

Chemical Analysis Report

TLH-ROC-2022-10-10-01

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

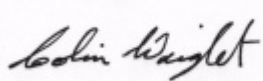
Event Description: **Run 15**
Request ID: **RQ-2022-09-19-32**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Tallahassee, FL 32399
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Certified by: Colin Wright, Program Administrator

Date Certified: 31-OCT-2022 12:13



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: Lewis Creek upstream Hwy157

Collection Date/Time: 10/10/2022 13:20

Field ID: G1TLHR159

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2361354	DEP SOP: NU-094-1	Color (true)	110		PCU	P420753	
	EPA 180.1 Rev. 2.0	Turbidity	5.3	A	NTU	P420733	
	EPA 300.0 Rev. 2.1	Chloride	7.1		mg Cl/L	P421103	
		Sulfate	0.61		mg SO4/L	P421106	
	SM 2320 B-2011	Total Alkalinity	43		mg CaCO3/L	P420816	
	SM 2540 C-2015	TDS	78		mg/L	P421281	
	SM 2540 D-2015	TSS	2	I	mg/L	P421277	
	SM 4500-F- C-2011	Fluoride	0.093	I	mg F/L	P420819	
2361356	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P420887	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P420758	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P420843	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P420764	
	SM 5310 B-2011	Organic Carbon	7.5		mg C/L	P420965	
2361368	EPA 200.7 Rev. 4.4	Calcium	14.2		mg/L	P420716	
		Iron	6.92E+03		ug/L	P420716	
		Magnesium	3.87		mg/L	P420716	
		Potassium	0.66	I	mg/L	P420716	
		Sodium	4.1		mg/L	P420716	
		Strontium	34.1		ug/L	P420716	
		Tin	3.0	U	ug/L	P420716	
		Titanium	7.6		ug/L	P420716	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P420716	
		Zinc	5.0	U	ug/L	P420716	
		Aluminum	696		ug/L	P420716	
		Antimony	0.050	U	ug/L	P420716	
		Arsenic	2.32		ug/L	P420716	
		Barium	43.7		ug/L	P420716	
		Beryllium	0.054		ug/L	P420716	
		Boron	15.3		ug/L	P420716	
		Cadmium	0.084		ug/L	P420716	
		Chromium	1.5	I	ug/L	P420716	
		Cobalt	0.617		ug/L	P420716	
		Copper	0.52	I	ug/L	P420716	
		Lead	0.49		ug/L	P420716	
		Manganese	1.34E+03		ug/L	P420716	
		Molybdenum	0.46	I	ug/L	P420716	
		Nickel	0.67	I	ug/L	P420716	
		Selenium	0.20	U	ug/L	P420716	
		Silver	0.010	U	ug/L	P420716	
		Thallium	0.10	U	ug/L	P420716	
	SM 2340 B-2011	Hardness	51.4		mg/L	P420716	

Ref. Method and Comment:

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

Sample Location: Willacoochee Creek upstream Milligan Rd

Collection Date/Time: 10/10/2022 13:50

Field ID: G1TLHR0157

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2361366	EPA 8321B	2,4-D	0.0020	U	ug/L	P420715	
		Acesulfame K	0.10	U	ug/L	P420706	
		2,4,5-T	0.0040	U	ug/L	P420715	
		AMPA	0.10	U	ug/L	P420706	
		Acetaminophen	0.0080	U	ug/L	P420715	
		Acetamiprid	0.0020	U	ug/L	P420715	
		Endothall	0.25	U	ug/L	P420706	
		Glufosinate	0.10	U	ug/L	P420706	
		Glyphosate	0.10	U	ug/L	P420706	
		Afidopyropen	0.0020	U	ug/L	P420715	
		Bentazon	0.0070		ug/L	P420715	
		Sucralose	0.064		ug/L	P420706	
		Benzovindiflupyr	0.0061	I	ug/L	P420715	
		Carbamazepine	0.0012	I	ug/L	P420715	
		Clothianidin	0.0035	I	ug/L	P420715	
		Dinotefuran	0.21		ug/L	P420715	
		Diuron	0.0020	U	ug/L	P420715	
		Fenuron	0.032	U	ug/L	P420715	
		Fluridone	8.0E-04	U	ug/L	P420715	
		Imazapyr	0.0062	I	ug/L	P420715	
		Hydrocodone	0.0020	U	ug/L	P420715	
		Ibuprofen	0.20	U	ug/L	P420715	
		Imidacloprid	0.011		ug/L	P420715	
		Linuron	0.0040	U	ug/L	P420715	
		Mandestrobin	0.0020	U	ug/L	P420715	
		MCPP	0.0040	U	ug/L	P420715	
		Naproxen	0.0080	U	ug/L	P420715	
		Primidone	0.0040	U	ug/L	P420715	
		Pyraclostrobin	0.0020	U	ug/L	P420715	
		Silvex	0.0040	U	ug/L	P420715	
		Thiamethoxam	0.0020	U	ug/L	P420715	
		Tolfenpyrad	0.0020	U	ug/L	P420715	
		Triclopyr	0.0040	U	ug/L	P420715	
2361369	EPA 200.7 Rev. 4.4	Calcium	5.18		mg/L	P420716	
		Iron	840		ug/L	P420716	
		Magnesium	3.11		mg/L	P420716	
		Potassium	0.77	I	mg/L	P420716	
		Sodium	3.4		mg/L	P420716	
		Strontium	29.9		ug/L	P420716	
		Tin	3.0	U	ug/L	P420716	
		Titanium	10.8		ug/L	P420716	
		Vanadium	2.0	U	ug/L	P420716	
		Zinc	5.0	U	ug/L	P420716	
	EPA 200.8 Rev. 5.4	Aluminum	563		ug/L	P420716	

