

Chemical Analysis Report

SO-DIST-2023-12-20-01

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

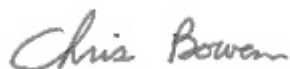
Event Description: **2023 SMP : Shell Creek**
Request ID: **RQ-2023-12-18-17**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 12-JAN-2024 11:27



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: SHELLCREEK RESERVOIR MID

Collection Date/Time: 12/19/2023 09:30

Field ID: G3SD0204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458093	DEP SOP: NU-094-1	Color (true)	50		PCU	P439276	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P439270	
	EPA 300.0 Rev. 2.1	Chloride	110		mg Cl/L	P439530	
		Sulfate	88		mg SO4/L	P439533	
	SM 2320 B-2011	Total Alkalinity	141		mg CaCO3/L	P439420	
	SM 2540 C-2015	TDS	474		mg/L	P439635	
	SM 2540 D-2015	TSS	6	I	mg/L	P439572	
2458094	SM 4500-F- C-2011	Fluoride	0.29		mg F/L	P439422	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.01		mg N/L	P439646	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P439448	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P439378	
	EPA 365.1 Rev. 2.0	Total-P	0.097		mg P/L	P439385	
2458101	SM 5310 B-2014	Organic Carbon	14		mg C/L	P439529	
	EPA 8321B	2,4-D	0.010		ug/L	P439250	
		Acesulfame K	0.10	U	ug/L	P439184	
		2,4,5-T	0.0040	U	ug/L	P439250	
		AMPA	2.1		ug/L	P439184	MS
		Acetaminophen	0.0080	U	ug/L	P439250	
		Acetamiprid	0.0020	U	ug/L	P439250	
		Endothall	0.25	U	ug/L	P439184	
		Glufosinate	0.10	U	ug/L	P439184	
		Glyphosate	1.1		ug/L	P439184	
		Afidopyropen	0.0020	U	ug/L	P439250	
		Bentazon	0.014		ug/L	P439250	
		Sucralose	0.010	U	ug/L	P439184	
		Benzovindiflupyr	0.0020	U	ug/L	P439250	
		Carbamazepine	8.0E-04	U	ug/L	P439250	
		Clothianidin	0.015		ug/L	P439250	
		Dinotefuran	0.0020	U	ug/L	P439250	
		Diuron	0.039		ug/L	P439250	
		Fenuron	0.032	U	ug/L	P439250	
		Fluridone	0.0025	I	ug/L	P439250	
		Imazapyr	0.011	I	ug/L	P439250	
		Hydrocodone	0.0020	U	ug/L	P439250	
		Ibuprofen	0.080	U	ug/L	P439250	
		Imidacloprid	0.057		ug/L	P439250	
		Linuron	0.0040	U	ug/L	P439250	
		Mandestrobin	0.0020	U	ug/L	P439250	
		MCP	0.0020	U	ug/L	P439250	
		Naproxen	0.0080	U	ug/L	P439250	
		Primidone	0.0040	U	ug/L	P439250	
		Pyraclostrobin	0.0020	U	ug/L	P439250	
		Silvex	0.0040	U	ug/L	P439250	
		Thiamethoxam	0.031		ug/L	P439250	

Field ID: G3SD0204

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458101	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P439250	
		Triclopyr	0.0040	U	ug/L	P439250	

