

Chemical Analysis Report

SE-DIST-2024-02-16-01

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

Event Description: **SMP - Roebuck**
Request ID: **RQ-2024-02-12-08**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

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Certified by: Marek Topolski, Environmental Specialist III

Date Certified: 12-MAR-2024 12:53

A handwritten signature in black ink, appearing to read "Marek Topolski", with a stylized, flowing script.

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: ROEBUCK CREEK AT LOCKS

Collection Date/Time: 02/15/2024 11:45

Field ID: G2SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469497	DEP SOP: NU-094-1	Color (true)	34		PCU	P441566	
	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P441585	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P442057	
		Sulfate	14		mg SO4/L	P442061	
	SM 2320 B-2011	Total Alkalinity	249		mg CaCO3/L	P441938	
	SM 2540 C-2015	TDS	425		mg/L	P441984	
	SM 2540 D-2015	TSS	3	I	mg/L	P441934	
	SM 4500-F- C-2011	Fluoride	0.25		mg F/L	P441941	
2469498	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P441753	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P441812	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.095		mg N/L	P441777	
	EPA 365.1 Rev. 2.0	Total-P	0.33		mg P/L	P441786	
	SM 5310 B-2014	Organic Carbon	10		mg C/L	P442108	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: ST LUCIE CANAL NEAR I 95

Collection Date/Time: 02/15/2024 12:45

Field ID: G2SE0077

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469499	DEP SOP: NU-094-1	Color (true)	48		PCU	P441566	
	EPA 180.1 Rev. 2.0	Turbidity	4.6		NTU	P441585	
	EPA 300.0 Rev. 2.1	Chloride	2.6E+03		mg Cl/L	P442239	
		Sulfate	390		mg SO4/L	P442061	
	SM 2320 B-2011	Total Alkalinity	193		mg CaCO3/L	P441938	
	SM 2540 C-2015	TDS	4.34E+03		mg/L	P441984	
	SM 2540 D-2015	TSS	8	I	mg/L	P441934	
2469500	SM 4500-F- C-2011	Fluoride	0.37		mg F/L	P441941	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P441754	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P441813	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.083		mg N/L	P441909	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P441660	
2469518	SM 5310 B-2014	Organic Carbon	12		mg C/L	P442108	
	EPA 8321B	2,4-D	0.083		ug/L	P441664	
		Acesulfame K	0.10	U	ug/L	P441572	
		2,4,5-T	0.0040	U	ug/L	P441664	
		AMPA	0.11	I	ug/L	P441572	
		Acetaminophen	0.0080	U	ug/L	P441664	
		Acetamiprid	0.0020	U	ug/L	P441664	
		Endothall	0.25	U	ug/L	P441572	
		Glufosinate	0.10	U	ug/L	P441572	
		Glyphosate	0.15	I	ug/L	P441572	
		Afidopyropen	0.0020	U	ug/L	P441664	
		Bentazon	0.020		ug/L	P441664	
		Sucralose	0.069		ug/L	P441572	
		Benzovindiflupyr	0.0020	U	ug/L	P441664	
		Carbamazepine	8.0E-04	U	ug/L	P441664	
		Clothianidin	0.0020	U	ug/L	P441664	
		Dinotefuran	0.0039	I	ug/L	P441664	
		Diuron	0.0023	I	ug/L	P441664	
		Fenuron	0.032	U	ug/L	P441664	
		Fluridone	0.0059		ug/L	P441664	
		Imazapyr	0.12		ug/L	P441664	
		Hydrocodone	0.0020	U	ug/L	P441664	
		Ibuprofen	0.080	U	ug/L	P441664	
		Imidacloprid	0.0050	I	ug/L	P441664	
		Linuron	0.0040	U	ug/L	P441664	
		Mandestrobin	0.0020	U	ug/L	P441664	
		MCPP	0.0020	U	ug/L	P441664	
		Naproxen	0.0080	U	ug/L	P441664	
		Primidone	0.0040	U	ug/L	P441664	
		Pyraclostrobin	0.0020	U	ug/L	P441664	
		Silvex	0.0040	U	ug/L	P441664	
		Thiamethoxam	0.0020	U	ug/L	P441664	