Field ID: G1TLHR0157

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2361369	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P420716	
		Arsenic	0.47		ug/L	P420716	
		Barium	24.7		ug/L	P420716	
		Beryllium	0.020	I	ug/L	P420716	
		Boron	10.1		ug/L	P420716	
		Cadmium	0.020	U	ug/L	P420716	
		Chromium	0.80	I	ug/L	P420716	
		Cobalt	0.125		ug/L	P420716	
		Copper	0.50	I	ug/L	P420716	
		Lead	0.41		ug/L	P420716	
		Manganese	27.4		ug/L	P420716	
		Molybdenum	0.15	U	ug/L	P420716	
		Nickel	0.50	U	ug/L	P420716	
		Selenium	0.20	U	ug/L	P420716	
		Silver	0.010	U	ug/L	P420716	
		Thallium	0.10	U	ug/L	P420716	
	SM 2340 B-2011	Hardness	25.7		mg/L	P420716	

Sample Location: Tanyard Branch @ US90

Collection Date/Time: 10/10/2022 14:10

Field ID: G1TLHR0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2361355	DEP SOP: NU-094-1	Color (true)	30		PCU	P420753	
	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P420733	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P421103	
		Sulfate	1.1		mg SO4/L	P421106	
	SM 2320 B-2011	Total Alkalinity	57		mg CaCO3/L	P420816	
	SM 2540 C-2015	TDS	88		mg/L	P421281	
	SM 2540 D-2015	TSS	8	I	mg/L	P421277	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P420819	
2361357	EPA 350.1 Rev. 2.0	Ammonia-N	0.17		mg N/L	P420982	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.5		mg N/L	P420904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P420843	
	EPA 365.1 Rev. 2.0	Total-P	0.30		mg P/L	P420764	
	SM 5310 B-2011	Organic Carbon	6.2		mg C/L	P420965	
2361367	EPA 8321B	2,4-D	0.0020	U	ug/L	P420715	
		Acesulfame K	2.2		ug/L	P420706	
		2,4,5-T	0.0040	U	ug/L	P420715	
		AMPA	0.10	U	ug/L	P420706	
		Acetaminophen	76		ug/L	P420715	
		Acetamiprid	0.0020	U	ug/L	P420715	
		Endothall	0.25	U	ug/L	P420706	
		Glufosinate	0.10	U	ug/L	P420706	
		Glyphosate	0.10	U	ug/L	P420706	
		Afidopyropen	0.0020	U	ug/L	P420715	
		Bentazon	8.0E-04	U	ug/L	P420715	
		Sucralose	3.2		ug/L	P420706	
		Benzovindiflupyr	0.0020	U	ug/L	P420715	
		Carbamazepine	0.015		ug/L	P420715	
		Clothianidin	0.0072	I	ug/L	P420715	
		Dinotefuran	0.0020	U	ug/L	P420715	
		Diuron	0.0072	I	ug/L	P420715	
		Fenuron	0.032	U	ug/L	P420715	
		Fluridone	8.0E-04	U	ug/L	P420715	
		Imazapyr	0.010	I	ug/L	P420715	
		Hydrocodone	0.0029	I	ug/L	P420715	
		Ibuprofen	0.73	I	ug/L	P420715	
		Imidacloprid	0.0030	I	ug/L	P420715	
		Linuron	0.0040	U	ug/L	P420715	
		Mandestrobin	0.0020	U	ug/L	P420715	
		MCPP	0.0040	U	ug/L	P420715	
		Naproxen	0.40		ug/L	P420715	
		Primidone	0.0040	U	ug/L	P420715	
		Pyraclostrobin	0.0020	U	ug/L	P420715	
		Silvex	0.0040	U	ug/L	P420715	
		Thiamethoxam	0.0020	U	ug/L	P420715	

