

Chemical Analysis Report

CEN-DIST-2023-04-25-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Run 23**
Request ID: **RQ-2023-04-17-22**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 15-MAY-2023 12:35



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: Dead River at 50M from S of US 441 (2817C)

Collection Date/Time: 04/24/2023 11:38

Field ID: G1CE0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402557	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P429143	
		Sulfate	9.8		mg SO4/L	P429146	
	SM 2320 B-2011	Total Alkalinity	85		mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	148		mg/L	P429500	
	SM 2540 D-2015	TSS	11	I	mg/L	P429317	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P429282	
2402558	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P429139	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P428999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429247	
	EPA 365.1 Rev. 2.0	Total-P	0.032		mg P/L	P429003	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P429190	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The PQL was elevated because of sample matrix interference.

Sample Location: Hicks Ditch SE of East Rd

Collection Date/Time: 04/24/2023 13:10

Field ID: G1CE0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402570	EPA 8321B	2,4-D	0.0020	U	ug/L	P429013	
		Acesulfame K	0.10	U	ug/L	P428982	
		2,4,5-T	0.0040	U	ug/L	P429013	
		AMPA	0.10	U	ug/L	P428982	
		Acetaminophen	0.0080	U	ug/L	P429013	
		Acetamiprid	0.0020	U	ug/L	P429013	
		Endothall	0.25	U	ug/L	P428982	
		Glufosinate	0.10	U	ug/L	P428982	
		Glyphosate	0.10	U	ug/L	P428982	
		Afidopyropen	0.0020	U	ug/L	P429013	
		Bentazon	8.0E-04	U	ug/L	P429013	
		Sucralose	0.089		ug/L	P428982	
		Benzovindiflupyr	0.0020	U	ug/L	P429013	
		Carbamazepine	8.0E-04	U	ug/L	P429013	
		Clothianidin	0.0020	U	ug/L	P429013	
		Dinotefuran	0.0020	U	ug/L	P429013	
		Diuron	0.0020	U	ug/L	P429013	
		Fenuron	0.032	U	ug/L	P429013	
		Fluridone	8.0E-04	U	ug/L	P429013	
		Imazapyr	0.12		ug/L	P429013	
		Hydrocodone	0.0020	U	ug/L	P429013	
		Ibuprofen	0.080	U	ug/L	P429013	
		Imidacloprid	0.0020	U	ug/L	P429013	
		Linuron	0.0040	U	ug/L	P429013	
		Mandestrobin	0.0020	U	ug/L	P429013	
		MCPP	0.0020	U	ug/L	P429013	
		Naproxen	0.0080	U	ug/L	P429013	
		Primidone	0.0040	U	ug/L	P429013	
		Pyraclostrobin	0.0020	U	ug/L	P429013	
		Silvex	0.0040	U	ug/L	P429013	
		Thiamethoxam	0.0020	U	ug/L	P429013	
		Tolfenpyrad	0.0020	U	ug/L	P429013	
		Triclopyr	0.0040	U	ug/L	P429013	
2402572	EPA 200.7 Rev. 4.4	Calcium	9.87		mg/L	P429000	
		Iron	1.55E+03		ug/L	P429000	
		Magnesium	3.32		mg/L	P429000	
		Potassium	3.0		mg/L	P429000	
		Sodium	12.9		mg/L	P429000	
		Strontium	36.9		ug/L	P429000	
		Tin	3.0	U	ug/L	P429000	
		Titanium	0.75	U	ug/L	P429000	
		Vanadium	2.0	U	ug/L	P429000	
		Zinc	5.0	U	ug/L	P429000	
	EPA 200.8 Rev. 5.4	Aluminum	43		ug/L	P429000	