Field ID: G2SE0077

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2469518	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P441664	
		Triclopyr	0.0040	U	ug/L	P441664	
2469528	EPA 200.7 Rev. 4.4	Calcium	136		mg/L	P441649	
		Iron	190		ug/L	P441649	
		Magnesium	183		mg/L	P441649	
		Potassium	55		mg/L	P441649	
		Sodium	1.44E+03		mg/L	P441649	
		Strontium	1.56E+03		ug/L	P441649	
		Tin	30	U	ug/L	P441649	
		Titanium	7.5	U	ug/L	P441649	
		Vanadium	20	U	ug/L	P441649	
		Zinc	50	U	ug/L	P441649	
	EPA 200.8 Rev. 5.4	Aluminum	119		ug/L	P441649	
		Antimony	0.091	I	ug/L	P441649	
		Arsenic	1.45		ug/L	P441649	
		Barium	22.3		ug/L	P441649	
		Beryllium	0.013	I	ug/L	P441649	
		Boron	581		ug/L	P441649	
		Cadmium	0.020	U	ug/L	P441649	
		Chromium	0.74	I	ug/L	P441649	
		Cobalt	0.10		ug/L	P441649	
		Copper	2.53		ug/L	P441649	
		Lead	0.80	U	ug/L	P441649	
		Manganese	15.8		ug/L	P441649	
		Molybdenum	3.13		ug/L	P441649	
		Nickel	0.54	I	ug/L	P441649	
		Selenium	0.20	U	ug/L	P441649	
		Silver	0.010	U	ug/L	P441649	
		Thallium	0.40	U	ug/L	P441649	
	SM 2340 B-2011	Hardness	1.09E+03		mg/L	P441649	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P441566

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

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: P441649

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: P442057

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: P442061

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442239

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441813

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441909

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441660

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441786

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

Reference Method: EPA 8321B
Batch ID: P441572

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: P441664

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	0.080	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: P441938

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P441934

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P442108

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: P441566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	113		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	105		P	85 - 115
Sodium	106		P	85 - 115
Strontium	103		P	85 - 115
Tin	99.1		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	101		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.5		P	85 - 115
Antimony	99.9		P	85 - 115
Arsenic	98.4		P	85 - 115
Barium	101		P	85 - 115
Beryllium	93.6		P	85 - 115
Boron	97.0		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	97.9		P	85 - 115
Copper	95.9		P	85 - 115
Lead	92.7		P	85 - 115
Manganese	97.9		P	85 - 115
Molybdenum	97.4		P	85 - 115
Nickel	97.6		P	85 - 115
Selenium	99.0		P	85 - 115
Silver	96.3		P	85 - 115
Thallium	95.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442057

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442239

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441813

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441909

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441660

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.9		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P441572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	124		P	40 - 150
AMPA	103		P	40 - 160
Endothall	87.1		P	40 - 160
Glufosinate	90.3		P	40 - 160
Glyphosate	99.3		P	40 - 160
Sucralose	98.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P441664

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
2,4,5-T	98.6		P	40 - 150
Acetaminophen	81.5		P	30 - 150
Acetamiprid	73.9		P	40 - 150
Afidopyropen	58.5		P	30 - 150
Bentazon	103		P	30 - 150
Benzovindiflupyr	82.2		P	40 - 150
Carbamazepine	84.4		P	40 - 150
Clothianidin	88.0		P	40 - 150
Dinotefuran	97.3		P	40 - 150
Diuron	88.5		P	40 - 150
Fenuron	91.1		P	40 - 150
Fluridone	92.9		P	40 - 150
Hydrocodone	88.2		P	40 - 150
Ibuprofen	63.5		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	87.7		P	40 - 150
Linuron	84.9		P	40 - 150
Mandestrobin	75.9		P	40 - 150
MCPP	90.2		P	40 - 150
Naproxen	101		P	40 - 150
Primidone	82.9		P	40 - 150
Pyraclostrobin	82.4		P	40 - 150
Silvex	100		P	40 - 150
Thiamethoxam	86.7		P	40 - 150
Tolfenpyrad	51.2		P	30 - 150
Triclopyr	103		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P441938