Field ID: G1TLHR0190

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2361367	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P420715	
		Triclopyr	0.0040	U	ug/L	P420715	
2361370	EPA 200.7 Rev. 4.4	Calcium	11.9		mg/L	P420716	
		Iron	2.02E+03		ug/L	P420716	
		Magnesium	2.99		mg/L	P420716	
		Potassium	1.1	I	mg/L	P420716	
		Sodium	19.8		mg/L	P420716	
		Strontium	30.2		ug/L	P420716	
		Tin	3.0	U	ug/L	P420716	
		Titanium	2.8	I	ug/L	P420716	
		Vanadium	2.0	U	ug/L	P420716	
		Zinc	6.1	I	ug/L	P420716	
	EPA 200.8 Rev. 5.4	Aluminum	67		ug/L	P420716	
		Antimony	0.050	U	ug/L	P420716	
		Arsenic	0.81		ug/L	P420716	
		Barium	17.4		ug/L	P420716	
		Beryllium	0.010	U	ug/L	P420716	
		Boron	17.9		ug/L	P420716	
		Cadmium	0.020	U	ug/L	P420716	
		Chromium	0.40	U	ug/L	P420716	
		Cobalt	0.088		ug/L	P420716	
		Copper	1.51		ug/L	P420716	
		Lead	0.20	U	ug/L	P420716	
		Manganese	70.7		ug/L	P420716	
		Molybdenum	0.15	U	ug/L	P420716	
		Nickel	0.50	U	ug/L	P420716	
		Selenium	0.20	U	ug/L	P420716	
		Silver	0.010	U	ug/L	P420716	
		Thallium	0.10	U	ug/L	P420716	
	SM 2340 B-2011	Hardness	42.0		mg/L	P420716	

Ref. Method and Comment:

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: DEP SOP: NU-094-1
Batch ID: P420753

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420733

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P420716

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: P420716

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: P421103

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: P421106

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420887

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420758

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420904

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420843

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420764

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

Reference Method: EPA 8321B
Batch ID: P420706

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P420715

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.20	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: P420816

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

Reference Method: SM 2540 C-2015

Batch ID: P421281

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P421277

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P420819

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P420965

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P420753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420733

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P420716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	105		P	85 - 115
Sodium	108		P	85 - 115
Strontium	106		P	85 - 115
Tin	103		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P420716

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.6		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	98.7		P	85 - 115
Barium	103		P	85 - 115
Beryllium	92.8		P	85 - 115
Boron	109		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	96.8		P	85 - 115
Copper	96.4		P	85 - 115
Lead	95.0		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	98.4		P	85 - 115
Nickel	97.1		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	91.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421103

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421106

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420887

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420982

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420758

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420904

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420843

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P420706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	121		P	40 - 150
AMPA	99.8		P	40 - 150
Endothall	96.5		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	106		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P420715

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.8		P	40 - 150
2,4,5-T	75.2		P	40 - 150
Acetaminophen	99.3		P	30 - 150
Acetamiprid	98.1		P	40 - 150
Afidopyropen	75.2		P	30 - 150
Bentazon	109		P	30 - 150
Benzovindiflupyr	93.0		P	40 - 150
Carbamazepine	96.7		P	40 - 150
Clothianidin	105		P	40 - 150
Dinotefuran	110		P	40 - 150
Diuron	89.5		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	112		P	40 - 150
Hydrocodone	102		P	40 - 150
Ibuprofen	127		P	40 - 150
Imazapyr	123		P	40 - 150
Imidacloprid	116		P	40 - 150
Linuron	84.8		P	40 - 150
Mandestrobin	103		P	40 - 150
MCPP	94.9		P	40 - 150
Naproxen	86.6		P	40 - 150
Primidone	95.6		P	40 - 150
Pyraclostrobin	90.2		P	40 - 150
Silvex	80.3		P	40 - 150
Thiamethoxam	109		P	40 - 150
Tolfenpyrad	46.1		P	30 - 150
Triclopyr	79.0		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P420816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.7		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P421281

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

Reference Method: SM 2540 D-2015

Batch ID: P421277

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	99.8		P	85 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P420819