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: SHELL CR AT HATHAWAY PARK

Collection Date/Time: 12/19/2023 08:30

Field ID: G3SD0120

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458100	EPA 8321B	2,4-D	0.0020	U	ug/L	P439250	MS
		Acesulfame K	0.10	U	ug/L	P439184	
		2,4,5-T	0.0040	U	ug/L	P439250	
		AMPA	0.59		ug/L	P439184	
		Acetaminophen	0.0080	U	ug/L	P439250	
		Acetamiprid	0.0020	U	ug/L	P439250	
		Endothall	0.25	U	ug/L	P439184	
		Glufosinate	0.10	U	ug/L	P439184	
		Glyphosate	0.54		ug/L	P439184	
		Afidopyropen	0.0020	U	ug/L	P439250	
		Bentazon	0.0041		ug/L	P439250	
		Sucralose	0.010	U	ug/L	P439184	
		Benzovindiflupyr	0.0020	U	ug/L	P439250	
		Carbamazepine	8.0E-04	U	ug/L	P439250	
		Clothianidin	0.0090		ug/L	P439250	
		Dinotefuran	0.0020	U	ug/L	P439250	
		Diuron	0.0020	U	ug/L	P439250	
		Fenuron	0.032	U	ug/L	P439250	
		Fluridone	0.0039		ug/L	P439250	
		Imazapyr	0.0059	I	ug/L	P439250	
		Hydrocodone	0.0020	U	ug/L	P439250	
		Ibuprofen	0.080	U	ug/L	P439250	
		Imidacloprid	0.018		ug/L	P439250	
		Linuron	0.0040	U	ug/L	P439250	
		Mandestrobin	0.0020	U	ug/L	P439250	
		MCPP	0.0020	U	ug/L	P439250	
		Naproxen	0.0080	U	ug/L	P439250	
		Primidone	0.0040	U	ug/L	P439250	
		Pyraclostrobin	0.0020	U	ug/L	P439250	
		Silvex	0.0040	U	ug/L	P439250	
		Thiamethoxam	0.0078	I	ug/L	P439250	
		Tolfenpyrad	0.0020	U	ug/L	P439250	
		Triclopyr	0.0040	U	ug/L	P439250	
2458102	EPA 200.7 Rev. 4.4	Calcium	126		mg/L	P439262	
		Iron	160		ug/L	P439262	
		Magnesium	13.5		mg/L	P439262	
		Potassium	5.3		mg/L	P439262	
		Sodium	61.8		mg/L	P439262	
		Strontium	2.75E+03		ug/L	P439262	
		Tin	3.0	U	ug/L	P439262	
		Titanium	1.2	I	ug/L	P439262	
		Vanadium	2.0	U	ug/L	P439262	
		Zinc	5.0	U	ug/L	P439262	
	EPA 200.8 Rev. 5.4	Aluminum	20	I	ug/L	P439262	

Field ID: G3SD0120

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2458102	EPA 200.8 Rev. 5.4	Antimony	0.18	I	ug/L	P439262	
		Arsenic	0.76		ug/L	P439262	
		Barium	39.5		ug/L	P439262	
		Beryllium	0.010	U	ug/L	P439262	
		Boron	59.5		ug/L	P439262	
		Cadmium	0.020	U	ug/L	P439262	
		Chromium	0.95	I	ug/L	P439262	
		Cobalt	0.103		ug/L	P439262	
		Copper	0.59	I	ug/L	P439262	
		Lead	0.20	U	ug/L	P439262	
		Manganese	15.2		ug/L	P439262	
		Molybdenum	8.29		ug/L	P439262	
		Nickel	1.1	I	ug/L	P439262	
		Selenium	0.52	I	ug/L	P439262	
		Silver	0.010	U	ug/L	P439262	
		Thallium	0.10	U	ug/L	P439262	
	SM 2340 B-2011	Hardness	371		mg/L	P439262	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P439276

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439270

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439262

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: P439262

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: P439530

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: P439533

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439646

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439448

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439378

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439385

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

Reference Method: EPA 8321B
Batch ID: P439184

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: P439250

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P439250

Component	Result	Code	Units
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: P439420

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

Reference Method: SM 2540 C-2015

Batch ID: P439635

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P439572

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P439422

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014

Batch ID: P439529

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: P439276

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439270

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	111		P	85 - 115
Iron	106		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	99.5		P	85 - 115
Sodium	103		P	85 - 115
Strontium	99.8		P	85 - 115
Tin	102		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: P439262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.9		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	99.8		P	85 - 115
Barium	100		P	85 - 115
Beryllium	95.1		P	85 - 115
Boron	99.7		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	98.5		P	85 - 115
Copper	97.7		P	85 - 115
Lead	94.9		P	85 - 115
Manganese	99.9		P	85 - 115
Molybdenum	98.4		P	85 - 115
Nickel	99.2		P	85 - 115
Selenium	99.3		P	85 - 115
Silver	96.1		P	85 - 115
Thallium	98.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439530