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P441984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.8		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P441934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	92.0		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

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

Reference Method: SM 5310 B-2014
Batch ID: P442108

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469594	Calcium	102		P	80 - 120
2469594	Iron	111	110	P/P	80 - 120
2469594	Magnesium	109	108	P/P	80 - 120
2469594	Potassium	103	101	P/P	80 - 120
2469594	Sodium	104		P	80 - 120
2469594	Strontium	100	101	P/P	80 - 120
2469594	Tin	94.4	94.2	P/P	80 - 120
2469594	Titanium	98.0	99.1	P/P	80 - 120
2469594	Vanadium	100	99.4	P/P	80 - 120
2469594	Zinc	99.6	100	P/P	80 - 120
2469641	Calcium	99.8		P	80 - 120
2469641	Iron	110		P	80 - 120
2469641	Magnesium	103		P	80 - 120
2469641	Potassium	102		P	80 - 120
2469641	Sodium	102		P	80 - 120
2469641	Strontium	99.3		P	80 - 120
2469641	Tin	95.2		P	80 - 120
2469641	Titanium	97.9		P	80 - 120
2469641	Vanadium	99.3		P	80 - 120
2469641	Zinc	97.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469594	Aluminum	94.5	94.8	P/P	80 - 120
2469594	Antimony	99.3	99.2	P/P	80 - 120
2469594	Arsenic	97.1	96.9	P/P	80 - 120
2469594	Barium	99.0	98.3	P/P	80 - 120
2469594	Beryllium	96.7	95.3	P/P	80 - 120
2469594	Boron	96.7	99.0	P/P	80 - 120
2469594	Cadmium	98.2	97.2	P/P	80 - 120
2469594	Chromium	101	99.8	P/P	80 - 120
2469594	Cobalt	97.1	95.7	P/P	80 - 120
2469594	Copper	94.3	93.2	P/P	80 - 120
2469594	Lead	93.1	92.3	P/P	80 - 120
2469594	Manganese	94.9	94.0	P/P	80 - 120
2469594	Molybdenum	98.1	97.3	P/P	80 - 120
2469594	Nickel	96.9	95.6	P/P	80 - 120
2469594	Selenium	97.6	97.8	P/P	80 - 120
2469594	Silver	91.9	92.1	P/P	80 - 120
2469594	Thallium	97.9	97.3	P/P	80 - 120
2469641	Aluminum	97.0		P	80 - 120
2469641	Antimony	99.6		P	80 - 120
2469641	Arsenic	96.9		P	80 - 120
2469641	Barium	97.9		P	80 - 120
2469641	Beryllium	89.7		P	80 - 120
2469641	Boron	98.0		P	80 - 120
2469641	Cadmium	94.9		P	80 - 120
2469641	Chromium	103		P	80 - 120
2469641	Cobalt	96.5		P	80 - 120
2469641	Copper	94.1		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469641	Lead	91.3		P	80 - 120
2469641	Manganese	90.5		P	80 - 120
2469641	Molybdenum	96.3		P	80 - 120
2469641	Nickel	96.3		P	80 - 120
2469641	Selenium	99.5		P	80 - 120
2469641	Silver	90.6		P	80 - 120
2469641	Thallium	96.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469588	Chloride	103		P	90 - 110
2469797	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469588	Sulfate	104		P	90 - 110
2469797	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2471010	Chloride	99.1		P	90 - 110
2471193	Chloride	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469332	Ammonia-N	95.4	96.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469409	Ammonia-N	97.2	98.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469398	Kjeldahl Nitrogen	99.3	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469979	Kjeldahl Nitrogen	108	108	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469926	NO2NO3-N	97.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469500	NO2NO3-N	98.8	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469472	Total-P	95.5	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2470382	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P441572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469167	Acesulfame K	122	124	P/P	40 - 150
2469167	AMPA	101	103	P/P	40 - 160
2469167	Endothall	93.4	94.0	P/P	40 - 160
2469167	Glufosinate	88.5	88.6	P/P	40 - 160
2469167	Glyphosate	97.9	95.9	P/P	40 - 160
2469167	Sucralose	102	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P441664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469574	2,4-D	71.9	73.9	P/P	40 - 150
2469574	2,4,5-T	75.2	74.6	P/P	40 - 150
2469574	Acetaminophen	62.4	73.0	P/P	30 - 150
2469574	Acetamiprid	43.8	50.3	P/P	40 - 150
2469574	Afidopyropen	56.1	57.8	P/P	30 - 150
2469574	Bentazon	51.7	51.6	P/P	30 - 150
2469574	Benzovindiflupyr	85.4	79.7	P/P	40 - 150
2469574	Carbamazepine	67.9	64.4	P/P	40 - 150
2469574	Clothianidin	61.2	61.3	P/P	40 - 150
2469574	Dinotefuran	53.4	61.5	P/P	40 - 150
2469574	Diuron	65.2	65.5	P/P	40 - 150
2469574	Fenuron	53.4	54.4	P/P	40 - 150
2469574	Fluridone	76.4	71.1	P/P	40 - 150
2469574	Hydrocodone	52.1	54.8	P/P	40 - 150
2469574	Ibuprofen	65.8	59.0	P/P	40 - 150
2469574	Imazapyr	95.5	87.2	P/P	40 - 150
2469574	Imidacloprid	67.1	68.1	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P441664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469574	Linuron	71.2	67.3	P/P	40 - 150
2469574	Mandestrobin	78.8	75.0	P/P	40 - 150
2469574	MCPP	75.0	70.0	P/P	40 - 150
2469574	Naproxen	89.5	76.3	P/P	40 - 150
2469574	Primidone	72.5	75.2	P/P	40 - 150
2469574	Pyraclostrobin	82.5	78.4	P/P	40 - 150
2469574	Silvex	79.0	77.2	P/P	40 - 150
2469574	Thiamethoxam	53.3	55.4	P/P	40 - 150
2469574	Tolfenpyrad	46.4	51.1	P/P	30 - 150
2469574	Triclopyr	75.0	74.2	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469160	Fluoride	101	101	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P442108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2469266	Organic Carbon	98.7	99.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P441566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469447	Color (true)	6.16	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P441585