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P420965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P420716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361001	Calcium	104		P	80 - 120
2361001	Iron	106	107	P/P	80 - 120
2361001	Magnesium	105	106	P/P	80 - 120
2361001	Potassium	105	105	P/P	80 - 120
2361001	Sodium	108	108	P/P	80 - 120
2361001	Strontium	104	105	P/P	80 - 120
2361001	Tin	102	100	P/P	80 - 120
2361001	Titanium	101	101	P/P	80 - 120
2361001	Vanadium	103	101	P/P	80 - 120
2361001	Zinc	99.7	98.0	P/P	80 - 120
2361164	Calcium	103		P	80 - 120
2361164	Iron	105		P	80 - 120
2361164	Magnesium	102		P	80 - 120
2361164	Potassium	102		P	80 - 120
2361164	Sodium	103		P	80 - 120
2361164	Strontium	106		P	80 - 120
2361164	Tin	101		P	80 - 120
2361164	Titanium	106		P	80 - 120
2361164	Vanadium	104		P	80 - 120
2361164	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P420716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361001	Aluminum	93.6	93.3	P/P	80 - 120
2361001	Antimony	106	107	P/P	80 - 120
2361001	Arsenic	99.0	100	P/P	80 - 120
2361001	Barium	106	106	P/P	80 - 120
2361001	Beryllium	92.8	95.2	P/P	80 - 120
2361001	Boron	110	108	P/P	80 - 120
2361001	Cadmium	100	102	P/P	80 - 120
2361001	Chromium	101	102	P/P	80 - 120
2361001	Cobalt	96.5	96.0	P/P	80 - 120
2361001	Copper	95.1	94.7	P/P	80 - 120
2361001	Lead	96.6	97.0	P/P	80 - 120
2361001	Manganese	103	103	P/P	80 - 120
2361001	Molybdenum	101	102	P/P	80 - 120
2361001	Nickel	96.5	96.6	P/P	80 - 120
2361001	Selenium	103	104	P/P	80 - 120
2361001	Silver	102	103	P/P	80 - 120
2361001	Thallium	93.0	95.4	P/P	80 - 120
2361164	Aluminum	93.2		P	80 - 120
2361164	Antimony	104		P	80 - 120
2361164	Arsenic	102		P	80 - 120
2361164	Barium	106		P	80 - 120
2361164	Beryllium	94.9		P	80 - 120
2361164	Boron	108		P	80 - 120
2361164	Cadmium	104		P	80 - 120
2361164	Chromium	104		P	80 - 120
2361164	Cobalt	96.9		P	80 - 120
2361164	Copper	95.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P420716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361164	Lead	97.5		P	80 - 120
2361164	Manganese	102		P	80 - 120
2361164	Molybdenum	103		P	80 - 120
2361164	Nickel	95.3		P	80 - 120
2361164	Selenium	85.4		P	80 - 120
2361164	Silver	101		P	80 - 120
2361164	Thallium	97.2		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361335	Chloride	101		P	90 - 110
2361415	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361335	Sulfate	103		P	90 - 110
2361415	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361337	Ammonia-N	96.6	96.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420982

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2360056	Ammonia-N	101	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361198	Kjeldahl Nitrogen	95.2	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420843

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361337	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361416	Total-P	99.8	99.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P420706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361348	Acesulfame K	109	109	P/P	40 - 150
2361348	AMPA	80.6	82.7	P/P	40 - 150
2361348	Endothall	97.3	98.5	P/P	40 - 150
2361348	Glufosinate	82.6	86.9	P/P	40 - 150
2361348	Glyphosate	98.0	93.4	P/P	40 - 150
2361348	Sucralose	100	104	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P420715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361348	2,4-D	123	105	P/P	40 - 150
2361348	2,4,5-T	81.4	68.8	P/P	40 - 150
2361348	Acetaminophen	107	99.1	P/P	30 - 150
2361348	Acetamiprid	103	95.4	P/P	40 - 150
2361348	Afidopyropen	80.6	75.2	P/P	30 - 150
2361348	Bentazon	102	93.8	P/P	30 - 150
2361348	Benzovindiflupyr	100	89.7	P/P	40 - 150
2361348	Carbamazepine	97.8	93.4	P/P	40 - 150
2361348	Clothianidin	112	101	P/P	40 - 150
2361348	Dinotefuran	124	111	P/P	40 - 150
2361348	Diuron	93.1	85.7	P/P	40 - 150
2361348	Fenuron	116	104	P/P	40 - 150
2361348	Fluridone	109	106	P/P	40 - 150
2361348	Hydrocodone	107	102	P/P	40 - 150
2361348	Ibuprofen	95.1	92.8	P/P	40 - 150
2361348	Imazapyr	137	121	P/P	40 - 150
2361348	Imidacloprid	134	131	P/P	40 - 150
2361348	Linuron	88.5	81.0	P/P	40 - 150
2361348	Mandestrobin	111	95.8	P/P	40 - 150
2361348	MCPP	104	89.4	P/P	40 - 150
2361348	Naproxen	102	87.1	P/P	40 - 150
2361348	Primidone	101	94.0	P/P	40 - 150
2361348	Pyraclostrobin	96.5	90.3	P/P	40 - 150
2361348	Silvex	90.5	78.1	P/P	40 - 150
2361348	Thiamethoxam	119	108	P/P	40 - 150
2361348	Tolfenpyrad	58.8	56.2	P/P	30 - 150
2361348	Triclopyr	86.8	71.0	P/P	40 - 150