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439533

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439646

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: P439448

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: P439378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439385

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

Reference Method: EPA 8321B
Batch ID: P439184

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	128		P	40 - 150
AMPA	89.1		P	40 - 150
Endothall	92.7		P	40 - 150
Glufosinate	93.8		P	40 - 150
Glyphosate	91.2		P	40 - 150
Sucralose	80.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P439250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
2,4,5-T	93.2		P	40 - 150
Acetaminophen	56.1		P	30 - 150
Acetamiprid	88.2		P	40 - 150
Afidopyropen	73.9		P	30 - 150
Bentazon	68.7		P	30 - 150
Benzovindiflupyr	80.2		P	40 - 150
Carbamazepine	68.4		P	40 - 150
Clothianidin	84.2		P	40 - 150
Dinotefuran	96.2		P	40 - 150
Diuron	68.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P439250

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	94.2		P	40 - 150
Fluridone	83.4		P	40 - 150
Hydrocodone	81.6		P	40 - 150
Ibuprofen	60.6		P	40 - 150
Imazapyr	81.5		P	40 - 150
Imidacloprid	86.1		P	40 - 150
Linuron	67.2		P	40 - 150
Mandestrobin	84.8		P	40 - 150
MCPP	97.1		P	40 - 150
Naproxen	63.3		P	40 - 150
Primidone	83.3		P	40 - 150
Pyraclostrobin	73.7		P	40 - 150
Silvex	86.9		P	40 - 150
Thiamethoxam	86.0		P	40 - 150
Tolfenpyrad	45.6		P	30 - 150
Triclopyr	107		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P439420

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

Reference Method: SM 2540 C-2015
Batch ID: P439635

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.4		P	85 - 115

Reference Method: SM 2540 D-2015
Batch ID: P439572

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.4		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P439422

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

Reference Method: SM 5310 B-2014
Batch ID: P439529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P439262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457797	Calcium	107	107	P/P	80 - 120
2457797	Iron	103	104	P/P	80 - 120
2457797	Magnesium	107	107	P/P	80 - 120
2457797	Potassium	103	103	P/P	80 - 120
2457797	Sodium	100	98.0	P/P	80 - 120
2457797	Strontium	99.4	98.4	P/P	80 - 120
2457797	Tin	98.4	98.9	P/P	80 - 120
2457797	Titanium	100	100	P/P	80 - 120
2457797	Vanadium	100	99.8	P/P	80 - 120
2457797	Zinc	99.7	99.9	P/P	80 - 120
2458059	Calcium	105		P	80 - 120
2458059	Iron	104		P	80 - 120
2458059	Magnesium	105		P	80 - 120
2458059	Potassium	100		P	80 - 120
2458059	Sodium	101		P	80 - 120
2458059	Strontium	98.8		P	80 - 120
2458059	Tin	97.2		P	80 - 120
2458059	Titanium	101		P	80 - 120
2458059	Vanadium	101		P	80 - 120
2458059	Zinc	99.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P439262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457797	Aluminum	99.0	100	P/P	80 - 120
2457797	Antimony	101	102	P/P	80 - 120
2457797	Arsenic	101	102	P/P	80 - 120
2457797	Barium	102	103	P/P	80 - 120
2457797	Beryllium	94.7	94.8	P/P	80 - 120
2457797	Boron	100	101	P/P	80 - 120
2457797	Cadmium	101	101	P/P	80 - 120
2457797	Chromium	103	103	P/P	80 - 120
2457797	Cobalt	100	101	P/P	80 - 120
2457797	Copper	102	102	P/P	80 - 120
2457797	Lead	96.3	96.6	P/P	80 - 120
2457797	Manganese	99.4	102	P/P	80 - 120
2457797	Molybdenum	99.1	99.5	P/P	80 - 120
2457797	Nickel	101	102	P/P	80 - 120
2457797	Selenium	100	103	P/P	80 - 120
2457797	Silver	95.9	96.4	P/P	80 - 120
2457797	Thallium	102	103	P/P	80 - 120
2458059	Aluminum	99.7		P	80 - 120
2458059	Antimony	104		P	80 - 120
2458059	Arsenic	99.7		P	80 - 120
2458059	Barium	101		P	80 - 120
2458059	Beryllium	94.3		P	80 - 120
2458059	Boron	106		P	80 - 120
2458059	Cadmium	103		P	80 - 120
2458059	Chromium	99.9		P	80 - 120
2458059	Cobalt	99.5		P	80 - 120
2458059	Copper	97.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458059	Lead	96.2		P	80 - 120
2458059	Manganese	102		P	80 - 120
2458059	Molybdenum	101		P	80 - 120
2458059	Nickel	100		P	80 - 120
2458059	Selenium	99.5		P	80 - 120
2458059	Silver	96.7		P	80 - 120
2458059	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458077	Chloride	103		P	90 - 110
2458169	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439533