Field ID: G1CE0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402572	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P429000	
		Arsenic	0.45		ug/L	P429000	
		Barium	29.5		ug/L	P429000	
		Beryllium	0.020	I	ug/L	P429000	
		Boron	27.4		ug/L	P429000	
		Cadmium	0.020	U	ug/L	P429000	
		Chromium	0.40	U	ug/L	P429000	
		Cobalt	0.504		ug/L	P429000	
		Copper	0.50	I	ug/L	P429000	
		Lead	0.20	U	ug/L	P429000	
		Manganese	51.6		ug/L	P429000	
		Molybdenum	0.15	U	ug/L	P429000	
		Nickel	0.50	U	ug/L	P429000	
		Selenium	0.20	U	ug/L	P429000	
		Silver	0.010	U	ug/L	P429000	
		Thallium	0.10	U	ug/L	P429000	
	SM 2340 B-2011	Hardness	38.3		mg/L	P429000	

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

Sample Location: FB

Collection Date/Time: 04/24/2023 13:30

Field ID: FB_04242023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402559	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P428972	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P429144	
		Sulfate	0.20	U	mg SO4/L	P429147	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P429192	
	SM 2540 C-2015	TDS	15	U	mg/L	P429500	
	SM 2540 D-2015	TSS	2	U	mg/L	P429317	
2402560	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P429282	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P429139	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P428999	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P429247	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P429003	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P429190	
2402571	EPA 8321B	2,4-D	0.0020	U	ug/L	P429013	
		Acesulfame K	0.10	U	ug/L	P428982	
		2,4,5-T	0.0040	U	ug/L	P429013	
		AMPA	0.10	U	ug/L	P428982	
		Acetaminophen	0.0080	U	ug/L	P429013	
		Acetamiprid	0.0020	U	ug/L	P429013	
		Endothall	0.25	U	ug/L	P428982	
		Glufosinate	0.10	U	ug/L	P428982	
		Glyphosate	0.10	U	ug/L	P428982	
		Afidopyropen	0.0020	U	ug/L	P429013	
		Bentazon	8.0E-04	U	ug/L	P429013	
		Sucralose	0.010	U	ug/L	P428982	
		Benzovindiflupyr	0.0020	U	ug/L	P429013	
		Carbamazepine	8.0E-04	U	ug/L	P429013	
		Clothianidin	0.0020	U	ug/L	P429013	
		Dinotefuran	0.0020	U	ug/L	P429013	
		Diuron	0.0020	U	ug/L	P429013	
		Fenuron	0.032	U	ug/L	P429013	
		Fluridone	8.0E-04	U	ug/L	P429013	
		Imazapyr	0.0040	U	ug/L	P429013	
		Hydrocodone	0.0020	U	ug/L	P429013	
		Ibuprofen	0.080	U	ug/L	P429013	
		Imidacloprid	0.0020	U	ug/L	P429013	
		Linuron	0.0040	U	ug/L	P429013	
		Mandestrobin	0.0020	U	ug/L	P429013	
		MCP	0.0020	U	ug/L	P429013	
		Naproxen	0.0080	U	ug/L	P429013	
		Primidone	0.0040	U	ug/L	P429013	
		Pyraclostrobin	0.0020	U	ug/L	P429013	
		Silvex	0.0040	U	ug/L	P429013	
		Thiamethoxam	0.0020	U	ug/L	P429013	
		Tolfenpyrad	0.0020	U	ug/L	P429013	

Field ID: FB_04242023

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2402571	EPA 8321B	Triclopyr	0.0040	U	ug/L	P429013	

Ref. Method and Comment:
SM 2540 D-2015: 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.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429000

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429000

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P429143

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429146

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429139

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428999

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

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

Reference Method: EPA 8321B
Batch ID: P428982

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: P429013

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: P429013

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	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
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: P429192

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

Reference Method: SM 2540 C-2015

Batch ID: P429500

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P429317

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P429282

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P429190

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	80 - 120
Iron	101		P	80 - 120
Magnesium	100		P	80 - 120
Potassium	100		P	80 - 120
Sodium	102		P	80 - 120
Strontium	97.9		P	80 - 120
Tin	93.3		P	80 - 120
Titanium	97.5		P	80 - 120
Vanadium	96.3		P	80 - 120
Zinc	96.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	106		P	85 - 115
Arsenic	101		P	85 - 115
Barium	105		P	85 - 115
Beryllium	96.6		P	85 - 115
Boron	100		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	97.8		P	85 - 115
Cobalt	103		P	85 - 115
Copper	98.1		P	85 - 115
Lead	105		P	85 - 115
Manganese	98.3		P	85 - 115
Molybdenum	99.6		P	85 - 115
Nickel	99.4		P	85 - 115
Selenium	99.8		P	85 - 115
Silver	104		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429143