Reference Method: SM 5310 B-2011

Batch ID: P420965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2361357	Organic Carbon	95.5	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P420753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361339	Color (true)	2.00	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P420733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361354	Turbidity	1.33	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P420716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361001	Calcium	0.317	Spike	P	0 - 20
2361001	Iron	0.182	Spike	P	0 - 20
2361001	Magnesium	0.549	Spike	P	0 - 20
2361001	Potassium	0.553	Spike	P	0 - 20
2361001	Sodium	0.139	Spike	P	0 - 20
2361001	Strontium	0.899	Spike	P	0 - 20
2361001	Tin	2.03	Spike	P	0 - 20
2361001	Titanium	0.271	Spike	P	0 - 20
2361001	Vanadium	1.82	Spike	P	0 - 20
2361001	Zinc	1.76	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P420716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361001	Aluminum	0.278	Spike	P	0 - 20
2361001	Antimony	0.818	Spike	P	0 - 20
2361001	Arsenic	1.17	Spike	P	0 - 20
2361001	Barium	0.0817	Spike	P	0 - 20
2361001	Beryllium	2.56	Spike	P	0 - 20
2361001	Boron	1.81	Spike	P	0 - 20
2361001	Cadmium	1.69	Spike	P	0 - 20
2361001	Chromium	0.496	Spike	P	0 - 20
2361001	Cobalt	0.521	Spike	P	0 - 20
2361001	Copper	0.357	Spike	P	0 - 20
2361001	Lead	0.490	Spike	P	0 - 20
2361001	Manganese	0.286	Spike	P	0 - 20
2361001	Molybdenum	1.12	Spike	P	0 - 20
2361001	Nickel	0.119	Spike	P	0 - 20
2361001	Selenium	1.00	Spike	P	0 - 20
2361001	Silver	0.222	Spike	P	0 - 20
2361001	Thallium	2.52	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361335	Chloride	0.0942	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P421106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361335	Sulfate	2.03	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361337	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P420982

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2360056	Ammonia-N	0.159	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361198	Kjeldahl Nitrogen	3.48	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P420904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361357	Kjeldahl Nitrogen	2.36	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P420843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361337	NO2NO3-N	0.823	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P420764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361416	Total-P	0.732	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P420706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361348	Acesulfame K	0.773	Spike	P	0 - 30
2361348	AMPA	2.64	Spike	P	0 - 30
2361348	Endothall	1.25	Spike	P	0 - 30
2361348	Glufosinate	5.14	Spike	P	0 - 30
2361348	Glyphosate	4.80	Spike	P	0 - 30
2361348	Sucralose	3.59	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P420715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361348	2,4-D	16.0	Spike	P	0 - 30
2361348	2,4,5-T	16.7	Spike	P	0 - 30
2361348	Acetaminophen	7.70	Spike	P	0 - 30
2361348	Acetamiprid	7.84	Spike	P	0 - 30
2361348	Afidopyropen	7.01	Spike	P	0 - 30
2361348	Bentazon	8.55	Spike	P	0 - 30
2361348	Benzovindiflupyr	11.1	Spike	P	0 - 30
2361348	Carbamazepine	4.60	Spike	P	0 - 30
2361348	Clothianidin	9.80	Spike	P	0 - 30
2361348	Dinotefuran	10.9	Spike	P	0 - 30
2361348	Diuron	8.30	Spike	P	0 - 30
2361348	Fenuron	10.2	Spike	P	0 - 30
2361348	Fluridone	2.33	Spike	P	0 - 30
2361348	Hydrocodone	5.30	Spike	P	0 - 30
2361348	Ibuprofen	2.37	Spike	P	0 - 30
2361348	Imazapyr	13.0	Spike	P	0 - 30
2361348	Imidacloprid	2.17	Spike	P	0 - 30
2361348	Linuron	8.93	Spike	P	0 - 30
2361348	Mandestrobin	14.5	Spike	P	0 - 30
2361348	MCPP	15.3	Spike	P	0 - 30
2361348	Naproxen	15.8	Spike	P	0 - 30
2361348	Primidone	6.89	Spike	P	0 - 30
2361348	Pyraclostrobin	6.64	Spike	P	0 - 30
2361348	Silvex	14.7	Spike	P	0 - 30
2361348	Thiamethoxam	9.70	Spike	P	0 - 30
2361348	Tolfenpyrad	4.46	Spike	P	0 - 30
2361348	Triclopyr	19.9	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P420816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361144	Total Alkalinity	0.663	Sample	P	0 - 3.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P421281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361335	TDS	6.28	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P421277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361335	TSS	5.83	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P420819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361144	Fluoride	0.516	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P420965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2361357	Organic Carbon	0.158	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2361366

Field Sample ID: G1TLHR0157

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.1	P	30 - 160
EPA 8321B	Diuron-d6	66.9	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	105	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.4	P	30 - 160
EPA 8321B	Primidone-d5	94.3	P	30 - 160
EPA 8321B	Sucralose-d6	97.2	P	30 - 160

Lab Sample ID: 2361367

Field Sample ID: G1TLHR0190

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.6	P	30 - 160
EPA 8321B	Diuron-d6	62.5	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	89.6	P	30 - 160
EPA 8321B	Primidone-d5	105	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A115227

Included Lab Sample IDs: 2361354, 2361355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.0	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A115238

Included Lab Sample IDs: 2361354, 2361355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A115264