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458077	Sulfate	102		P	90 - 110
2458169	Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439646

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458094	Ammonia-N	97.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458172	Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458080	NO2NO3-N	93.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439385

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458170	Total-P	108	110	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P439184

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457794	Acesulfame K	133	133	P/P	40 - 150
2457794	AMPA	167	169	F/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P439184

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457794	Endothall	96.9	93.6	P/P	40 - 150
2457794	Glufosinate	104	103	P/P	40 - 150
2457794	Glyphosate	71.1	77.5	P/P	40 - 150
2457794	Sucralose	82.0	77.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P439250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2457794	2,4-D	133	110	P/P	40 - 150
2457794	2,4,5-T	103	85.5	P/P	40 - 150
2457794	Acetaminophen	68.8	56.1	P/P	30 - 150
2457794	Acetamiprid	101	87.0	P/P	40 - 150
2457794	Afidopyropen	83.4	67.5	P/P	30 - 150
2457794	Bentazon	61.7	53.3	P/P	30 - 150
2457794	Benzovindiflupyr	96.5	76.5	P/P	40 - 150
2457794	Carbamazepine	78.7	65.4	P/P	40 - 150
2457794	Clothianidin	101	82.6	P/P	40 - 150
2457794	Dinotefuran	124	100	P/P	40 - 150
2457794	Diuron	81.2	65.1	P/P	40 - 150
2457794	Fenuron	123	119	P/P	40 - 150
2457794	Fluridone	92.9	75.2	P/P	40 - 150
2457794	Hydrocodone	101	83.3	P/P	40 - 150
2457794	Ibuprofen	76.1	62.3	P/P	40 - 150
2457794	Imazapyr	106	83.8	P/P	40 - 150
2457794	Imidacloprid	118	92.7	P/P	40 - 150
2457794	Linuron	72.3	60.7	P/P	40 - 150
2457794	Mandestrobin	101	80.7	P/P	40 - 150
2457794	MCPP	119	89.7	P/P	40 - 150
2457794	Naproxen	66.1	60.9	P/P	40 - 150
2457794	Primidone	102	80.1	P/P	40 - 150
2457794	Pyraclostrobin	87.9	71.5	P/P	40 - 150
2457794	Silvex	102	78.2	P/P	40 - 150
2457794	Thiamethoxam	96.1	78.5	P/P	40 - 150
2457794	Tolfenpyrad	61.1	46.0	P/P	30 - 150
2457794	Triclopyr	125	96.5	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P439422

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458034	Fluoride	101	100	P/P	94 - 106

