

Chemical Analysis Report

NE-DIST-2024-04-11-01

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

Event Description: **St. Augustine 2024**
Request ID: **RQ-2024-04-08-05**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Marek Topolski, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 07-MAY-2024 10:19



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: PRINGLE BRANCH AT SJRWMD EASEMENT
300M ABV DAVE BRANCH**

Collection Date/Time: 04/10/2024 10:20

Field ID: G5NE0611

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481725	EPA 200.7 Rev. 4.4	Calcium	39.3		mg/L	P444257	
		Iron	820		ug/L	P444257	
		Magnesium	2.60		mg/L	P444257	
		Potassium	0.30	U	mg/L	P444257	
		Sodium	14.1		mg/L	P444257	
		Strontium	186		ug/L	P444257	
		Tin	3.0	U	ug/L	P444257	
		Titanium	0.75	U	ug/L	P444257	
		Vanadium	2.0	U	ug/L	P444257	
		Zinc	12	I	ug/L	P444257	
	EPA 200.8 Rev. 5.4	Aluminum	96		ug/L	P444257	
		Antimony	0.050	U	ug/L	P444257	
		Arsenic	0.19	I	ug/L	P444257	
		Barium	16.1		ug/L	P444257	
		Beryllium	0.023	I	ug/L	P444257	
		Boron	16.2		ug/L	P444257	
		Cadmium	0.020	U	ug/L	P444257	
		Chromium	0.45	I	ug/L	P444257	
		Cobalt	0.116		ug/L	P444257	
		Copper	0.40	U	ug/L	P444257	
		Lead	0.20	U	ug/L	P444257	
		Manganese	8.02		ug/L	P444257	
		Molybdenum	0.15	U	ug/L	P444257	
		Nickel	0.50	U	ug/L	P444257	
		Selenium	0.20	U	ug/L	P444257	
		Silver	0.010	U	ug/L	P444257	
		Thallium	0.10	U	ug/L	P444257	
	SM 2340 B-2011	Hardness	109		mg/L	P444257	

Sample Location: MOULTRIE CR AT US 1

Collection Date/Time: 04/10/2024 11:20

Field ID: 27010055

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481724	EPA 200.7 Rev. 4.4	Calcium	357		mg/L	P444264	
		Iron	370	I	ug/L	P444264	
		Magnesium	1.16E+03		mg/L	P444264	
		Potassium	357		mg/L	P444264	
		Sodium	8.93E+03		mg/L	P444264	
		Strontium	5.46E+03		ug/L	P444264	
		Tin	30	U	ug/L	P444264	
		Titanium	33		ug/L	P444264	
		Vanadium	8.0	U	ug/L	P444264	
		Zinc	20	U	ug/L	P444264	
	EPA 200.8 Rev. 5.4	Aluminum	520		ug/L	P444264	
		Antimony	0.20	U	ug/L	P444264	
		Arsenic	1.80		ug/L	P444264	
		Barium	14.0		ug/L	P444264	
		Beryllium	0.072	I	ug/L	P444264	
		Boron	3.80E+03		ug/L	P444264	
		Cadmium	0.080	U	ug/L	P444264	
		Chromium	4.0	U	ug/L	P444264	
		Cobalt	0.33	I	ug/L	P444264	
		Copper	1.6	U	ug/L	P444264	
		Lead	0.80	U	ug/L	P444264	
		Manganese	12.5		ug/L	P444264	
		Molybdenum	11.1		ug/L	P444264	
		Nickel	5.0	U	ug/L	P444264	
		Selenium	2.0	U	ug/L	P444264	
		Silver	0.040	U	ug/L	P444264	
		Thallium	0.40	U	ug/L	P444264	
	SM 2340 B-2011	Hardness	5.67E+03		mg/L	P444264	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium, sodium and strontium are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable because of high analyte concentration in the QC sample.

