

Chemical Analysis Report

SW-DIST-2023-08-09-01

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

Event Description: **2023 Run 15**
Request ID: **RQ-2023-08-07-43**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 25-AUG-2023 10:15



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: ALDERMAN CREEK AT MOSAIC

Collection Date/Time: 08/08/2023 10:30

Field ID: G2SW0101

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429631	DEP SOP: NU-094-1	Color (true)	29		PCU	P433636	
	EPA 180.1 Rev. 2.0	Turbidity	4.3		NTU	P433640	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P433892	
		Sulfate	67		mg SO4/L	P433894	
	SM 2320 B-2011	Total Alkalinity	31	A	mg CaCO3/L	P433830	
	SM 2540 C-2015	TDS	184		mg/L	P434110	
	SM 2540 D-2015	TSS	4	I	mg/L	P434106	
	SM 4500-F- C-2011	Fluoride	0.47		mg F/L	P433927	
2429632	EPA 350.1 Rev. 2.0	Ammonia-N	0.091		mg N/L	P433853	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58	J	mg N/L	P433701	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	3.8		mg N/L	P433787	
	EPA 365.1 Rev. 2.0	Total-P	0.50		mg P/L	P433723	
	SM 5310 B-2011	Organic Carbon	4.8		mg C/L	P433754	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 351.2 Rev. 2.0: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

SM 5310 B-2011: Batch matrix spike recoveries and relative percent difference are unavailable because of analytical difficulties.

Sample Location: LIL MANATEE RIVER S FORK AT SAFFOLD RD Collection Date/Time: 08/08/2023 11:45

Field ID: G2SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429654	EPA 8321B	2,4-D	0.0020	U	ug/L	P433544	
		Acesulfame K	0.10	U	ug/L	P433621	MS
		2,4,5-T	0.0040	U	ug/L	P433544	
		AMPA	0.28	I	ug/L	P433621	
		Acetaminophen	0.0080	U	ug/L	P433544	
		Acetamiprid	0.0020	U	ug/L	P433544	
		Endothall	0.25	U	ug/L	P433621	
		Glufosinate	0.10	U	ug/L	P433621	
		Glyphosate	0.75		ug/L	P433621	
		Afidopyropen	0.0020	UJ	ug/L	P433544	CCV, RPD
		Bentazon	0.39		ug/L	P433544	
		Sucralose	0.010	U	ug/L	P433621	
		Benzovindiflupyr	0.0020	U	ug/L	P433544	
		Carbamazepine	8.0E-04	U	ug/L	P433544	MS
		Clothianidin	0.043		ug/L	P433544	
		Dinotefuran	0.0077	I	ug/L	P433544	
		Diuron	0.0020	U	ug/L	P433544	MS
		Fenuron	0.032	U	ug/L	P433544	
		Fluridone	8.0E-04	U	ug/L	P433544	
		Imazapyr	0.54		ug/L	P433544	
		Hydrocodone	0.0020	U	ug/L	P433544	
		Ibuprofen	0.080	U	ug/L	P433544	
		Imidacloprid	0.16		ug/L	P433544	
		Linuron	0.0040	UJ	ug/L	P433544	CCV
		Mandestrobin	0.0020	U	ug/L	P433544	
		MCPP	0.0020	U	ug/L	P433544	
		Naproxen	0.0080	U	ug/L	P433544	
		Primidone	0.0040	U	ug/L	P433544	
		Pyraclostrobin	0.0020	U	ug/L	P433544	
		Silvex	0.0040	U	ug/L	P433544	
		Thiamethoxam	0.048		ug/L	P433544	
		Tolfenpyrad	0.0020	U	ug/L	P433544	
		Triclopyr	0.0040	U	ug/L	P433544	
2429656	EPA 200.7 Rev. 4.4	Calcium	26.0		mg/L	P433806	
		Iron	390		ug/L	P433806	
		Magnesium	11.9		mg/L	P433806	
		Potassium	7.4		mg/L	P433806	
		Sodium	7.5		mg/L	P433806	
		Strontium	677		ug/L	P433806	
		Tin	3.0	U	ug/L	P433806	
		Titanium	3.9		ug/L	P433806	
		Vanadium	3.7	I	ug/L	P433806	
		Zinc	5.0	U	ug/L	P433806	
	EPA 200.8 Rev. 5.4	Aluminum	197		ug/L	P433806	