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429146

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429139

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428999

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

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

Reference Method: EPA 8321B
Batch ID: P428982

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	122		P	40 - 150
AMPA	96.2		P	40 - 150
Endothall	80.7		P	40 - 150
Glufosinate	77.6		P	40 - 150
Glyphosate	98.2		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	106		P	40 - 150
2,4,5-T	100		P	40 - 150
Acetaminophen	94.9		P	30 - 150
Acetamiprid	81.7		P	40 - 150
Afidopyropen	66.2		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P429013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	95.9		P	30 - 150
Benzovindiflupyr	91.6		P	40 - 150
Carbamazepine	98.7		P	40 - 150
Clothianidin	95.4		P	40 - 150
Dinotefuran	99.3		P	40 - 150
Diuron	88.5		P	40 - 150
Fenuron	93.5		P	40 - 150
Fluridone	89.2		P	40 - 150
Hydrocodone	90.7		P	40 - 150
Ibuprofen	93.1		P	40 - 150
Imazapyr	99.5		P	40 - 150
Imidacloprid	86.9		P	40 - 150
Linuron	87.0		P	40 - 150
Mandestrobin	88.0		P	40 - 150
MCPP	109		P	40 - 150
Naproxen	82.6		P	40 - 150
Primidone	92.2		P	40 - 150
Pyraclostrobin	86.0		P	40 - 150
Silvex	96.2		P	40 - 150
Thiamethoxam	97.2		P	40 - 150
Tolfenpyrad	59.4		P	30 - 150
Triclopyr	89.1		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P429192

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.8		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P429500

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

Reference Method: SM 2540 D-2015

Batch ID: P429317

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	95.3		P	85 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P429282

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.8		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P429190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P429000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402025	Calcium	97.9		P	80 - 120
2402025	Iron	102	102	P/P	80 - 120
2402025	Magnesium	98.5		P	80 - 120
2402025	Potassium	101	100	P/P	80 - 120
2402025	Sodium	102	102	P/P	80 - 120
2402025	Strontium	98.4	98.2	P/P	80 - 120
2402025	Tin	96.2	94.2	P/P	80 - 120
2402025	Titanium	99.2	101	P/P	80 - 120
2402025	Vanadium	99.7	101	P/P	80 - 120
2402025	Zinc	94.7	94.3	P/P	80 - 120
2402975	Calcium	98.2		P	80 - 120
2402975	Iron	102		P	80 - 120
2402975	Magnesium	99.6		P	80 - 120
2402975	Potassium	101		P	80 - 120
2402975	Sodium	103		P	80 - 120
2402975	Strontium	98.9		P	80 - 120
2402975	Tin	94.5		P	80 - 120
2402975	Titanium	98.7		P	80 - 120
2402975	Vanadium	99.5		P	80 - 120
2402975	Zinc	93.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P429000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402025	Aluminum	98.7	97.7	P/P	80 - 120
2402025	Antimony	109	107	P/P	80 - 120
2402025	Arsenic	102	102	P/P	80 - 120
2402025	Barium	105	103	P/P	80 - 120
2402025	Beryllium	99.6	99.8	P/P	80 - 120
2402025	Boron	100	101	P/P	80 - 120
2402025	Cadmium	107	104	P/P	80 - 120
2402025	Chromium	96.5	96.1	P/P	80 - 120
2402025	Cobalt	100	101	P/P	80 - 120
2402025	Copper	93.9	94.7	P/P	80 - 120
2402025	Lead	105	105	P/P	80 - 120
2402025	Manganese	97.8	96.9	P/P	80 - 120
2402025	Molybdenum	103	102	P/P	80 - 120
2402025	Nickel	95.8	96.0	P/P	80 - 120
2402025	Selenium	99.8	100	P/P	80 - 120
2402025	Silver	107	106	P/P	80 - 120
2402025	Thallium	104	104	P/P	80 - 120
2402975	Aluminum	103		P	80 - 120
2402975	Antimony	108		P	80 - 120
2402975	Arsenic	102		P	80 - 120
2402975	Barium	105		P	80 - 120
2402975	Beryllium	99.6		P	80 - 120
2402975	Boron	109		P	80 - 120
2402975	Cadmium	105		P	80 - 120
2402975	Chromium	99.5		P	80 - 120
2402975	Cobalt	103		P	80 - 120
2402975	Copper	95.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402975	Lead	108		P	80 - 120
2402975	Manganese	102		P	80 - 120
2402975	Molybdenum	104		P	80 - 120
2402975	Nickel	97.8		P	80 - 120
2402975	Selenium	101		P	80 - 120
2402975	Silver	107		P	80 - 120
2402975	Thallium	109		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402187	Chloride	101		P	90 - 110
2402529	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402616	Chloride	101		P	90 - 110
2402650	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402187	Sulfate	101		P	90 - 110
2402529	Sulfate	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402616	Sulfate	101		P	90 - 110
2402650	Sulfate	97.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429139