Included Lab Sample IDs: 2361354, 2361355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.4	96.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A115264

Included Lab Sample IDs: 2361354, 2361355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A115266

Included Lab Sample IDs: 2361366, 2361367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	109	P/P	60 - 160
Endothall	97.5	110	P/P	60 - 160
Glufosinate	93.6	99.4	P/P	60 - 160
Glyphosate	97.7	110	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A115269

Included Lab Sample IDs: 2361356, 2361357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A115275

Included Lab Sample IDs: 2361356, 2361357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.7	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115281

Included Lab Sample IDs: 2361356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	97.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115289

Included Lab Sample IDs: 2361356

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

Reference Method: EPA 8321B

Run ID: A115305

Included Lab Sample IDs: 2361366, 2361367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	121	115	P/P	60 - 160
Sucralose	104	103	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A115327

Included Lab Sample IDs: 2361368, 2361369, 2361370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.4	103	P/P	90 - 110
Iron	99.9	104	P/P	90 - 110
Magnesium	99.4	103	P/P	90 - 110
Potassium	98.2	101	P/P	90 - 110
Sodium	99.0	102	P/P	90 - 110
Strontium	104	105	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	103	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A115332

Included Lab Sample IDs: 2361368, 2361369, 2361370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.1	97.7	P/P	90 - 110
Antimony	97.8	97.8	P/P	90 - 110
Arsenic	97.0	97.4	P/P	90 - 110
Barium	97.9	99.0	P/P	90 - 110
Beryllium	96.6	97.1	P/P	90 - 110
Boron	103	101	P/P	90 - 110
Cadmium	101	99.8	P/P	90 - 110
Chromium	97.5	97.1	P/P	90 - 110
Cobalt	93.9	93.9	P/P	90 - 110
Copper	94.8	94.5	P/P	90 - 110
Lead	93.9	93.7	P/P	90 - 110
Manganese	97.9	98.3	P/P	90 - 110
Molybdenum	99.2	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A115332

Included Lab Sample IDs: 2361368, 2361369, 2361370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	94.4	94.4	P/P	90 - 110
Selenium	98.0	101	P/P	90 - 110
Silver	99.9	100	P/P	90 - 110
Thallium	97.2	96.5	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A115336

Included Lab Sample IDs: 2361356, 2361357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.4	P/P	90 - 110
Organic Carbon	98.1	98.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A115343

Included Lab Sample IDs: 2361366, 2361367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.2	98.2	P/P	50 - 150
2,4-D	98.2	106	P/P	50 - 150
2,4,5-T	111	114	P/P	50 - 150
2,4,5-T	98.3	111	P/P	50 - 150
Acetaminophen	102	98.6	P/P	60 - 160
Acetaminophen	104	102	P/P	60 - 160
Acetamiprid	102	104	P/P	50 - 150
Acetamiprid	104	108	P/P	50 - 150
Afidopyropen	104	114	P/P	50 - 150
Afidopyropen	114	93.3	P/P	50 - 150
Bentazon	100	116	P/P	50 - 160
Bentazon	116	123	P/P	50 - 160
Benzovindiflupyr	112	113	P/P	50 - 150
Benzovindiflupyr	113	111	P/P	50 - 150
Carbamazepine	106	106	P/P	60 - 150
Carbamazepine	106	112	P/P	60 - 150
Clothianidin	109	107	P/P	60 - 150
Clothianidin	110	109	P/P	60 - 150
Dinotefuran	105	105	P/P	50 - 150
Dinotefuran	105	99.5	P/P	50 - 150
Diuron	111	120	P/P	60 - 160
Diuron	120	113	P/P	60 - 160
Fenuron	102	102	P/P	60 - 150
Fenuron	98.6	102	P/P	60 - 150
Fluridone	109	115	P/P	60 - 160
Fluridone	116	109	P/P	60 - 160
Hydrocodone	102	109	P/P	60 - 150
Hydrocodone	98.9	102	P/P	60 - 150
Ibuprofen	106	99.7	P/P	50 - 160
Ibuprofen	99.7	86.2	P/P	50 - 160
Imazapyr	116	118	P/P	50 - 150
Imazapyr	97.8	116	P/P	50 - 150
Imidacloprid	96.4	97.9	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A115343

Included Lab Sample IDs: 2361366, 2361367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	97.9	104	P/P	60 - 150
Linuron	100	110	P/P	60 - 150
Linuron	110	109	P/P	60 - 150
Mandestrobin	112	115	P/P	50 - 150
Mandestrobin	115	111	P/P	50 - 150
MCPP	114	111	P/P	50 - 150
MCPP	99.8	114	P/P	50 - 150
Naproxen	121	142	P/P	50 - 160
Naproxen	98.8	121	P/P	50 - 160
Primidone	104	107	P/P	60 - 150
Primidone	98.5	104	P/P	60 - 150
Pyraclostrobin	105	110	P/P	60 - 150
Pyraclostrobin	110	109	P/P	60 - 150
Silvex	94.6	99.3	P/P	50 - 150
Silvex	99.3	109	P/P	50 - 150
Thiamethoxam	104	111	P/P	50 - 150
Thiamethoxam	97.3	104	P/P	50 - 150
Tolfenpyrad	102	101	P/P	60 - 150
Tolfenpyrad	98.0	102	P/P	60 - 150
Triclopyr	113	122	P/P	50 - 150
Triclopyr	89.4	113	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A115344