Field ID: G2SW0103

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429656	EPA 200.8 Rev. 5.4	Antimony	0.063	I	ug/L	P433806	
		Arsenic	0.37		ug/L	P433806	
		Barium	20.9		ug/L	P433806	
		Beryllium	0.025	I	ug/L	P433806	
		Boron	38.3		ug/L	P433806	
		Cadmium	0.077	I	ug/L	P433806	
		Chromium	0.62	I	ug/L	P433806	
		Cobalt	0.128		ug/L	P433806	
		Copper	2.68		ug/L	P433806	
		Lead	0.20	U	ug/L	P433806	
		Manganese	22.7		ug/L	P433806	
		Molybdenum	0.56	I	ug/L	P433806	
		Nickel	0.50	U	ug/L	P433806	
		Selenium	0.20	U	ug/L	P433806	
		Silver	0.010	U	ug/L	P433806	
	SM 2340 B-2011	Thallium	0.10	U	ug/L	P433806	
		Hardness	114		mg/L	P433806	

Ref. Method and Comment:
 EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: LIL MANATEE AT TAYLOR GRADE

Collection Date/Time: 08/08/2023 11:05

Field ID: G2SW0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429655	EPA 8321B	2,4-D	0.0020	U	ug/L	P433544	
		Acesulfame K	0.10	U	ug/L	P433621	MS
		2,4,5-T	0.0040	U	ug/L	P433544	
		AMPA	0.15	I	ug/L	P433621	
		Acetaminophen	0.044		ug/L	P433544	
		Acetamiprid	0.0020	U	ug/L	P433544	
		Endothall	0.25	U	ug/L	P433621	
		Glufosinate	0.10	U	ug/L	P433621	
		Glyphosate	0.10	U	ug/L	P433621	
		Afidopyropen	0.0020	UJ	ug/L	P433544	CCV, RPD
		Bentazon	9.4E-04	I	ug/L	P433544	
		Sucralose	0.028	I	ug/L	P433621	
		Benzovindiflupyr	0.0020	U	ug/L	P433544	
		Carbamazepine	8.0E-04	U	ug/L	P433544	MS
		Clothianidin	0.0020	U	ug/L	P433544	
		Dinotefuran	0.0029	I	ug/L	P433544	
		Diuron	0.0020	U	ug/L	P433544	MS
		Fenuron	0.032	U	ug/L	P433544	
		Fluridone	8.0E-04	U	ug/L	P433544	
		Imazapyr	3.7		ug/L	P433544	
		Hydrocodone	0.0020	U	ug/L	P433544	
		Ibuprofen	0.080	U	ug/L	P433544	
		Imidacloprid	0.0021	I	ug/L	P433544	
		Linuron	0.0040	UJ	ug/L	P433544	CCV
		Mandestrobin	0.0020	U	ug/L	P433544	
		MCPP	0.0020	U	ug/L	P433544	
		Naproxen	0.0080	U	ug/L	P433544	
		Primidone	0.0040	U	ug/L	P433544	
		Pyraclostrobin	0.0020	U	ug/L	P433544	
		Silvex	0.0040	U	ug/L	P433544	
		Thiamethoxam	0.0020	U	ug/L	P433544	
		Tolfenpyrad	0.0020	U	ug/L	P433544	
		Triclopyr	0.0040	U	ug/L	P433544	
2429657	EPA 200.7 Rev. 4.4	Calcium	16.6		mg/L	P433806	
		Iron	170		ug/L	P433806	
		Magnesium	6.77		mg/L	P433806	
		Potassium	3.8		mg/L	P433806	
		Sodium	8.1		mg/L	P433806	
		Strontium	186		ug/L	P433806	
		Tin	3.0	U	ug/L	P433806	
		Titanium	2.4	I	ug/L	P433806	
		Vanadium	2.0	U	ug/L	P433806	
		Zinc	5.0	U	ug/L	P433806	
	EPA 200.8 Rev. 5.4	Aluminum	62		ug/L	P434050	