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402558	Ammonia-N	96.6	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402545	Kjeldahl Nitrogen	98.4	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402598	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402622	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P428982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402494	Acesulfame K	144	144	P/P	40 - 150
2402494	AMPA	90.5	88.5	P/P	40 - 150
2402494	Endothall	80.5	81.7	P/P	40 - 150
2402494	Glufosinate	111	88.7	P/P	40 - 150
2402494	Glyphosate	121	149	P/P	40 - 150
2402494	Sucralose	119	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402644	2,4,5-T	115	123	P/P	40 - 150
2402644	Acetaminophen	101	102	P/P	30 - 150
2402644	Acetamiprid	78.3	80.3	P/P	40 - 150
2402644	Afidopyropen	103	94.8	P/P	30 - 150
2402644	Benzovindiflupyr	95.0	87.1	P/P	40 - 150
2402644	Carbamazepine	91.8	82.8	P/P	40 - 150
2402644	Clothianidin	107	101	P/P	40 - 150
2402644	Dinotefuran	69.9	67.7	P/P	40 - 150
2402644	Diuron	75.7	77.1	P/P	40 - 150
2402644	Fenuron	63.6	63.6	P/P	40 - 150
2402644	Hydrocodone	61.2	60.3	P/P	40 - 150
2402644	Ibuprofen	84.7	92.0	P/P	40 - 150
2402644	Imazapyr	100	98.0	P/P	40 - 150
2402644	Imidacloprid	132	124	P/P	40 - 150
2402644	Linuron	81.7	73.9	P/P	40 - 150
2402644	Mandestrobin	95.7	87.3	P/P	40 - 150
2402644	MCPP	131	131	P/P	40 - 150
2402644	Naproxen	91.2	78.0	P/P	40 - 150
2402644	Primidone	90.8	93.7	P/P	40 - 150
2402644	Pyraclostrobin	94.7	85.7	P/P	40 - 150
2402644	Silvex	110	102	P/P	40 - 150
2402644	Thiamethoxam	89.0	83.4	P/P	40 - 150
2402644	Tolfenpyrad	60.8	58.8	P/P	30 - 150
2402644	Triclopyr	127	129	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