Included Lab Sample IDs: 2361357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.5	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A115393

Included Lab Sample IDs: 2361357

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.3	94.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A115395

Included Lab Sample IDs: 2361354, 2361355

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	97.0	P/P	90 - 110
Sulfate	101	98.4	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
DEP SOP: NU-094-1	Color (true)	101					2.00	
EPA 180.1 Rev. 2.0	Turbidity	99.8					1.33	
EPA 200.7 Rev. 4.4	Calcium	105	104	103				0.317
	Iron	107	106	107	105			0.182
	Magnesium	107	105	106	102			0.549
	Potassium	105	105	105	102			0.553
	Sodium	108	108	108	103			0.139
	Strontium	106	104	105	106			0.899
	Tin	103	102	100	101			2.03
	Titanium	103	101	101	106			0.271
	Vanadium	102	103	101	104			1.82
	Zinc	101	99.7	98.0	100			1.76
EPA 200.8 Rev. 5.4	Aluminum	97.6	93.6	93.3	93.2			0.278
	Antimony	104	106	107	104			0.818
	Arsenic	98.7	99.0	100	102			1.17
	Barium	103	106	106	106			0.0817
	Beryllium	92.8	92.8	95.2	94.9			2.56
	Boron	109	110	108	108			1.81
	Cadmium	101	100	102	104			1.69
	Chromium	101	101	102	104			0.496
	Cobalt	96.8	96.5	96.0	96.9			0.521
	Copper	96.4	95.1	94.7	95.6			0.357
	Lead	95.0	96.6	97.0	97.5			0.490
	Manganese	101	103	103	102			0.286
	Molybdenum	98.4	101	102	103			1.12
	Nickel	97.1	96.5	96.6	95.3			0.119
	Selenium	100	103	104	85.4			1.00
	Silver	101	102	103	101			0.222
	Thallium	91.2	93.0	95.4	97.2			2.52
EPA 300.0 Rev. 2.1	Chloride	103	101	101			0.0942	
	Sulfate	105	103	101			2.03	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	96.6	96.6				0.0
	Ammonia-N	94.8	101	101				0.159
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	95.2	99.4				3.48
	Kjeldahl Nitrogen	97.3						2.36
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	101				0.823
EPA 365.1 Rev. 2.0	Total-P	98.7	99.8	99.0				0.732
EPA 8321B	2,4-D	98.8	123	105				16.0
	2,4,5-T	75.2	81.4	68.8				16.7
	Acesulfame K	121	109	109				0.773
	Acetaminophen	99.3	107	99.1				7.70
	Acetamiprid	98.1	103	95.4				7.84
	Afidopyropen	75.2	80.6	75.2				7.01
	AMPA	99.8	80.6	82.7				2.64
	Bentazon	109	102	93.8				8.55
	Benzovindiflupyr	93.0	100	89.7				11.1
	Carbamazepine	96.7	97.8	93.4				4.60
	Clothianidin	105	112	101				9.80
	Dinotefuran	110	124	111				10.9
	Diuron	89.5	93.1	85.7				8.30
	Endothall	96.5	97.3	98.5				1.25
	Fenuron	113	116	104				10.2
	Fluridone	112	109	106				2.33
	Glufosinate	103	82.6	86.9				5.14

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Glyphosate	103	98.0	93.4		4.80
	Hydrocodone	102	107	102		5.30
	Ibuprofen	127	95.1	92.8		2.37
	Imazapyr	123	137	121		13.0
	Imidacloprid	116	134	131		2.17
	Linuron	84.8	88.5	81.0		8.93
	Mandestrobin	103	111	95.8		14.5
	MCP	94.9	104	89.4		15.3
	Naproxen	86.6	102	87.1		15.8
	Primidone	95.6	101	94.0		6.89
	Pyraclostrobin	90.2	96.5	90.3		6.64
	Silvex	80.3	90.5	78.1		14.7
	Sucralose	106	100	104		3.59
	Thiamethoxam	109	119	108		9.70
	Tolfenpyrad	46.1	58.8	56.2		4.46
	Triclopyr	79.0	86.8	71.0		19.9
SM 2320 B-2011	Total Alkalinity	97.7			0.663	
SM 2540 C-2015	TDS	101			6.28	
SM 2540 D-2015	TSS	99.8			5.83	
SM 4500-F- C-2011	Fluoride	101				0.516
SM 5310 B-2011	Organic Carbon	96.0	95.5	95.3		0.158