Sample Location: OYSTER CR AT DIXIE HWY

Collection Date/Time: 04/10/2024 11:40

Field ID: 27010056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481717	DEP SOP: NU-094-1	Color (true)	56		PCU	P444136	
	EPA 180.1 Rev. 2.0	Turbidity	10	A	NTU	P444133	
	EPA 300.0 Rev. 2.1	Chloride	1.1E+04		mg Cl/L	P444497	
		Sulfate	1.5E+03		mg SO4/L	P444500	
	SM 2320 B-2011	Total Alkalinity	137		mg CaCO3/L	P444418	
	SM 2540 C-2015	TDS	1.84E+04		mg/L	P444739	
	SM 2540 D-2015	TSS	19		mg/L	P444698	
	SM 4500-F- C-2011	Fluoride	0.67		mg F/L	P444422	
2481718	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P444359	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P444243	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P444300	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P444310	
	SM 5310 B-2014	Organic Carbon	9.5		mg C/L	P444811	
2481723	EPA 8321B	Acesulfame K	0.10	U	ug/L	P444142	
		2,4-D	14		ug/L	P444166	MS
		2,4,5-T	0.0040	U	ug/L	P444166	
		AMPA	1.0	U	ug/L	P444142	
		Acetaminophen	0.0080	U	ug/L	P444166	
		Acetamiprid	0.0020	U	ug/L	P444166	
		Endothall	0.25	U	ug/L	P444142	
		Glufosinate	1.0	U	ug/L	P444142	
		Glyphosate	1.0	U	ug/L	P444142	MS
		Afidopyropen	0.0020	U	ug/L	P444166	
		Bentazon	0.020		ug/L	P444166	
		Sucralose	0.54		ug/L	P444142	
		Benzovindiflupyr	0.0020	U	ug/L	P444166	
		Carbamazepine	8.0E-04	U	ug/L	P444166	
		Clothianidin	0.0020	U	ug/L	P444166	
		Dinotefuran	0.0020	U	ug/L	P444166	
		Diuron	0.0020	U	ug/L	P444166	
		Fenuron	0.032	U	ug/L	P444166	
		Fluridone	0.0019	I	ug/L	P444166	
		Imazapyr	0.10		ug/L	P444166	
		Hydrocodone	0.0020	U	ug/L	P444166	
		Ibuprofen	0.080	U	ug/L	P444166	
		Imidacloprid	0.0034	I	ug/L	P444166	
		Linuron	0.0040	U	ug/L	P444166	
		Mandestrobin	0.0020	U	ug/L	P444166	
		MCPP	0.0020	U	ug/L	P444166	
		Naproxen	0.0080	U	ug/L	P444166	
		Primidone	0.011	I	ug/L	P444166	
		Pyraclostrobin	0.0020	U	ug/L	P444166	
		Silvex	0.0040	U	ug/L	P444166	
		Thiamethoxam	0.0020	U	ug/L	P444166	

Field ID: 27010056

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2481723	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P444166	
		Triclopyr	0.0040	U	ug/L	P444166	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. The surrogate 2,4-D-d3 recovery could not be assessed due to an elevated level of 2,4-D in the sample matrix.

Quality Assurance Report
Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P444136

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444133

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

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 200.7 Rev. 4.4
Batch ID: P444264

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: P444257

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Component	Result	Code	Units
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 200.8 Rev. 5.4
Batch ID: P444264

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: P444497

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444500

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444359

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444300

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444310

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

Reference Method: EPA 8321B
Batch ID: P444142

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: P444166

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P444166

Component	Result	Code	Units
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: P444418

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

Reference Method: SM 2540 C-2015
Batch ID: P444739

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P444698

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P444811

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: P444136

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.6		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444133

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	110		P	85 - 115
Magnesium	113		P	85 - 115
Potassium	104		P	85 - 115
Sodium	96.0		P	85 - 115
Strontium	96.9		P	85 - 115
Tin	103		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.8		P	85 - 115
Zinc	94.3		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	99.3		P	85 - 115
Iron	107		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	98.3		P	85 - 115
Sodium	94.4		P	85 - 115
Strontium	92.5		P	85 - 115
Tin	101		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	97.0		P	85 - 115
Zinc	91.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.9		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	97.7		P	85 - 115
Barium	102		P	85 - 115
Beryllium	94.6		P	85 - 115
Boron	102		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	98.0		P	85 - 115
Cobalt	94.1		P	85 - 115
Copper	95.9		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lead	98.6		P	85 - 115
Manganese	105		P	85 - 115
Molybdenum	98.0		P	85 - 115
Nickel	93.5		P	85 - 115
Selenium	101		P	85 - 115
Silver	112		P	85 - 115
Thallium	97.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	103		P	85 - 115
Barium	104		P	85 - 115
Beryllium	94.7		P	85 - 115
Boron	107		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	104		P	85 - 115
Cobalt	103		P	85 - 115
Copper	100		P	85 - 115
Lead	102		P	85 - 115
Manganese	103		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	102		P	85 - 115
Selenium	107		P	80 - 120
Silver	112		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444497

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444500

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444359

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444300

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444310

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

Reference Method: EPA 8321B
Batch ID: P444142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	109		P	40 - 150
Endothall	93.6		P	40 - 150
Glufosinate	94.2		P	40 - 150
Glyphosate	95.0		P	40 - 150
Sucralose	95.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	147		P	40 - 150
2,4,5-T	118		P	40 - 150
Acetaminophen	77.6		P	30 - 150
Acetamiprid	100		P	40 - 150
Afidopyropen	74.2		P	30 - 150
Bentazon	106		P	30 - 150
Benzovindiflupyr	89.3		P	40 - 150
Carbamazepine	78.7		P	40 - 150
Clothianidin	97.1		P	40 - 150
Dinotefuran	113		P	40 - 150
Diuron	70.7		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	95.1		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Ibuprofen	81.1		P	40 - 150
Imazapyr	101		P	40 - 150
Imidacloprid	96.8		P	40 - 150
Linuron	70.1		P	40 - 150
Mandestrobin	94.4		P	40 - 150
MCPP	135		P	40 - 150
Naproxen	76.7		P	40 - 150
Primidone	86.2		P	40 - 150
Pyraclostrobin	82.4		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P444166