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

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402166	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P429190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2402623	Organic Carbon	94.2	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402507	Turbidity	6.01	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P429000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402025	Calcium	0.159	Spike	P	0 - 20
2402025	Iron	0.562	Spike	P	0 - 20
2402025	Magnesium	0.739	Spike	P	0 - 20
2402025	Potassium	0.237	Spike	P	0 - 20
2402025	Sodium	0.133	Spike	P	0 - 20
2402025	Strontium	0.246	Spike	P	0 - 20
2402025	Tin	2.02	Spike	P	0 - 20
2402025	Titanium	1.64	Spike	P	0 - 20
2402025	Vanadium	1.47	Spike	P	0 - 20
2402025	Zinc	0.451	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P429000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402025	Aluminum	0.922	Spike	P	0 - 20
2402025	Antimony	2.19	Spike	P	0 - 20
2402025	Arsenic	0.0409	Spike	P	0 - 20
2402025	Barium	1.75	Spike	P	0 - 20
2402025	Beryllium	0.286	Spike	P	0 - 20
2402025	Boron	0.505	Spike	P	0 - 20
2402025	Cadmium	3.22	Spike	P	0 - 20
2402025	Chromium	0.472	Spike	P	0 - 20
2402025	Cobalt	0.590	Spike	P	0 - 20
2402025	Copper	0.815	Spike	P	0 - 20
2402025	Lead	0.518	Spike	P	0 - 20
2402025	Manganese	0.771	Spike	P	0 - 20
2402025	Molybdenum	0.0809	Spike	P	0 - 20
2402025	Nickel	0.262	Spike	P	0 - 20
2402025	Selenium	0.370	Spike	P	0 - 20
2402025	Silver	1.07	Spike	P	0 - 20
2402025	Thallium	0.195	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402187	Chloride	0.683	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402616	Chloride	0.583	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402187	Sulfate	0.147	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P429147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402616	Sulfate	0.336	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P429139

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402558	Ammonia-N	0.722	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402545	Kjeldahl Nitrogen	1.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P429247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402598	NO2NO3-N	0.291	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402622	Total-P	0.873	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P428982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402494	Acesulfame K	0.560	Spike	P	0 - 30
2402494	AMPA	1.58	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P428982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402494	Endothall	1.50	Spike	P	0 - 30
2402494	Glufosinate	22.3	Spike	P	0 - 30
2402494	Glyphosate	13.4	Spike	P	0 - 30
2402494	Sucralose	9.46	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P429013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402644	2,4-D	7.57	Spike	P	0 - 30
2402644	2,4,5-T	6.62	Spike	P	0 - 30
2402644	Acetaminophen	1.28	Spike	P	0 - 30
2402644	Acetamiprid	2.44	Spike	P	0 - 30
2402644	Afidopyropen	8.18	Spike	P	0 - 30
2402644	Bentazon	3.60	Spike	P	0 - 30
2402644	Benzovindiflupyr	8.67	Spike	P	0 - 30
2402644	Carbamazepine	10.3	Spike	P	0 - 30
2402644	Clothianidin	5.43	Spike	P	0 - 30
2402644	Dinotefuran	3.17	Spike	P	0 - 30
2402644	Diuron	1.70	Spike	P	0 - 30
2402644	Fenuron	0.0412	Spike	P	0 - 30
2402644	Fluridone	4.16	Spike	P	0 - 30
2402644	Hydrocodone	1.33	Spike	P	0 - 30
2402644	Ibuprofen	8.26	Spike	P	0 - 30
2402644	Imazapyr	1.71	Spike	P	0 - 30
2402644	Imidacloprid	5.21	Spike	P	0 - 30
2402644	Linuron	10.0	Spike	P	0 - 30
2402644	Mandestrobin	9.10	Spike	P	0 - 30
2402644	MCPP	0.202	Spike	P	0 - 30
2402644	Naproxen	15.6	Spike	P	0 - 30
2402644	Primidone	2.93	Spike	P	0 - 30
2402644	Pyraclostrobin	10.0	Spike	P	0 - 30
2402644	Silvex	7.26	Spike	P	0 - 30
2402644	Thiamethoxam	6.40	Spike	P	0 - 30
2402644	Tolfenpyrad	3.37	Spike	P	0 - 30
2402644	Triclopyr	2.00	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P429192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402648	Total Alkalinity	1.96	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P429500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2401995	TDS	5.85	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P429282

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402166	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P429190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2402623	Organic Carbon	0.483	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2402570
Field Sample ID: G1CE0126

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	79.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.9	P	30 - 160
EPA 8321B	Diuron-d6	56.8	P	30 - 160
EPA 8321B	Endothall-d6	84.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.9	P	30 - 160
EPA 8321B	Primidone-d5	73.8	P	30 - 160
EPA 8321B	Sucralose-d6	119	P	30 - 160