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469407	Turbidity	1.62	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P441649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469594	Calcium	0.150	Spike	P	0 - 20
2469594	Iron	0.329	Spike	P	0 - 20
2469594	Magnesium	0.607	Spike	P	0 - 20
2469594	Potassium	0.968	Spike	P	0 - 20
2469594	Sodium	0.113	Spike	P	0 - 20
2469594	Strontium	0.539	Spike	P	0 - 20
2469594	Tin	0.191	Spike	P	0 - 20
2469594	Titanium	1.05	Spike	P	0 - 20
2469594	Vanadium	0.612	Spike	P	0 - 20
2469594	Zinc	0.803	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P441649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469594	Aluminum	0.347	Spike	P	0 - 20
2469594	Antimony	0.0518	Spike	P	0 - 20
2469594	Arsenic	0.156	Spike	P	0 - 20
2469594	Barium	0.607	Spike	P	0 - 20
2469594	Beryllium	1.46	Spike	P	0 - 20
2469594	Boron	1.92	Spike	P	0 - 20
2469594	Cadmium	0.980	Spike	P	0 - 20
2469594	Chromium	1.10	Spike	P	0 - 20
2469594	Cobalt	1.44	Spike	P	0 - 20
2469594	Copper	1.18	Spike	P	0 - 20
2469594	Lead	0.910	Spike	P	0 - 20
2469594	Manganese	0.824	Spike	P	0 - 20
2469594	Molybdenum	0.779	Spike	P	0 - 20
2469594	Nickel	1.31	Spike	P	0 - 20
2469594	Selenium	0.183	Spike	P	0 - 20
2469594	Silver	0.147	Spike	P	0 - 20
2469594	Thallium	0.644	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469588	Chloride	0.947	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469588	Sulfate	1.62	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P442239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2471010	Chloride	0.498	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469332	Ammonia-N	0.974	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P441754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469409	Ammonia-N	0.638	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469398	Kjeldahl Nitrogen	3.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P441813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469979	Kjeldahl Nitrogen	0.0519	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441777