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silvex	107		P	40 - 150
Thiamethoxam	95.5		P	40 - 150
Tolfenpyrad	60.0		P	30 - 150
Triclopyr	113		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P444418

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P444739

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	104		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P444698

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	103		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444811

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Calcium	100		P	80 - 120
2481600	Iron	108	105	P/P	80 - 120
2481600	Magnesium	110	109	P/P	80 - 120
2481600	Potassium	100	100	P/P	80 - 120
2481600	Sodium	94.4		P	80 - 120
2481600	Strontium	94.4	92.9	P/P	80 - 120
2481600	Tin	101	102	P/P	80 - 120
2481600	Titanium	99.7	100	P/P	80 - 120
2481600	Vanadium	98.6	99.6	P/P	80 - 120
2481600	Zinc	93.1	93.5	P/P	80 - 120
2482093	Calcium	95.8		P	80 - 120
2482093	Iron	106		P	80 - 120
2482093	Magnesium	101		P	80 - 120
2482093	Potassium	100		P	80 - 120
2482093	Sodium	93.2		P	80 - 120
2482093	Strontium	89.8		P	80 - 120
2482093	Tin	101		P	80 - 120
2482093	Titanium	105		P	80 - 120
2482093	Vanadium	97.6		P	80 - 120
2482093	Zinc	89.4		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480759	Iron	96.6	91.4	P/P	70 - 130
2480759	Tin	84.3	86.4	P/P	70 - 130
2480759	Titanium	102	102	P/P	70 - 130
2480759	Vanadium	105	105	P/P	70 - 130
2480759	Zinc	108	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481600	Aluminum	93.3	95.8	P/P	80 - 120
2481600	Antimony	99.7	100	P/P	80 - 120
2481600	Arsenic	95.9	95.5	P/P	80 - 120
2481600	Barium	98.9	100	P/P	80 - 120
2481600	Beryllium	95.7	94.8	P/P	80 - 120
2481600	Boron	104	104	P/P	80 - 120
2481600	Cadmium	98.3	99.5	P/P	80 - 120
2481600	Chromium	96.7	96.8	P/P	80 - 120
2481600	Cobalt	93.2	92.9	P/P	80 - 120
2481600	Copper	93.8	93.6	P/P	80 - 120
2481600	Lead	98.1	97.9	P/P	80 - 120
2481600	Manganese	103	100	P/P	80 - 120
2481600	Molybdenum	97.2	98.1	P/P	80 - 120
2481600	Nickel	92.1	92.0	P/P	80 - 120
2481600	Selenium	96.6	93.9	P/P	80 - 120
2481600	Silver	109	108	P/P	80 - 120
2481600	Thallium	97.0	97.5	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2482093	Aluminum	98.3		P	80 - 120
2482093	Antimony	103		P	80 - 120
2482093	Arsenic	96.7		P	80 - 120
2482093	Barium	102		P	80 - 120
2482093	Beryllium	96.6		P	80 - 120
2482093	Boron	103		P	80 - 120
2482093	Cadmium	101		P	80 - 120
2482093	Chromium	95.5		P	80 - 120
2482093	Cobalt	89.8		P	80 - 120
2482093	Copper	91.0		P	80 - 120
2482093	Lead	97.2		P	80 - 120
2482093	Manganese	106		P	80 - 120
2482093	Molybdenum	97.9		P	80 - 120
2482093	Nickel	87.9		P	80 - 120
2482093	Selenium	97.3		P	80 - 120
2482093	Silver	110		P	80 - 120
2482093	Thallium	97.2		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480759	Aluminum	104	109	P/P	70 - 130
2480759	Antimony	101	101	P/P	70 - 130
2480759	Arsenic	116	116	P/P	70 - 130
2480759	Barium	108	107	P/P	70 - 130
2480759	Beryllium	119	115	P/P	70 - 130
2480759	Cadmium	89.4	90.3	P/P	70 - 130
2480759	Chromium	88.5	87.1	P/P	70 - 130
2480759	Cobalt	90.2	89.2	P/P	70 - 130
2480759	Copper	87.9	87.1	P/P	70 - 130
2480759	Lead	106	105	P/P	70 - 130
2480759	Manganese	80.5	79.3	P/P	70 - 130
2480759	Molybdenum	114	112	P/P	70 - 130
2480759	Nickel	91.6	90.5	P/P	70 - 130
2480759	Selenium	106	107	P/P	70 - 130
2480759	Silver	98.0	97.2	P/P	70 - 130
2480759	Thallium	107	106	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481573	Chloride	104		P	90 - 110
2481576	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444500