Lab Sample ID: 2402571
Field Sample ID: FB_04242023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.7	P	30 - 160
EPA 8321B	Diuron-d6	96.6	P	30 - 160
EPA 8321B	Endothall-d6	88.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	76.4	P	30 - 160
EPA 8321B	Primidone-d5	88.9	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118755

Included Lab Sample IDs: 2402557, 2402559

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.7	98.0	P/P	90 - 110
Chloride	98.0	97.8	P/P	90 - 110
Sulfate	98.3	98.5	P/P	90 - 110
Sulfate	98.5	98.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118771

Included Lab Sample IDs: 2402557, 2402559

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118813

Included Lab Sample IDs: 2402558, 2402560

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118835

Included Lab Sample IDs: 2402558, 2402560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	96.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118836

Included Lab Sample IDs: 2402572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	107	105	P/P	90 - 110
Arsenic	100	101	P/P	90 - 110
Barium	103	102	P/P	90 - 110
Beryllium	98.6	98.9	P/P	90 - 110
Boron	102	100	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	99.7	100	P/P	90 - 110
Cobalt	103	104	P/P	90 - 110
Copper	97.0	97.8	P/P	90 - 110
Lead	106	104	P/P	90 - 110
Manganese	102	104	P/P	90 - 110
Molybdenum	99.7	99.6	P/P	90 - 110
Nickel	98.5	98.7	P/P	90 - 110
Selenium	101	102	P/P	90 - 110
Silver	104	104	P/P	90 - 110
Thallium	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118854

Included Lab Sample IDs: 2402558, 2402560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118855

Included Lab Sample IDs: 2402570, 2402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.1	92.8	P/P	50 - 150
2,4,5-T	101	100	P/P	50 - 150
Acetaminophen	103	106	P/P	60 - 160
Acetamiprid	106	103	P/P	50 - 150
Afidopyropen	111	69.1	P/P	50 - 150
Bentazon	128	130	P/P	50 - 160
Benzovindiflupyr	108	105	P/P	50 - 150
Carbamazepine	111	107	P/P	60 - 150
Clothianidin	105	103	P/P	60 - 150
Dinotefuran	112	113	P/P	50 - 150
Diuron	122	106	P/P	60 - 160
Fenuron	106	109	P/P	60 - 150
Fluridone	114	116	P/P	60 - 160
Hydrocodone	107	96.9	P/P	60 - 150
Ibuprofen	130	88.7	P/P	50 - 160
Imazapyr	112	102	P/P	50 - 150
Imidacloprid	99.7	97.0	P/P	60 - 150
Linuron	89.2	84.1	P/P	60 - 150
Mandestrobin	99.2	101	P/P	50 - 150
MCPP	105	98.9	P/P	50 - 150
Naproxen	96.0	139	P/P	50 - 160
Primidone	103	102	P/P	60 - 150
Pyraclostrobin	105	113	P/P	60 - 150
Silvex	81.5	104	P/P	50 - 150
Thiamethoxam	112	112	P/P	50 - 150
Tolfenpyrad	98.7	104	P/P	60 - 150
Triclopyr	90.0	95.2	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A118862

Included Lab Sample IDs: 2402570, 2402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	125	146	P/P	60 - 160
Sucralose	104	130	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A118863

Included Lab Sample IDs: 2402570, 2402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.4	87.9	P/P	60 - 160
Endothall	82.6	82.7	P/P	60 - 160
Glufosinate	82.2	78.7	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A118863

Included Lab Sample IDs: 2402570, 2402571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	91.6	99.1	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A118869

Included Lab Sample IDs: 2402557, 2402559

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.5	94.8	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A118872

Included Lab Sample IDs: 2402558, 2402560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	98.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118874

Included Lab Sample IDs: 2402572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	101	P/P	90 - 110
Iron	102	104	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Potassium	101	103	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	97.9	98.2	P/P	90 - 110
Tin	96.3	97.5	P/P	90 - 110
Titanium	97.2	97.1	P/P	90 - 110
Vanadium	96.9	96.9	P/P	90 - 110
Zinc	94.8	95.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118899