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2361354, 2361355
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2361354, 2361355
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2361368, 2361369, 2361370
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2361368, 2361369, 2361370
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2361354, 2361355
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2361354, 2361355
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2361356, 2361357
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2361356, 2361357
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2361356, 2361357
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2361356, 2361357
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2361366, 2361367
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2361354, 2361355
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2361368, 2361369, 2361370
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2361354, 2361355
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2361354, 2361355
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2361354, 2361355
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2361356, 2361357

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	10/10/2022			10/11/2022 15:49	Anna M. Plaviak	2361354, 2361355
EPA 180.1 Rev. 2.0	10/10/2022			10/11/2022 13:21	Chandler E Cox	2361354
	10/10/2022			10/11/2022 13:27	Chandler E Cox	2361355
EPA 200.7 Rev. 4.4	10/10/2022	10/11/2022 11:50	George D Taylor	10/15/2022 04:05	McKinley C Carter	2361368
	10/10/2022	10/11/2022 11:50	George D Taylor	10/15/2022 04:13	McKinley C Carter	2361369
	10/10/2022	10/11/2022 11:50	George D Taylor	10/15/2022 04:21	McKinley C Carter	2361370
EPA 200.8 Rev. 5.4	10/10/2022	10/11/2022 11:50	George D Taylor	10/14/2022 23:14	Emily M Philpot	2361368
	10/10/2022	10/11/2022 11:50	George D Taylor	10/14/2022 23:23	Emily M Philpot	2361369
	10/10/2022	10/11/2022 11:50	George D Taylor	10/14/2022 23:33	Emily M Philpot	2361370
EPA 300.0 Rev. 2.1	10/10/2022			10/19/2022 11:03	Anna M. Plaviak	2361354
	10/10/2022			10/19/2022 11:19	Anna M. Plaviak	2361355
EPA 350.1 Rev. 2.0	10/10/2022			10/13/2022 15:16	Judith K. Clark	2361356
	10/10/2022			10/17/2022 12:36	Judith K. Clark	2361357
EPA 351.2 Rev. 2.0	10/10/2022	10/12/2022 12:56	Samantha L Bates	10/13/2022 10:57	Samantha L Bates	2361356
	10/10/2022	10/14/2022 09:10	Simonne.V. Calhoun	10/19/2022 11:58	Samantha L Bates	2361357
EPA 353.2 Rev. 2.0	10/10/2022			10/13/2022 09:12	Beverly Y. Sanders	2361356
	10/10/2022			10/13/2022 09:14	Beverly Y. Sanders	2361357
EPA 365.1 Rev. 2.0	10/10/2022	10/12/2022 14:20	Simonne.V. Calhoun	10/13/2022 10:36	Simonne.V. Calhoun	2361356
	10/10/2022	10/12/2022 14:20	Simonne.V. Calhoun	10/13/2022 10:38	Simonne.V. Calhoun	2361357
EPA 8321B	10/10/2022	10/12/2022 10:00	Umesh Chiluwal	10/12/2022 11:32	Umesh Chiluwal	2361366
	10/10/2022	10/12/2022 10:00	Umesh Chiluwal	10/12/2022 11:45	Umesh Chiluwal	2361367
	10/10/2022	10/12/2022 10:00	Umesh Chiluwal	10/13/2022 12:13	Umesh Chiluwal	2361366
	10/10/2022	10/12/2022 10:00	Umesh Chiluwal	10/13/2022 12:28	Umesh Chiluwal	2361367
	10/10/2022	10/13/2022 10:30	June Rhew	10/14/2022 13:53	Juyoung Kim	2361366
	10/10/2022	10/13/2022 10:30	June Rhew	10/14/2022 14:35	Juyoung Kim	2361367
	10/10/2022	10/13/2022 10:30	June Rhew	10/17/2022 10:17	Juyoung Kim	2361367
SM 2320 B-2011	10/10/2022			10/12/2022 21:03	Adam P Silver	2361354
	10/10/2022			10/12/2022 21:14	Adam P Silver	2361355
SM 2340 B-2011	10/10/2022			10/15/2022 04:05	McKinley C Carter	2361368
	10/10/2022			10/15/2022 04:13	McKinley C Carter	2361369
	10/10/2022			10/15/2022 04:21	McKinley C Carter	2361370
SM 2540 C-2015	10/10/2022			10/13/2022 16:08	Yijie Li	2361354, 2361355
SM 2540 D-2015	10/10/2022			10/13/2022 16:08	Yijie Li	2361354, 2361355
SM 4500-F- C-2011	10/10/2022			10/12/2022 21:03	Adam P Silver	2361354
	10/10/2022			10/12/2022 21:14	Adam P Silver	2361355
SM 5310 B-2011	10/10/2022			10/13/2022 14:36	Khloe J Berg	2361357
	10/10/2022			10/13/2022 20:28	Khloe J Berg	2361356