Reference Method: SM 5310 B-2014

Batch ID: P439529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2458172	Organic Carbon	101	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458169	Color (true)	6.48	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458077	Turbidity	4.53	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P439262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457797	Calcium	0.676	Spike	P	0 - 20
2457797	Iron	0.705	Spike	P	0 - 20
2457797	Magnesium	0.407	Spike	P	0 - 20
2457797	Potassium	0.590	Spike	P	0 - 20
2457797	Sodium	1.39	Spike	P	0 - 20
2457797	Strontium	1.05	Spike	P	0 - 20
2457797	Tin	0.506	Spike	P	0 - 20
2457797	Titanium	0.00329	Spike	P	0 - 20
2457797	Vanadium	0.316	Spike	P	0 - 20
2457797	Zinc	0.220	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P439262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457797	Aluminum	1.21	Spike	P	0 - 20
2457797	Antimony	0.946	Spike	P	0 - 20
2457797	Arsenic	0.476	Spike	P	0 - 20
2457797	Barium	1.27	Spike	P	0 - 20
2457797	Beryllium	0.105	Spike	P	0 - 20
2457797	Boron	0.710	Spike	P	0 - 20
2457797	Cadmium	0.0812	Spike	P	0 - 20
2457797	Chromium	0.130	Spike	P	0 - 20
2457797	Cobalt	1.21	Spike	P	0 - 20
2457797	Copper	0.588	Spike	P	0 - 20
2457797	Lead	0.329	Spike	P	0 - 20
2457797	Manganese	1.57	Spike	P	0 - 20
2457797	Molybdenum	0.428	Spike	P	0 - 20
2457797	Nickel	0.635	Spike	P	0 - 20
2457797	Selenium	2.98	Spike	P	0 - 20
2457797	Silver	0.546	Spike	P	0 - 20
2457797	Thallium	0.506	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458077	Chloride	0.0665	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P439533

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458077	Sulfate	0.152	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439646

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458094	Ammonia-N	2.21	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458172	Kjeldahl Nitrogen	0.721	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458080	NO2NO3-N	0.253	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458170	Total-P	1.23	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P439184

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457794	Acesulfame K	0.143	Spike	P	0 - 30
2457794	AMPA	1.21	Spike	P	0 - 30
2457794	Endothall	3.48	Spike	P	0 - 30
2457794	Glufosinate	1.53	Spike	P	0 - 30
2457794	Glyphosate	8.66	Spike	P	0 - 30
2457794	Sucralose	5.52	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P439250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2457794	2,4-D	18.5	Spike	P	0 - 30
2457794	2,4,5-T	18.8	Spike	P	0 - 30
2457794	Acetaminophen	20.3	Spike	P	0 - 30
2457794	Acetamiprid	14.4	Spike	P	0 - 30
2457794	Afidopyropen	21.1	Spike	P	0 - 30
2457794	Bentazon	14.6	Spike	P	0 - 30
2457794	Benzovindiflupyr	23.1	Spike	P	0 - 30
2457794	Carbamazepine	18.4	Spike	P	0 - 30
2457794	Clothianidin	20.4	Spike	P	0 - 30
2457794	Dinotefuran	21.3	Spike	P	0 - 30
2457794	Diuron	22.1	Spike	P	0 - 30
2457794	Fenuron	3.26	Spike	P	0 - 30
2457794	Fluridone	21.1	Spike	P	0 - 30
2457794	Hydrocodone	19.5	Spike	P	0 - 30
2457794	Ibuprofen	20.0	Spike	P	0 - 30
2457794	Imazapyr	23.7	Spike	P	0 - 30
2457794	Imidacloprid	24.2	Spike	P	0 - 30
2457794	Linuron	17.5	Spike	P	0 - 30
2457794	Mandestrobin	22.0	Spike	P	0 - 30
2457794	MCP	27.9	Spike	P	0 - 30
2457794	Naproxen	8.19	Spike	P	0 - 30
2457794	Primidone	23.8	Spike	P	0 - 30
2457794	Pyraclostrobin	20.6	Spike	P	0 - 30
2457794	Silvex	26.7	Spike	P	0 - 30
2457794	Thiamethoxam	20.2	Spike	P	0 - 30
2457794	Tolfenpyrad	28.2	Spike	P	0 - 30
2457794	Triclopyr	25.4	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P439420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458034	Total Alkalinity	2.11	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015

Batch ID: P439635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458044	TDS	5.08	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P439422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458034	Fluoride	0.492	Spike	P	0 - 1.9