Included Lab Sample IDs: 2402558, 2402560

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	106	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118916

Included Lab Sample IDs: 2402557, 2402559

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	101	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	99.2					6.01	
EPA 200.7 Rev. 4.4	Calcium	100	97.9	98.2				0.159
	Iron	101	102	102	102			0.562
	Magnesium	100	98.5	99.6				0.739
	Potassium	100	101	100	101			0.237
	Sodium	102	102	102	103			0.133
	Strontium	97.9	98.4	98.2	98.9			0.246
	Tin	93.3	96.2	94.2	94.5			2.02
	Titanium	97.5	99.2	101	98.7			1.64
	Vanadium	96.3	99.7	101	99.5			1.47
	Zinc	96.0	94.7	94.3	93.9			0.451
EPA 200.8 Rev. 5.4	Aluminum	102	98.7	97.7	103			0.922
	Antimony	106	109	107	108			2.19
	Arsenic	101	102	102	102			0.0409
	Barium	105	105	103	105			1.75
	Beryllium	96.6	99.6	99.8	99.6			0.286
	Boron	100	100	101	109			0.505
	Cadmium	103	104	105	107			3.22
	Chromium	97.8	96.5	96.1	99.5			0.472
	Cobalt	103	100	101	103			0.590
	Copper	98.1	93.9	94.7	95.6			0.815
	Lead	105	105	105	108			0.518
	Manganese	98.3	97.8	96.9	102			0.771
	Molybdenum	99.6	103	102	104			0.0809
	Nickel	99.4	95.8	96.0	97.8			0.262
	Selenium	99.8	99.8	100	101			0.370
	Silver	104	107	106	107			1.07
	Thallium	103	104	104	109			0.195
EPA 300.0 Rev. 2.1	Chloride	99.2	101	98.3			0.683	
	Chloride	101	101	100			0.583	
	Sulfate	100	101	98.1			0.147	
	Sulfate	102	101	97.8			0.336	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	96.6	95.8				0.722
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.1	98.4	100				1.33
EPA 353.2 Rev. 2.0	NO2NO3-N	105	104	103				0.291
EPA 365.1 Rev. 2.0	Total-P	101	102	102				0.873
EPA 8321B	2,4-D	106						7.57
	2,4,5-T	100	115	123				6.62
	Acesulfame K	122	144	144				0.560
	Acetaminophen	94.9	101	102				1.28
	Acetamiprid	81.7	78.3	80.3				2.44
	Afidopyropen	66.2	103	94.8				8.18
	AMPA	96.2	90.5	88.5				1.58
	Bentazon	95.9						3.60
	Benzovindiflupyr	91.6	95.0	87.1				8.67
	Carbamazepine	98.7	91.8	82.8				10.3
	Clothianidin	95.4	107	101				5.43
	Dinotefuran	99.3	69.9	67.7				3.17
	Diuron	88.5	75.7	77.1				1.70
	Endothall	80.7	80.5	81.7				1.50
	Fenuron	93.5	63.6	63.6				0.0412
	Fluridone	89.2						4.16
	Glufosinate	77.6	111	88.7				22.3
	Glyphosate	98.2	121	149				13.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	90.7	61.2	60.3		1.33
	Ibuprofen	93.1	84.7	92.0		8.26
	Imazapyr	99.5	100	98.0		1.71
	Imidacloprid	86.9	132	124		5.21
	Linuron	87.0	81.7	73.9		10.0
	Mandestrobin	88.0	95.7	87.3		9.10
	MCCP	109	131	131		0.202
	Naproxen	82.6	91.2	78.0		15.6
	Primidone	92.2	90.8	93.7		2.93
	Pyraclostrobin	86.0	94.7	85.7		10.0
	Silvex	96.2	110	102		7.26
	Sucralose	102	119	108		9.46
	Thiamethoxam	97.2	89.0	83.4		6.40
	Tolfenpyrad	59.4	60.8	58.8		3.37
	Triclopyr	89.1	127	129		2.00
SM 2320 B-2011	Total Alkalinity	95.8			1.96	
SM 2540 C-2015	TDS	95.4			5.85	
SM 2540 D-2015	TSS	95.3				
SM 4500-F- C-2011	Fluoride	98.8	101	101		0.0
SM 5310 B-2011	Organic Carbon	95.6	94.2	94.9		0.483