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481573	Sulfate	103		P	90 - 110
2481576	Sulfate	104		P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444359

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481311	Ammonia-N	97.0	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481737	Kjeldahl Nitrogen	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481616	NO2NO3-N	97.6	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481739	Total-P	101	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P444142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481820	Acesulfame K	137	146	P/P	40 - 150
2481820	AMPA	87.2	89.5	P/P	40 - 150
2481820	Endothall	121	130	P/P	40 - 150
2481820	Glufosinate	96.4	110	P/P	40 - 150
2481820	Glyphosate	142	160	P/F	40 - 150
2481820	Sucralose	103	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P444166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481674	2,4-D	157	154	F/F	40 - 150
2481674	2,4,5-T	104	102	P/P	40 - 150
2481674	Acetaminophen	97.0	90.9	P/P	30 - 150
2481674	Acetamiprid	92.4	82.6	P/P	40 - 150
2481674	Afidopyropen	78.5	59.8	P/P	30 - 150
2481674	Bentazon	103	70.2	P/P	30 - 150
2481674	Benzovindiflupyr	85.8	86.6	P/P	40 - 150
2481674	Carbamazepine	58.8	57.7	P/P	40 - 150
2481674	Clothianidin	103	100	P/P	40 - 150
2481674	Dinotefuran	114	109	P/P	40 - 150
2481674	Diuron	51.4	50.9	P/P	40 - 150
2481674	Fenuron	79.9	79.4	P/P	40 - 150
2481674	Hydrocodone	89.5	87.0	P/P	40 - 150
2481674	Ibuprofen	81.9	85.5	P/P	40 - 150
2481674	Imidacloprid	128	122	P/P	40 - 150
2481674	Linuron	63.6	68.7	P/P	40 - 150
2481674	Mandestrobin	87.3	84.1	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P444166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481674	MCP	129	133	P/P	40 - 150
2481674	Naproxen	70.3	86.2	P/P	40 - 150
2481674	Primidone	109	106	P/P	40 - 150
2481674	Pyraclostrobin	89.8	88.1	P/P	40 - 150
2481674	Silvex	107	96.4	P/P	40 - 150
2481674	Thiamethoxam	95.5	91.1	P/P	40 - 150
2481674	Tolfenpyrad	66.9	73.3	P/P	30 - 150
2481674	Triclopyr	97.7	110	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2481614	Fluoride	105	105	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P444811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2483307	Organic Carbon	96.5	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P444136

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481706	Color (true)	5.42	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P444133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481717	Turbidity	1.94	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Calcium	1.80	Spike	P	0 - 20
2481600	Iron	1.77	Spike	P	0 - 20
2481600	Magnesium	0.770	Spike	P	0 - 20
2481600	Potassium	0.109	Spike	P	0 - 20
2481600	Sodium	1.75	Spike	P	0 - 20
2481600	Strontium	1.59	Spike	P	0 - 20
2481600	Tin	1.10	Spike	P	0 - 20
2481600	Titanium	0.355	Spike	P	0 - 20
2481600	Vanadium	1.06	Spike	P	0 - 20
2481600	Zinc	0.380	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P444264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480759	Calcium	4.52	Spike	P	0 - 20
2480759	Iron	5.61	Spike	P	0 - 20
2480759	Magnesium	2.97	Spike	P	0 - 20
2480759	Potassium	2.21	Spike	P	0 - 20
2480759	Sodium	2.33	Spike	P	0 - 20
2480759	Strontium	4.60	Spike	P	0 - 20
2480759	Tin	2.36	Spike	P	0 - 20
2480759	Titanium	0.240	Spike	P	0 - 20
2480759	Vanadium	0.0283	Spike	P	0 - 20
2480759	Zinc	0.321	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Aluminum	1.77	Spike	P	0 - 20
2481600	Antimony	0.818	Spike	P	0 - 20
2481600	Arsenic	0.460	Spike	P	0 - 20
2481600	Barium	0.798	Spike	P	0 - 20
2481600	Beryllium	0.803	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481600	Boron	0.281	Spike	P	0 - 20
2481600	Cadmium	1.20	Spike	P	0 - 20
2481600	Chromium	0.160	Spike	P	0 - 20
2481600	Cobalt	0.349	Spike	P	0 - 20
2481600	Copper	0.267	Spike	P	0 - 20
2481600	Lead	0.219	Spike	P	0 - 20
2481600	Manganese	0.984	Spike	P	0 - 20
2481600	Molybdenum	0.989	Spike	P	0 - 20
2481600	Nickel	0.114	Spike	P	0 - 20
2481600	Selenium	2.83	Spike	P	0 - 20
2481600	Silver	0.760	Spike	P	0 - 20
2481600	Thallium	0.517	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P444264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480759	Aluminum	4.62	Spike	P	0 - 20
2480759	Antimony	0.410	Spike	P	0 - 20
2480759	Arsenic	0.499	Spike	P	0 - 20
2480759	Barium	0.720	Spike	P	0 - 20
2480759	Beryllium	3.31	Spike	P	0 - 20
2480759	Boron	1.46	Spike	P	0 - 20
2480759	Cadmium	1.07	Spike	P	0 - 20
2480759	Chromium	1.59	Spike	P	0 - 20
2480759	Cobalt	1.11	Spike	P	0 - 20
2480759	Copper	0.950	Spike	P	0 - 20
2480759	Lead	1.22	Spike	P	0 - 20
2480759	Manganese	1.31	Spike	P	0 - 20
2480759	Molybdenum	1.53	Spike	P	0 - 20
2480759	Nickel	1.21	Spike	P	0 - 20
2480759	Selenium	1.16	Spike	P	0 - 20
2480759	Silver	0.824	Spike	P	0 - 20
2480759	Thallium	0.177	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481573	Chloride	0.350	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P444500