Quality Assurance Report Precision

Reference Method: SM 5310 B-2014
Batch ID: P439529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2458172	Organic Carbon	0.752	Spike	P	0 - 15

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

Quality Assurance Report Surrogates

Lab Sample ID: 2458100
Field Sample ID: G3SD0120

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	63.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.4	P	30 - 160
EPA 8321B	Diuron-d6	54.6	P	30 - 160
EPA 8321B	Endothall-d6	158	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	94.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	55.5	P	30 - 160
EPA 8321B	Primidone-d5	72.5	P	30 - 160
EPA 8321B	Sucralose-d6	40.6	P	30 - 160

Lab Sample ID: 2458101
Field Sample ID: G3SD0204

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	78.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	58.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.9	P	30 - 160
EPA 8321B	Diuron-d6	56.8	P	30 - 160
EPA 8321B	Endothall-d6	156	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.5	P	30 - 160
EPA 8321B	Primidone-d5	68.4	P	30 - 160
EPA 8321B	Sucralose-d6	47.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A123347

Included Lab Sample IDs: 2458093

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

Reference Method: DEP SOP: NU-094-1

Run ID: A123350

Included Lab Sample IDs: 2458093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A123391

Included Lab Sample IDs: 2458102

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.6	97.5	P/P	90 - 110
Antimony	97.9	98.1	P/P	90 - 110
Arsenic	94.8	95.3	P/P	90 - 110
Barium	95.7	96.1	P/P	90 - 110
Beryllium	94.1	94.9	P/P	90 - 110
Boron	99.5	100	P/P	90 - 110
Cadmium	95.3	95.7	P/P	90 - 110
Chromium	93.7	94.9	P/P	90 - 110
Cobalt	92.0	93.1	P/P	90 - 110
Copper	92.0	93.5	P/P	90 - 110
Lead	92.5	93.2	P/P	90 - 110
Manganese	93.9	95.6	P/P	90 - 110
Molybdenum	95.9	95.9	P/P	90 - 110
Nickel	91.8	93.3	P/P	90 - 110
Selenium	95.4	95.8	P/P	90 - 110
Silver	95.7	96.3	P/P	90 - 110
Thallium	97.5	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A123396

Included Lab Sample IDs: 2458094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	97.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123399

Included Lab Sample IDs: 2458102

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	106	P/P	90 - 110
Iron	99.5	103	P/P	90 - 110
Magnesium	99.1	103	P/P	90 - 110
Potassium	96.2	98.9	P/P	90 - 110
Sodium	97.8	100	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Tin	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A123399

Included Lab Sample IDs: 2458102

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Titanium	102	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A123400

Included Lab Sample IDs: 2458093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.1	96.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A123400

Included Lab Sample IDs: 2458093

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A123403

Included Lab Sample IDs: 2458094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A123411

Included Lab Sample IDs: 2458100, 2458101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	127	140	P/P	60 - 160
Sucralose	75.9	81.6	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A123419

Included Lab Sample IDs: 2458100, 2458101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.9	92.5	P/P	60 - 160
Endothall	90.8	93.6	P/P	60 - 160
Glufosinate	112	98.6	P/P	60 - 160
Glyphosate	83.8	106	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A123436

Included Lab Sample IDs: 2458100, 2458101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	108	P/P	50 - 150
2,4,5-T	94.2	81.5	P/P	50 - 150
Acetaminophen	110	106	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A123436

Included Lab Sample IDs: 2458100, 2458101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetamiprid	111	110	P/P	50 - 150
Afidopyropen	98.3	102	P/P	50 - 150
Bentazon	100	104	P/P	50 - 160
Benzovindiflupyr	107	105	P/P	50 - 150
Carbamazepine	106	111	P/P	60 - 150
Clothianidin	108	111	P/P	60 - 150
Dinotefuran	113	114	P/P	50 - 150
Diuron	115	116	P/P	60 - 160
Fenuron	108	108	P/P	60 - 150
Fluridone	111	110	P/P	60 - 160
Hydrocodone	114	112	P/P	60 - 150
Ibuprofen	89.8	87.7	P/P	50 - 160
Imazapyr	97.5	94.2	P/P	50 - 150
Imidacloprid	99.6	99.1	P/P	60 - 150
Linuron	106	110	P/P	60 - 150
Mandestrobin	113	109	P/P	50 - 150
MCPP	114	110	P/P	50 - 150
Naproxen	101	93.0	P/P	50 - 160
Primidone	105	99.8	P/P	60 - 150
Pyraclostrobin	109	109	P/P	60 - 150
Silvex	108	111	P/P	50 - 150
Thiamethoxam	116	116	P/P	50 - 150
Tolfenpyrad	98.7	101	P/P	60 - 150
Triclopyr	109	101	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A123459