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469926	NO2NO3-N	0.837	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P441909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469500	NO2NO3-N	0.355	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469472	Total-P	2.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P441786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2470382	Total-P	0.348	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P441572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469167	Acesulfame K	2.03	Spike	P	0 - 30
2469167	AMPA	1.84	Spike	P	0 - 30
2469167	Endothall	0.677	Spike	P	0 - 30
2469167	Glufosinate	0.169	Spike	P	0 - 30
2469167	Glyphosate	2.08	Spike	P	0 - 30
2469167	Sucralose	3.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P441664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469574	2,4-D	2.74	Spike	P	0 - 30
2469574	2,4,5-T	0.775	Spike	P	0 - 30
2469574	Acetaminophen	15.7	Spike	P	0 - 30
2469574	Acetamiprid	13.9	Spike	P	0 - 30
2469574	Afidopyropen	3.01	Spike	P	0 - 30
2469574	Bentazon	0.184	Spike	P	0 - 30
2469574	Benzovindiflupyr	6.87	Spike	P	0 - 30
2469574	Carbamazepine	5.28	Spike	P	0 - 30
2469574	Clothianidin	0.270	Spike	P	0 - 30
2469574	Dinotefuran	14.2	Spike	P	0 - 30
2469574	Diuron	0.519	Spike	P	0 - 30
2469574	Fenuron	1.83	Spike	P	0 - 30
2469574	Fluridone	7.22	Spike	P	0 - 30
2469574	Hydrocodone	4.96	Spike	P	0 - 30
2469574	Ibuprofen	11.0	Spike	P	0 - 30
2469574	Imazapyr	7.22	Spike	P	0 - 30
2469574	Imidacloprid	1.49	Spike	P	0 - 30
2469574	Linuron	5.58	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P441664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469574	Mandestrobin	4.87	Spike	P	0 - 30
2469574	MCP	6.92	Spike	P	0 - 30
2469574	Naproxen	16.0	Spike	P	0 - 30
2469574	Primidone	3.64	Spike	P	0 - 30
2469574	Pyraclostrobin	5.06	Spike	P	0 - 30
2469574	Silvex	2.39	Spike	P	0 - 30
2469574	Thiamethoxam	3.72	Spike	P	0 - 30
2469574	Tolfenpyrad	9.71	Spike	P	0 - 30
2469574	Triclopyr	1.11	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P441938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469160	Total Alkalinity	0.513	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P441984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469447	TDS	7.18	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P441941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469160	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P442108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2469266	Organic Carbon	0.386	Spike	P	0 - 15

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2469518
Field Sample ID: G2SE0077

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.1	P	30 - 160
EPA 8321B	Diuron-d6	77.6	P	30 - 160
EPA 8321B	Endothall-d6	87.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	66.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.0	P	30 - 160
EPA 8321B	Primidone-d5	89.7	P	30 - 160
EPA 8321B	Sucralose-d6	50.3	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A124220
Included Lab Sample IDs: 2469497, 2469499

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.0	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A124226
Included Lab Sample IDs: 2469497, 2469499

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: A124275
Included Lab Sample IDs: 2469500

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.2	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A124278
Included Lab Sample IDs: 2469518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	130	148	P/P	60 - 160
Sucralose	102	107	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A124279
Included Lab Sample IDs: 2469518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	99.1	P/P	60 - 160
Endothall	87.0	84.8	P/P	60 - 160
Glufosinate	79.3	88.2	P/P	60 - 160
Glyphosate	89.2	97.7	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A124297
Included Lab Sample IDs: 2469498, 2469500

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.9	P/P	90 - 110
Ammonia-N	98.9	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A124313
Included Lab Sample IDs: 2469528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.0	98.6	P/P	90 - 110
Antimony	96.1	96.4	P/P	90 - 110
Arsenic	93.0	93.1	P/P	90 - 110
Barium	96.3	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A124313