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481573	Sulfate	0.00372	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P444359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481311	Ammonia-N	1.71	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P444243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481737	Kjeldahl Nitrogen	3.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P444300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481616	NO2NO3-N	0.944	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P444310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481739	Total-P	2.10	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P444142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481820	Acesulfame K	6.62	Spike	P	0 - 30
2481820	AMPA	1.95	Spike	P	0 - 30
2481820	Endothall	6.54	Spike	P	0 - 30
2481820	Glufosinate	13.5	Spike	P	0 - 30
2481820	Glyphosate	7.46	Spike	P	0 - 30
2481820	Sucralose	0.0731	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P444166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481674	2,4-D	1.77	Spike	P	0 - 30
2481674	2,4,5-T	1.73	Spike	P	0 - 30
2481674	Acetaminophen	6.50	Spike	P	0 - 30
2481674	Acetamiprid	11.2	Spike	P	0 - 30
2481674	Afidopyropen	26.9	Spike	P	0 - 30
2481674	Bentazon	1.23	Spike	P	0 - 30
2481674	Benzovindiflupyr	0.966	Spike	P	0 - 30
2481674	Carbamazepine	1.85	Spike	P	0 - 30
2481674	Clothianidin	2.70	Spike	P	0 - 30
2481674	Dinotefuran	4.64	Spike	P	0 - 30
2481674	Diuron	0.874	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P444166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481674	Fenuron	0.656	Spike	P	0 - 30
2481674	Fluridone	3.11	Spike	P	0 - 30
2481674	Hydrocodone	2.82	Spike	P	0 - 30
2481674	Ibuprofen	4.26	Spike	P	0 - 30
2481674	Imazapyr	2.02	Spike	P	0 - 30
2481674	Imidacloprid	3.98	Spike	P	0 - 30
2481674	Linuron	7.64	Spike	P	0 - 30
2481674	Mandestrobin	3.72	Spike	P	0 - 30
2481674	MCCP	2.93	Spike	P	0 - 30
2481674	Naproxen	20.3	Spike	P	0 - 30
2481674	Primidone	2.58	Spike	P	0 - 30
2481674	Pyraclostrobin	1.98	Spike	P	0 - 30
2481674	Silvex	10.8	Spike	P	0 - 30
2481674	Thiamethoxam	4.64	Spike	P	0 - 30
2481674	Tolfenpyrad	9.16	Spike	P	0 - 30
2481674	Triclopyr	11.5	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P444418

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481614	Total Alkalinity	1.51	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P444739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481647	TDS	4.22	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P444422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2481614	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P444811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2483307	Organic Carbon	1.23	Spike	P	0 - 15

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2481723

Field Sample ID: 27010056

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	99.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.8	P	30 - 160
EPA 8321B	Diuron-d6	54.9	P	30 - 160
EPA 8321B	Endothall-d6	145	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	158	P	30 - 160
EPA 8321B	Ibuprofen-d3	97.9	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	60.8	P	30 - 160

Quality Assurance Report

Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125288
Included Lab Sample IDs: 2481717

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

Reference Method: DEP SOP: NU-094-1
Run ID: A125289
Included Lab Sample IDs: 2481717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125335
Included Lab Sample IDs: 2481718

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A125342
Included Lab Sample IDs: 2481717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A125345
Included Lab Sample IDs: 2481724, 2481725