Included Lab Sample IDs: 2458094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.9	99.6	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A123465

Included Lab Sample IDs: 2458094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	101	P/P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A123466

Included Lab Sample IDs: 2458093

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.5	P/P	90 - 110
Sulfate	100	99.3	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A123521

Included Lab Sample IDs: 2458094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.0	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
DEP SOP: NU-094-1	Color (true)	97.8					6.48	
EPA 180.1 Rev. 2.0	Turbidity	104					4.53	
EPA 200.7 Rev. 4.4	Calcium	111	107	107	105			0.676
	Iron	106	103	104	104			0.705
	Magnesium	109	107	107	105			0.407
	Potassium	99.5	103	103	100			0.590
	Sodium	103	100	98.0	101			1.39
	Strontium	99.8	99.4	98.4	98.8			1.05
	Tin	102	98.4	98.9	97.2			0.506
	Titanium	102	100	100	101			0.0032
	Vanadium	101	100	99.8	101			0.316
	Zinc	102	99.7	99.9	99.0			0.220
EPA 200.8 Rev. 5.4	Aluminum	97.9	99.0	100	99.7			1.21
	Antimony	101	101	102	104			0.946
	Arsenic	99.8	101	102	99.7			0.476
	Barium	100	102	103	101			1.27
	Beryllium	95.1	94.7	94.8	94.3			0.105
	Boron	99.7	100	101	106			0.710
	Cadmium	100	103	101	101			0.0812
	Chromium	101	103	103	99.9			0.130
	Cobalt	98.5	100	101	99.5			1.21
	Copper	97.7	102	102	97.0			0.588
	Lead	94.9	96.3	96.6	96.2			0.329
	Manganese	99.9	99.4	102	102			1.57
	Molybdenum	98.4	99.1	99.5	101			0.428
	Nickel	99.2	101	102	100			0.635
	Selenium	99.3	100	103	99.5			2.98
	Silver	96.1	95.9	96.4	96.7			0.546
	Thallium	98.5	102	103	103			0.506
EPA 300.0 Rev. 2.1	Chloride	102	103	101			0.0665	
	Sulfate	100	102	99.8			0.152	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	97.4	100				2.21
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	104	105				0.721
EPA 353.2 Rev. 2.0	NO2NO3-N	96.5	93.0					0.253
EPA 365.1 Rev. 2.0	Total-P	105	108	110				1.23
EPA 8321B	2,4-D	109	133	110				18.5
	2,4,5-T	93.2	103	85.5				18.8
	Acesulfame K	128	133	133				0.143
	Acetaminophen	56.1	68.8	56.1				20.3
	Acetamiprid	88.2	101	87.0				14.4
	Afidopyropen	73.9	83.4	67.5				21.1
	AMPA	89.1	167	169				1.21
	Bentazon	68.7	61.7	53.3				14.6
	Benzovindiflupyr	80.2	96.5	76.5				23.1
	Carbamazepine	68.4	78.7	65.4				18.4
	Clothianidin	84.2	101	82.6				20.4
	Dinotefuran	96.2	124	100				21.3
	Diuron	68.7	81.2	65.1				22.1
	Endothall	92.7	96.9	93.6				3.48
	Fenuron	94.2	123	119				3.26
	Fluridone	83.4	92.9	75.2				21.1
	Glufosinate	93.8	104	103				1.53
	Glyphosate	91.2	71.1	77.5				8.66
	Hydrocodone	81.6	101	83.3				19.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Ibuprofen	60.6	76.1	62.3			20.0
	Imazapyr	81.5	106	83.8			23.7
	Imidacloprid	86.1	118	92.7			24.2
	Linuron	67.2	72.3	60.7			17.5
	Mandestrobin	84.8	101	80.7			22.0
	MCPP	97.1	119	89.7			27.9
	Naproxen	63.3	66.1	60.9			8.19
	Primidone	83.3	102	80.1			23.8
	Pyraclostrobin	73.7	87.9	71.5			20.6
	Silvex	86.9	102	78.2			26.7
	Sucralose	80.7	82.0	77.6			5.52
	Thiamethoxam	86.0	96.1	78.5			20.2
	Tolfenpyrad	45.6	61.1	46.0			28.2
	Triclopyr	107	125	96.5			25.4
SM 2320 B-2011	Total Alkalinity	102				2.11	
SM 2540 C-2015	TDS	96.4				5.08	
SM 2540 D-2015	TSS	94.4					
SM 4500-F- C-2011	Fluoride	101	101	100			0.492
SM 5310 B-2014	Organic Carbon	102	101	100			0.752