Included Lab Sample IDs: 2469528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	95.7	94.1	P/P	90 - 110
Boron	96.3	98.8	P/P	90 - 110
Cadmium	94.5	94.0	P/P	90 - 110
Chromium	93.6	95.1	P/P	90 - 110
Cobalt	91.4	91.9	P/P	90 - 110
Copper	90.8	92.4	P/P	90 - 110
Lead	90.1	90.2	P/P	90 - 110
Manganese	93.2	90.4	P/P	90 - 110
Molybdenum	94.4	94.2	P/P	90 - 110
Nickel	91.6	91.2	P/P	90 - 110
Selenium	96.7	96.4	P/P	90 - 110
Silver	94.5	94.3	P/P	90 - 110
Thallium	94.8	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124314

Included Lab Sample IDs: 2469498

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A124328

Included Lab Sample IDs: 2469498

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.4	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A124355

Included Lab Sample IDs: 2469498, 2469500

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A124369

Included Lab Sample IDs: 2469500

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

Reference Method: SM 2320 B-2011

Run ID: A124375

Included Lab Sample IDs: 2469497, 2469499

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.8	96.0	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500-F- C-2011
Run ID: A124375
Included Lab Sample IDs: 2469497, 2469499

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A124439
Included Lab Sample IDs: 2469497, 2469499

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

Reference Method: SM 5310 B-2014
Run ID: A124459
Included Lab Sample IDs: 2469498, 2469500

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	119	97.0	P/P	70 - 130

Reference Method: EPA 8321B
Run ID: A124488
Included Lab Sample IDs: 2469518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	114	110	P/P	50 - 150
2,4,5-T	97.4	114	P/P	50 - 150
Acetaminophen	106	106	P/P	60 - 160
Acetamiprid	112	113	P/P	50 - 150
Afidopyropen	121	106	P/P	50 - 150
Bentazon	111	112	P/P	50 - 160
Benzovindiflupyr	103	105	P/P	50 - 150
Carbamazepine	112	120	P/P	60 - 150
Clothianidin	105	104	P/P	60 - 150
Dinotefuran	110	110	P/P	50 - 150
Diuron	111	126	P/P	60 - 160
Fenuron	108	108	P/P	60 - 150
Fluridone	113	116	P/P	60 - 160
Hydrocodone	105	106	P/P	60 - 150
Ibuprofen	99.3	148	P/P	50 - 160
Imazapyr	108	99.3	P/P	50 - 150
Imidacloprid	105	105	P/P	60 - 150
Linuron	98.4	101	P/P	60 - 150
Mandestrobin	96.5	103	P/P	50 - 150
MCPP	96.2	90.8	P/P	50 - 150
Naproxen	104	91.3	P/P	50 - 160
Primidone	102	103	P/P	60 - 150
Pyraclostrobin	114	111	P/P	60 - 150
Silvex	119	105	P/P	50 - 150
Thiamethoxam	109	111	P/P	50 - 150
Tolfenpyrad	95.4	109	P/P	60 - 150
Triclopyr	98.5	90.9	P/P	50 - 150