Field ID: G2SW0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2429657	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P433806	
		Arsenic	0.44		ug/L	P433806	
		Barium	7.49		ug/L	P433806	
		Beryllium	0.011	I	ug/L	P433806	
		Boron	37.1		ug/L	P433806	
		Cadmium	0.020	U	ug/L	P433806	
		Chromium	0.44	I	ug/L	P433806	
		Cobalt	0.040	I	ug/L	P433806	
		Copper	0.72	I	ug/L	P433806	
		Lead	0.20	U	ug/L	P433806	
		Manganese	17.6		ug/L	P433806	
		Molybdenum	0.17	I	ug/L	P433806	
		Nickel	0.50	U	ug/L	P433806	
		Selenium	0.20	U	ug/L	P433806	
		Silver	0.010	U	ug/L	P433806	
		Thallium	0.10	U	ug/L	P433806	
	SM 2340 B-2011	Hardness	69.2		mg/L	P433806	

Ref. Method and Comment:
 EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P433636

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433640

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

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: P433806

Component	Result	Code	Units
Aluminum	12	I	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 200.8 Rev. 5.4
Batch ID: P434050

Component	Result	Code	Units
Aluminum	5.0	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433892

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433894

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433853

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433701

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433787

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433723

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

Reference Method: EPA 8321B
Batch ID: P433544

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P433544

Component	Result	Code	Units
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: EPA 8321B

Batch ID: P433621

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: SM 2320 B-2011

Batch ID: P433830

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

Reference Method: SM 2540 C-2015

Batch ID: P434110

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P434106

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P433927

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P433754

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: P433636

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433640

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	104		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	94.0		P	85 - 115
Sodium	97.3		P	85 - 115
Strontium	96.4		P	85 - 115
Tin	98.6		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	103		P	85 - 115
Arsenic	99.5		P	85 - 115
Barium	104		P	85 - 115
Beryllium	96.3		P	85 - 115
Boron	104		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.1		P	85 - 115
Cobalt	96.4		P	85 - 115
Copper	95.2		P	85 - 115
Lead	93.9		P	85 - 115
Manganese	99.4		P	85 - 115
Molybdenum	99.6		P	85 - 115
Nickel	96.0		P	85 - 115
Selenium	100		P	85 - 115
Silver	111		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P434050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433892

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433894

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433853

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: P433701

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433787

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433723

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

Reference Method: EPA 8321B
Batch ID: P433544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.8		P	40 - 150
2,4,5-T	81.6		P	40 - 150
Acetaminophen	71.6		P	30 - 150
Acetamiprid	85.6		P	40 - 150
Afidopyropen	88.6		P	30 - 150
Bentazon	118		P	30 - 150
Benzovindiflupyr	61.0		P	40 - 150
Carbamazepine	67.9		P	40 - 150
Clothianidin	87.2		P	40 - 150
Dinotefuran	109		P	40 - 150
Diuron	61.8		P	40 - 150
Fenuron	95.7		P	40 - 150
Fluridone	97.4		P	40 - 150
Hydrocodone	111		P	40 - 150
Ibuprofen	69.4		P	40 - 150
Imazapyr	100		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P433544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	84.0		P	40 - 150
Linuron	71.9		P	40 - 150
Mandestrobin	94.6		P	40 - 150
MCPP	90.3		P	40 - 150
Naproxen	66.6		P	40 - 150
Primidone	85.4		P	40 - 150
Pyraclostrobin	75.8		P	40 - 150
Silvex	93.2		P	40 - 150
Thiamethoxam	82.7		P	40 - 150
Tolfenpyrad	74.0		P	30 - 150
Triclopyr	85.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P433621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	81.6		P	40 - 150
Endothall	103		P	40 - 150
Glufosinate	98.0		P	40 - 150
Glyphosate	114		P	40 - 150
Sucralose	93.2		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P433830