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2458093
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2458093
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2458102
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2458102
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2458093
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2458093
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2458094
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2458094
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2458094
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2458094
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2458100, 2458101
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2458093
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2458102
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2458093
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2458093
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2458093
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2458094

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	12/20/2023			12/20/2023 14:01	Samantha L Bates	2458093
EPA 180.1 Rev. 2.0	12/20/2023			12/20/2023 13:05	Chandler E Cox	2458093
EPA 200.7 Rev. 4.4	12/20/2023	12/20/2023 13:15	George D Taylor	12/21/2023 20:01	Samatha Luckman	2458102
EPA 200.8 Rev. 5.4	12/20/2023	12/20/2023 13:15	George D Taylor	12/21/2023 20:48	Emily M Philpot	2458102
EPA 300.0 Rev. 2.1	12/20/2023			12/28/2023 21:28	Anna M. Plaviak	2458093
EPA 350.1 Rev. 2.0	12/20/2023			01/05/2024 12:18	Ping Hua	2458094
EPA 351.2 Rev. 2.0	12/20/2023	12/27/2023 10:50	Simonne.V. Calhoun	12/28/2023 14:29	Samantha L Bates	2458094
EPA 353.2 Rev. 2.0	12/20/2023			12/21/2023 13:56	Fadila Guebre	2458094
EPA 365.1 Rev. 2.0	12/20/2023	12/22/2023 09:57	Adam P Silver	12/22/2023 14:09	James L Waggeberby	2458094
EPA 8321B	12/20/2023	12/22/2023 09:00	Hoor Shaik	12/27/2023 18:00	Juyoung Kim	2458100
	12/20/2023	12/22/2023 09:00	Hoor Shaik	12/27/2023 18:18	Juyoung Kim	2458101
	12/20/2023	12/22/2023 10:50	Hana Lee	12/22/2023 12:52	Hana Lee	2458100
	12/20/2023	12/22/2023 10:50	Hana Lee	12/22/2023 13:06	Hana Lee	2458101
	12/20/2023	12/22/2023 10:50	Hana Lee	12/23/2023 20:50	Hana Lee	2458100
	12/20/2023	12/22/2023 10:50	Hana Lee	12/23/2023 21:03	Hana Lee	2458101
SM 2320 B-2011	12/20/2023			12/21/2023 22:55	Dale L. Simmons	2458093
SM 2340 B-2011	12/20/2023			12/21/2023 20:01	Samatha Luckman	2458102
SM 2540 C-2015	12/20/2023			12/21/2023 15:04	Yijie Li	2458093
SM 2540 D-2015	12/20/2023			12/21/2023 15:04	Yijie Li	2458093
SM 4500-F- C-2011	12/20/2023			12/21/2023 22:55	Dale L. Simmons	2458093
SM 5310 B-2014	12/20/2023			12/23/2023 15:41	Kenneth H Lee	2458094