Quality Assurance Report

Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A124583

Included Lab Sample IDs: 2469528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Magnesium	101	100	P/P	90 - 110
Potassium	102	103	P/P	90 - 110
Sodium	102	103	P/P	90 - 110
Strontium	102	102	P/P	90 - 110
Tin	100	99.4	P/P	90 - 110
Titanium	99.0	98.6	P/P	90 - 110
Vanadium	100	99.6	P/P	90 - 110
Zinc	102	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	99.0				6.16	
EPA 180.1 Rev. 2.0	Turbidity	103				1.62	
EPA 200.7 Rev. 4.4	Calcium	107	102	99.8			0.150
	Iron	113	111	110	110		0.329
	Magnesium	113	109	108	103		0.607
	Potassium	105	103	101	102		0.968
	Sodium	106	104	102			0.113
	Strontium	103	100	101	99.3		0.539
	Tin	99.1	94.4	94.2	95.2		0.191
	Titanium	102	98.0	99.1	97.9		1.05
	Vanadium	101	100	99.4	99.3		0.612
	Zinc	102	99.6	100	97.0		0.803
EPA 200.8 Rev. 5.4	Aluminum	97.5	94.5	94.8	97.0		0.347
	Antimony	99.9	99.3	99.2	99.6		0.0518
	Arsenic	98.4	97.1	96.9	96.9		0.156
	Barium	101	99.0	98.3	97.9		0.607
	Beryllium	93.6	96.7	95.3	89.7		1.46
	Boron	97.0	96.7	99.0	98.0		1.92
	Cadmium	99.4	98.2	97.2	94.9		0.980
	Chromium	102	101	99.8	103		1.10
	Cobalt	97.9	97.1	95.7	96.5		1.44
	Copper	95.9	94.3	93.2	94.1		1.18
	Lead	92.7	93.1	92.3	91.3		0.910
	Manganese	97.9	94.9	94.0	90.5		0.824
	Molybdenum	97.4	98.1	97.3	96.3		0.779
	Nickel	97.6	96.9	95.6	96.3		1.31
	Selenium	99.0	97.6	97.8	99.5		0.183
	Silver	96.3	91.9	92.1	90.6		0.147
	Thallium	95.8	97.9	97.3	96.6		0.644
EPA 300.0 Rev. 2.1	Chloride	105	103	105		0.947	
	Chloride	105	99.1	104		0.498	
	Sulfate	104	104	104		1.62	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	95.4	96.8			0.974
	Ammonia-N	96.6	97.2	98.0			0.638
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	99.3	104			3.00
	Kjeldahl Nitrogen	102	108	108			0.0519
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.0	98.0			0.837
	NO2NO3-N	99.5	98.8	99.3			0.355
EPA 365.1 Rev. 2.0	Total-P	101	95.5	97.5			2.05
	Total-P	97.9	102	102			0.348
EPA 8321B	2,4-D	111	71.9	73.9			2.74
	2,4,5-T	98.6	75.2	74.6			0.775
	Acesulfame K	124	122	124			2.03
	Acetaminophen	81.5	62.4	73.0			15.7
	Acetamiprid	73.9	43.8	50.3			13.9
	Afidopyropen	58.5	56.1	57.8			3.01
	AMPA	103	101	103			1.84
	Bentazon	103	51.7	51.6			0.184
	Benzovindiflupyr	82.2	85.4	79.7			6.87
	Carbamazepine	84.4	67.9	64.4			5.28
	Clothianidin	88.0	61.2	61.3			0.270
	Dinotefuran	97.3	53.4	61.5			14.2
	Diuron	88.5	65.2	65.5			0.519
	Endothall	87.1	93.4	94.0			0.677

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Fenuron	91.1	53.4	54.4			1.83
	Fluridone	92.9	76.4	71.1			7.22
	Glufosinate	90.3	88.5	88.6			0.169
	Glyphosate	99.3	97.9	95.9			2.08
	Hydrocodone	88.2	52.1	54.8			4.96
	Ibuprofen	63.5	65.8	59.0			11.0
	Imazapyr	101	95.5	87.2			7.22
	Imidacloprid	87.7	67.1	68.1			1.49
	Linuron	84.9	71.2	67.3			5.58
	Mandestrobin	75.9	78.8	75.0			4.87
	MCPP	90.2	75.0	70.0			6.92
	Naproxen	101	89.5	76.3			16.0
	Primidone	82.9	72.5	75.2			3.64
	Pyraclostrobin	82.4	82.5	78.4			5.06
	Silvex	100	79.0	77.2			2.39
	Sucralose	98.4	102	106			3.62
	Thiamethoxam	86.7	53.3	55.4			3.72
	Tolfenpyrad	51.2	46.4	51.1			9.71
	Triclopyr	103	75.0	74.2			1.11
SM 2320 B-2011	Total Alkalinity	100				0.513	
SM 2540 C-2015	TDS	92.8				7.18	
SM 2540 D-2015	TSS	92.0					
SM 4500-F- C-2011	Fluoride	101	101	101			0.0
SM 5310 B-2014	Organic Carbon	94.9	98.7	99.1			0.386