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	100	P/P	90 - 110
Calcium	96.6	96.6	P/P	90 - 110
Iron	103	101	P/P	90 - 110
Iron	97.9	98.2	P/P	90 - 110
Magnesium	105	103	P/P	90 - 110
Magnesium	99.8	100	P/P	90 - 110
Potassium	102	100	P/P	90 - 110
Potassium	102	100	P/P	90 - 110
Sodium	95.6	94.3	P/P	90 - 110
Sodium	98.0	94.9	P/P	90 - 110
Strontium	93.4	92.5	P/P	90 - 110
Strontium	93.7	92.7	P/P	90 - 110
Tin	105	104	P/P	90 - 110
Titanium	105	103	P/P	90 - 110
Vanadium	97.4	95.7	P/P	90 - 110
Zinc	95.2	93.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125351
Included Lab Sample IDs: 2481724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125351
Included Lab Sample IDs: 2481724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	97.9	98.4	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Barium	101	102	P/P	90 - 110
Beryllium	97.6	96.5	P/P	90 - 110
Cadmium	97.0	98.4	P/P	90 - 110
Chromium	94.8	97.7	P/P	90 - 110
Cobalt	97.0	98.2	P/P	90 - 110
Copper	102	98.9	P/P	90 - 110
Lead	98.3	98.3	P/P	90 - 110
Manganese	90.8	91.8	P/P	90 - 110
Molybdenum	97.9	98.3	P/P	90 - 110
Nickel	98.3	101	P/P	90 - 110
Silver	96.4	97.6	P/P	90 - 110
Thallium	98.0	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A125353
Included Lab Sample IDs: 2481718

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A125358
Included Lab Sample IDs: 2481718

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A125367
Included Lab Sample IDs: 2481724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tin	97.0	103	P/P	95 - 105
Titanium	98.1	101	P/P	95 - 105
Vanadium	95.4	98.9	P/P	95 - 105
Zinc	99.5	103	P/P	95 - 105

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125378
Included Lab Sample IDs: 2481718

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

Reference Method: SM 2320 B-2011
Run ID: A125379
Included Lab Sample IDs: 2481717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A125379
Included Lab Sample IDs: 2481717

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.3	96.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A125379
Included Lab Sample IDs: 2481717

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125381
Included Lab Sample IDs: 2481725

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.1	98.8	P/P	90 - 110
Antimony	98.8	100	P/P	90 - 110
Arsenic	95.6	95.5	P/P	90 - 110
Barium	96.7	98.1	P/P	90 - 110
Beryllium	96.0	94.2	P/P	90 - 110
Boron	99.1	98.0	P/P	90 - 110
Cadmium	96.9	98.5	P/P	90 - 110
Chromium	94.8	94.0	P/P	90 - 110
Cobalt	91.7	90.8	P/P	90 - 110
Copper	92.8	92.3	P/P	90 - 110
Lead	95.7	96.6	P/P	90 - 110
Manganese	98.9	101	P/P	90 - 110
Molybdenum	94.4	95.1	P/P	90 - 110
Nickel	92.2	90.5	P/P	90 - 110
Selenium	96.3	97.3	P/P	90 - 110
Silver	94.7	95.3	P/P	90 - 110
Thallium	95.9	96.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A125382
Included Lab Sample IDs: 2481724

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.0	104	P/P	90 - 110
Boron	99.8	104	P/P	90 - 110
Selenium	100	105	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A125390
Included Lab Sample IDs: 2481723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.8	110	P/P	50 - 150
2,4,5-T	94.4	96.3	P/P	50 - 150
Acetaminophen	99.3	100	P/P	60 - 160
Acetamiprid	116	113	P/P	50 - 150
Afidopyropen	100	111	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A125390
Included Lab Sample IDs: 2481723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	114	113	P/P	50 - 160
Benzovindiflupyr	110	110	P/P	50 - 150
Carbamazepine	116	114	P/P	60 - 150
Clothianidin	113	110	P/P	60 - 150
Dinotefuran	117	120	P/P	50 - 150
Diuron	113	116	P/P	60 - 160
Fenuron	108	107	P/P	60 - 150
Fluridone	115	116	P/P	60 - 160
Hydrocodone	115	113	P/P	60 - 150
Ibuprofen	76.1	94.6	P/P	50 - 160
Imazapyr	99.8	101	P/P	50 - 150
Imidacloprid	109	109	P/P	60 - 150
Linuron	97.1	100	P/P	60 - 150
Mandestrobin	113	114	P/P	50 - 150
MCPP	108	99.2	P/P	50 - 150
Naproxen	86.6	93.6	P/P	50 - 160
Primidone	93.1	93.8	P/P	60 - 150
Pyraclostrobin	107	110	P/P	60 - 150
Silvex	105	106	P/P	50 - 150
Thiamethoxam	116	115	P/P	50 - 150
Tolfenpyrad	110	109	P/P	60 - 150
Triclopyr	107	99.1	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A125447
Included Lab Sample IDs: 2481723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	136	P/P	60 - 160
Sucralose	101	103	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A125452
Included Lab Sample IDs: 2481723

