119	122		1.78
	Tolfenpyrad	46.3	48.3	56.3		15.3
	Triclopyr	102	110	121		9.68
SM 2320 B-2011	Total Alkalinity	99.5			3.22	
SM 2540 D-2011	TSS				7.06	
SM 4500 F-C-2011	Fluoride	102	103	102		0.473
SM 5310 B-2011	Organic Carbon	98.5	96.2	95.9		0.149

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2284530, 2284533
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2284540, 2284541
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2284540, 2284541
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2284531, 2284534
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2284531, 2284534
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2284531, 2284534
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2284531, 2284534
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2284532, 2284535
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2284538, 2284539
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2284530, 2284533
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2284530, 2284533
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2284530, 2284533
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2284531, 2284534

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	10/19/2021			10/19/2021 16:16	Khloe J Berg	2284530, 2284533
EPA 200.7 Rev. 4.4	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/27/2021 14:41	Josef B Mick	2284541
	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/27/2021 18:24	Josef B Mick	2284540
	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/27/2021 18:32	Josef B Mick	2284540
EPA 200.8 Rev. 5.4	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/22/2021 13:34	Alexander Thompson	2284541
	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/22/2021 17:34	Alexander Thompson	2284540
	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/25/2021 11:31	Alexander Thompson	2284541
	10/19/2021	10/21/2021 10:00	Emily M Philpot	10/25/2021 14:05	Alexander Thompson	2284540
EPA 350.1 Rev. 2.0	10/19/2021			10/26/2021 13:03	Ping Hua	2284531
	10/19/2021			10/26/2021 13:33	Ping Hua	2284534
EPA 351.2 Rev. 2.0	10/19/2021	10/26/2021 08:29	Benjamin T. Nordmann	10/27/2021 11:18	Alexandra J Mattheus	2284534
	10/19/2021	10/26/2021 09:10	Benjamin T. Nordmann	10/27/2021 12:35	Alexandra J Mattheus	2284531
EPA 353.2 Rev. 2.0	10/19/2021			10/22/2021 11:17	Beverly Y. Sanders	2284534
	10/19/2021			10/26/2021 12:30	Virginia P. Brown	2284531
EPA 365.1 Rev. 2.0	10/19/2021	10/21/2021 17:16	Simonne.V. Calhoun	10/25/2021 12:35	Lipi Saha	2284534
	10/19/2021	10/22/2021 12:26	Simonne.V. Calhoun	10/26/2021 11:05	Lipi Saha	2284531
EPA 365.1 Rev. 2.0 dissolved	10/19/2021			10/19/2021 17:28	James L Waggeberby	2284535
	10/19/2021			10/19/2021 17:44	James L Waggeberby	2284532
EPA 8321B	10/19/2021	10/21/2021 09:30	Juyoung Kim	10/21/2021 14:13	Juyoung Kim	2284538
	10/19/2021	10/21/2021 09:30	Juyoung Kim	10/21/2021 14:24	Juyoung Kim	2284539
	10/19/2021	10/21/2021 09:30	Juyoung Kim	10/22/2021 13:08	Manjita Shrestha	2284538
	10/19/2021	10/21/2021 09:30	Juyoung Kim	10/22/2021 13:23	Manjita Shrestha	2284539
	10/19/2021	10/25/2021 09:00	Hoor Shaik	10/28/2021 01:34	Juyoung Kim	2284538
	10/19/2021	10/25/2021 09:00	Hoor Shaik	10/28/2021 02:08	Juyoung Kim	2284539
SM 2320 B-2011	10/19/2021			10/21/2021 02:20	Dale L. Simmons	2284533
	10/19/2021			10/21/2021 03:09	Dale L. Simmons	2284530
SM 2540 D-2011	10/19/2021			10/22/2021 15:35	Yijie Li	2284530, 2284533
SM 4500 F-C-2011	10/19/2021			10/21/2021 02:20	Dale L. Simmons	2284533
	10/19/2021			10/21/2021 03:09	Dale L. Simmons	2284530
SM 5310 B-2011	10/19/2021			10/26/2021 05:47	Khloe J Berg	2284531
	10/19/2021			10/26/2021 06:00	Khloe J Berg	2284534