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2469497, 2469499
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2469497, 2469499
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2469528
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2469528
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2469497, 2469499
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2469497, 2469499
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2469498, 2469500
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2469498, 2469500
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2469498, 2469500
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2469498, 2469500
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2469518
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2469497, 2469499
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2469528
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2469497, 2469499
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2469497, 2469499
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2469497, 2469499
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2469498, 2469500

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	02/16/2024			02/16/2024 12:43	Jessica K Wilks	2469497
	02/16/2024			02/16/2024 12:44	Jessica K Wilks	2469499
EPA 180.1 Rev. 2.0	02/16/2024			02/16/2024 14:33	Khloe J Berg	2469497
	02/16/2024			02/16/2024 14:35	Khloe J Berg	2469499
EPA 200.7 Rev. 4.4	02/16/2024	02/19/2024 13:45	George D Taylor	03/06/2024 22:43	Conrad Hartmann	2469528
	02/16/2024	02/19/2024 13:45	George D Taylor	03/06/2024 22:51	Conrad Hartmann	2469528
EPA 200.8 Rev. 5.4	02/16/2024	02/19/2024 13:45	George D Taylor	02/21/2024 17:21	Emily M Philpot	2469528
	02/16/2024	02/19/2024 13:45	George D Taylor	02/21/2024 17:30	Emily M Philpot	2469528
EPA 300.0 Rev. 2.1	02/16/2024			02/27/2024 12:58	James L Waggeberby	2469497
	02/16/2024			02/27/2024 13:13	James L Waggeberby	2469499
	02/16/2024			02/29/2024 21:11	James L Waggeberby	2469499
EPA 350.1 Rev. 2.0	02/16/2024			02/21/2024 12:51	Khloe J Berg	2469498
	02/16/2024			02/21/2024 13:16	Khloe J Berg	2469500
EPA 351.2 Rev. 2.0	02/16/2024	02/22/2024 13:33	Simonne.V. Calhoun	02/23/2024 10:01	Ping Hua	2469498
	02/16/2024	02/22/2024 13:33	Simonne.V. Calhoun	02/23/2024 11:24	Ping Hua	2469500
EPA 353.2 Rev. 2.0	02/16/2024			02/21/2024 11:16	Fadila Guebre	2469498
	02/16/2024			02/22/2024 15:07	Fadila Guebre	2469500
EPA 365.1 Rev. 2.0	02/16/2024	02/19/2024 15:27	Adam P Silver	02/20/2024 16:38	Simonne.V. Calhoun	2469500
	02/16/2024	02/22/2024 10:03	Adam P Silver	02/22/2024 15:33	Chandler E Cox	2469498
EPA 8321B	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 11:24	Hana Lee	2469518
	02/16/2024	02/20/2024 08:00	Hana Lee	02/20/2024 13:43	Hana Lee	2469518
	02/16/2024	02/22/2024 09:00	Hoor Shaik	02/29/2024 21:42	Juyoung Kim	2469518
SM 2320 B-2011	02/16/2024			02/23/2024 08:29	Dale L. Simmons	2469497
	02/16/2024			02/23/2024 09:04	Dale L. Simmons	2469499
SM 2340 B-2011	02/16/2024			03/06/2024 22:43	Conrad Hartmann	2469528
SM 2540 C-2015	02/16/2024			02/20/2024 15:41	Yijie Li	2469497, 2469499
SM 2540 D-2015	02/16/2024			02/20/2024 15:41	Yijie Li	2469497, 2469499
SM 4500-F- C-2011	02/16/2024			02/23/2024 08:29	Dale L. Simmons	2469497
	02/16/2024			02/23/2024 09:04	Dale L. Simmons	2469499
SM 5310 B-2014	02/16/2024			02/27/2024 22:39	Elise M. Gillis	2469498
	02/16/2024			02/27/2024 22:55	Elise M. Gillis	2469500