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2402557, 2402559
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2402572
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2402572
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2402557, 2402559
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2402557, 2402559
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2402558, 2402560
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2402558, 2402560
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2402558, 2402560
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2402558, 2402560
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2402570, 2402571
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2402557, 2402559
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2402572
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2402557, 2402559
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2402557, 2402559
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2402557, 2402559
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2402558, 2402560

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	04/25/2023			04/25/2023 13:37	Khloe J Berg	2402557
	04/25/2023			04/25/2023 13:38	Khloe J Berg	2402559
EPA 200.7 Rev. 4.4	04/25/2023	04/26/2023 11:35	George D Taylor	04/29/2023 01:15	McKinley C Carter	2402572
EPA 200.8 Rev. 5.4	04/25/2023	04/26/2023 11:35	George D Taylor	04/27/2023 18:27	Conrad Hartmann	2402572
EPA 300.0 Rev. 2.1	04/25/2023			04/27/2023 20:04	James L Waggeberby	2402557
	04/25/2023			04/27/2023 22:34	James L Waggeberby	2402559
EPA 350.1 Rev. 2.0	04/25/2023			04/28/2023 13:08	Ping Hua	2402558
	04/25/2023			04/28/2023 13:21	Ping Hua	2402560
EPA 351.2 Rev. 2.0	04/25/2023	04/26/2023 12:25	Dana G. Hughes	04/27/2023 16:55	Ping Hua	2402558
	04/25/2023	04/26/2023 12:25	Dana G. Hughes	04/27/2023 16:56	Ping Hua	2402560
EPA 353.2 Rev. 2.0	04/25/2023			05/02/2023 11:44	Beverly Y. Sanders	2402558
	04/25/2023			05/02/2023 11:45	Beverly Y. Sanders	2402560
EPA 365.1 Rev. 2.0	04/25/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 09:33	Simonne.V. Calhoun	2402560
	04/25/2023	04/26/2023 14:50	Adam P Silver	04/27/2023 09:43	Simonne.V. Calhoun	2402558
EPA 8321B	04/25/2023	04/27/2023 09:00	Hoor Shaik	04/27/2023 20:25	Juyoung Kim	2402570
	04/25/2023	04/27/2023 09:00	Hoor Shaik	04/27/2023 20:43	Juyoung Kim	2402571
	04/25/2023	04/28/2023 09:00	Manjita Shrestha	04/28/2023 12:49	Manjita Shrestha	2402570
	04/25/2023	04/28/2023 09:00	Manjita Shrestha	04/28/2023 13:02	Manjita Shrestha	2402571
	04/25/2023	04/28/2023 09:00	Manjita Shrestha	04/29/2023 01:34	Manjita Shrestha	2402570
	04/25/2023	04/28/2023 09:00	Manjita Shrestha	04/29/2023 01:48	Manjita Shrestha	2402571
	04/25/2023					
SM 2320 B-2011	04/25/2023			04/28/2023 06:54	Dale L. Simmons	2402557
	04/25/2023			04/28/2023 07:00	Dale L. Simmons	2402559
SM 2340 B-2011	04/25/2023			04/29/2023 01:15	McKinley C Carter	2402572
SM 2540 C-2015	04/25/2023			04/26/2023 15:12	Yijie Li	2402557, 2402559
SM 2540 D-2015	04/25/2023			04/26/2023 15:12	Yijie Li	2402557, 2402559
SM 4500-F- C-2011	04/25/2023			05/02/2023 17:19	Dale L. Simmons	2402557
	04/25/2023			05/02/2023 17:24	Dale L. Simmons	2402559
SM 5310 B-2011	04/25/2023			04/28/2023 19:35	Elise M. Gillis	2402558
	04/25/2023			04/28/2023 19:49	Elise M. Gillis	2402560