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.9	97.4	P/P	60 - 160
Endothall	95.2	109	P/P	60 - 160
Glufosinate	103	96.0	P/P	60 - 160
Glyphosate	103	89.6	P/P	60 - 160

Reference Method: SM 5310 B-2014
Run ID: A125527
Included Lab Sample IDs: 2481718

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	115	94.8	P/P	70 - 130

* 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)	97.6				5.42	
EPA 180.1 Rev. 2.0	Turbidity	103				1.94	
EPA 200.7 Rev. 4.4	Calcium	102	100	95.8			1.80
	Calcium	99.3					4.52
	Iron	110	108	105	106		1.77
	Iron	107	96.6	91.4			5.61
	Magnesium	113	110	109	101		0.770
	Magnesium	103					2.97
	Potassium	104	100	100	100		0.109
	Potassium	98.3					2.21
	Sodium	96.0	94.4	93.2			1.75
	Sodium	94.4					2.33
	Strontium	96.9	94.4	92.9	89.8		1.59
	Strontium	92.5					4.60
	Tin	103	101	102	101		1.10
	Tin	101	84.3	86.4			2.36
	Titanium	106	99.7	100	105		0.355
	Titanium	104	102	102			0.240
	Vanadium	98.8	98.6	99.6	97.6		1.06
	Vanadium	97.0	105	105			0.0283
	Zinc	94.3	93.1	93.5	89.4		0.380
	Zinc	91.9	108	107			0.321
EPA 200.8 Rev. 5.4	Aluminum	99.9	93.3	95.8	98.3		1.77
	Aluminum	104	104	109			4.62
	Antimony	103	99.7	100	103		0.818
	Antimony	101	101	101			0.410
	Arsenic	97.7	95.9	95.5	96.7		0.460
	Arsenic	103	116	116			0.499
	Barium	102	98.9	100	102		0.798
	Barium	104	108	107			0.720
	Beryllium	94.6	95.7	94.8	96.6		0.803
	Beryllium	94.7	119	115			3.31
	Boron	102	104	104	103		0.281
	Boron	107					1.46
	Cadmium	99.5	98.3	99.5	101		1.20
	Cadmium	100	89.4	90.3			1.07
	Chromium	98.0	96.7	96.8	95.5		0.160
	Chromium	104	88.5	87.1			1.59
	Cobalt	94.1	93.2	92.9	89.8		0.349
	Cobalt	103	90.2	89.2			1.11
	Copper	95.9	93.8	93.6	91.0		0.267
	Copper	100	87.9	87.1			0.950
	Lead	98.6	98.1	97.9	97.2		0.219
	Lead	102	106	105			1.22
	Manganese	105	103	100	106		0.984
	Manganese	103	80.5	79.3			1.31
	Molybdenum	98.0	97.2	98.1	97.9		0.989
	Molybdenum	101	114	112			1.53
	Nickel	93.5	92.1	92.0	87.9		0.114
	Nickel	102	91.6	90.5			1.21
	Selenium	101	96.6	93.9	97.3		2.83
	Selenium	107	106	107			1.16
	Silver	112	109	108	110		0.760
	Silver	112	98.0	97.2			0.824

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 200.8 Rev. 5.4	Thallium	97.5	97.0	97.5	97.2		0.517
	Thallium	101	107	106			0.177
EPA 300.0 Rev. 2.1	Chloride	106	104	103		0.350	
	Sulfate	107	103	104		0.0037	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	99.2	97.0			1.71
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	101	104			3.33
EPA 353.2 Rev. 2.0	NO2NO3-N	101	97.6	98.6			0.944
EPA 365.1 Rev. 2.0	Total-P	107	101	98.6			2.10
EPA 8321B	2,4-D	147	157	154			1.77
	2,4,5-T	118	104	102			1.73
	Acesulfame K	106	137	146			6.62
	Acetaminophen	77.6	97.0	90.9			6.50
	Acetamiprid	100	92.4	82.6			11.2
	Afidopyropen	74.2	78.5	59.8			26.9
	AMPA	109	87.2	89.5			1.95
	Bentazon	106	103	70.2			1.23
	Benzovindiflupyr	89.3	85.8	86.6			0.966
	Carbamazepine	78.7	58.8	57.7			1.85
	Clothianidin	97.1	103	100			2.70
	Dinotefuran	113	114	109			4.64
	Diuron	70.7	51.4	50.9			0.874
	Endothall	93.6	121	130			6.54
	Fenuron	101	79.9	79.4			0.656
	Fluridone	95.1					3.11
	Glufosinate	94.2	96.4	110			13.5
	Glyphosate	95.0	142	160			7.46
	Hydrocodone	98.8	89.5	87.0			2.82
	Ibuprofen	81.1	81.9	85.5			4.26
	Imazapyr	101					2.02
	Imidacloprid	96.8	128	122			3.98
	Linuron	70.1	63.6	68.7			7.64
	Mandestrobin	94.4	87.3	84.1			3.72
	MCPP	135	129	133			2.93
	Naproxen	76.7	70.3	86.2			20.3
	Primidone	86.2	109	106			2.58
	Pyraclostrobin	82.4	89.8	88.1			1.98
	Silvex	107	107	96.4			10.8
	Sucralose	95.2	103	103			0.0731
	Thiamethoxam	95.5	95.5	91.1			4.64
	Tolfenpyrad	60.0	66.9	73.3			9.16
	Triclopyr	113	97.7	110			11.5
SM 2320 B-2011	Total Alkalinity	102				1.51	
SM 2540 C-2015	TDS	104				4.22	
SM 2540 D-2015	TSS	103					
SM 4500-F- C-2011	Fluoride	103	105	105			0.0
SM 5310 B-2014	Organic Carbon	98.7	96.5	94.9			1.23

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2481717
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2481717

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2481724, 2481725
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2481724, 2481725
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2481717
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2481717
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2481718
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2481718
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2481718
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2481718
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2481723
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2481717
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2481724, 2481725
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2481717
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2481717
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2481717
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2481718

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	04/11/2024			04/11/2024 14:52	Samantha L Bates	2481717
EPA 180.1 Rev. 2.0	04/11/2024			04/11/2024 13:48	Samantha L Bates	2481717
EPA 200.7 Rev. 4.4	04/11/2024	04/15/2024 12:20	George D Taylor	04/16/2024 18:15	Conrad Hartmann	2481725
	04/11/2024	04/15/2024 12:30	George D Taylor	04/16/2024 22:40	Conrad Hartmann	2481724
	04/11/2024	04/15/2024 12:30	George D Taylor	04/16/2024 22:48	Conrad Hartmann	2481724
	04/11/2024	04/15/2024 12:30	George D Taylor	04/17/2024 15:36	Chase Roberts	2481724
	04/11/2024	04/15/2024 12:30	George D Taylor	04/17/2024 15:40	Chase Roberts	2481724
EPA 200.8 Rev. 5.4	04/11/2024	04/15/2024 12:20	George D Taylor	04/17/2024 17:02	Emily M Philpot	2481725
	04/11/2024	04/15/2024 12:30	George D Taylor	04/16/2024 19:43	Emily M Philpot	2481724
	04/11/2024	04/15/2024 12:30	George D Taylor	04/16/2024 21:03	Emily M Philpot	2481724
	04/11/2024	04/15/2024 12:30	George D Taylor	04/18/2024 08:38	Emily M Philpot	2481724
EPA 300.0 Rev. 2.1	04/11/2024			04/18/2024 10:13	James L Waggeberby	2481717
EPA 350.1 Rev. 2.0	04/11/2024			04/17/2024 11:48	Kenneth H Lee	2481718
EPA 351.2 Rev. 2.0	04/11/2024	04/16/2024 10:48	Simonne.V. Calhoun	04/17/2024 18:42	Ping Hua	2481718
EPA 353.2 Rev. 2.0	04/11/2024			04/15/2024 15:14	Fadila Guebre	2481718
EPA 365.1 Rev. 2.0	04/11/2024	04/16/2024 14:10	Adam P Silver	04/17/2024 11:42	Elise M. Gillis	2481718
EPA 8321B	04/11/2024	04/15/2024 13:00	Samatha Luckman	04/15/2024 20:22	Samatha Luckman	2481723
	04/11/2024	04/15/2024 13:00	Samatha Luckman	04/16/2024 04:10	Samatha Luckman	2481723
	04/11/2024	04/15/2024 13:00	Samatha Luckman	04/16/2024 06:47	Samatha Luckman	2481723
	04/11/2024	04/17/2024 09:00	Hoor Shaik	04/18/2024 00:23	Juyoung Kim	2481723
	04/11/2024	04/17/2024 09:00	Hoor Shaik	04/18/2024 10:11	Juyoung Kim	2481723
SM 2320 B-2011	04/11/2024			04/17/2024 09:56	Adam P Silver	2481717
SM 2340 B-2011	04/11/2024			04/16/2024 18:15	Conrad Hartmann	2481725
	04/11/2024			04/16/2024 22:48	Conrad Hartmann	2481724
SM 2540 C-2015	04/11/2024			04/16/2024 16:07	Yijie Li	2481717
SM 2540 D-2015	04/11/2024			04/16/2024 16:07	Yijie Li	2481717
SM 4500-F- C-2011	04/11/2024			04/17/2024 06:39	Adam P Silver	2481717
SM 5310 B-2014	04/11/2024			04/24/2024 10:40	Jessica K Wilks	2481718