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.2		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P434110

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	99.1		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P434106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.4		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P433927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P433754

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429374	Calcium	102		P	80 - 120
2429374	Iron	102	103	P/P	80 - 120
2429374	Magnesium	101	103	P/P	80 - 120
2429374	Potassium	91.4	93.0	P/P	80 - 120
2429374	Sodium	98.2		P	80 - 120
2429374	Strontium	94.8	95.5	P/P	80 - 120
2429374	Tin	97.6	95.9	P/P	80 - 120
2429374	Titanium	102	100	P/P	80 - 120
2429374	Vanadium	102	99.9	P/P	80 - 120
2429374	Zinc	101	98.9	P/P	80 - 120
2429871	Calcium	104		P	75 - 125
2429871	Iron	104		P	75 - 125
2429871	Magnesium	102		P	75 - 125
2429871	Potassium	98.3		P	75 - 125
2429871	Sodium	102		P	75 - 125
2429871	Strontium	101		P	75 - 125
2429871	Tin	99.1		P	75 - 125
2429871	Titanium	103		P	75 - 125
2429871	Vanadium	104		P	75 - 125
2429871	Zinc	99.9		P	75 - 125

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429374	Aluminum	98.8	97.7	P/P	80 - 120
2429374	Antimony	105	105	P/P	80 - 120
2429374	Arsenic	98.3	99.5	P/P	80 - 120
2429374	Barium	106	105	P/P	80 - 120
2429374	Beryllium	96.2	98.0	P/P	80 - 120
2429374	Boron	102	101	P/P	80 - 120
2429374	Cadmium	103	104	P/P	80 - 120
2429374	Chromium	97.4	97.4	P/P	80 - 120
2429374	Cobalt	93.8	93.6	P/P	80 - 120
2429374	Copper	94.0	94.1	P/P	80 - 120
2429374	Lead	94.2	94.5	P/P	80 - 120
2429374	Manganese	97.2	100	P/P	80 - 120
2429374	Molybdenum	101	101	P/P	80 - 120
2429374	Nickel	91.7	92.0	P/P	80 - 120
2429374	Selenium	98.4	98.5	P/P	80 - 120
2429374	Silver	110	109	P/P	80 - 120
2429374	Thallium	105	105	P/P	80 - 120
2429871	Aluminum	98.5		P	80 - 120
2429871	Antimony	106		P	80 - 120
2429871	Arsenic	99.3		P	80 - 120
2429871	Barium	106		P	80 - 120
2429871	Beryllium	98.4		P	80 - 120
2429871	Boron	104		P	80 - 120
2429871	Cadmium	103		P	80 - 120
2429871	Chromium	98.0		P	80 - 120
2429871	Cobalt	91.5		P	80 - 120
2429871	Copper	89.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429871	Lead	93.0		P	80 - 120
2429871	Manganese	99.2		P	80 - 120
2429871	Molybdenum	103		P	80 - 120
2429871	Nickel	89.8		P	80 - 120
2429871	Selenium	97.0		P	80 - 120
2429871	Silver	110		P	80 - 120
2429871	Thallium	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P434050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2431836	Aluminum	99.6	100	P/P	80 - 120
2431916	Aluminum	99.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433892

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429531	Chloride	102		P	90 - 110
2429806	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433894

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429531	Sulfate	99.4		P	90 - 110
2429806	Sulfate	99.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2427797	Ammonia-N	96.2	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429632	Kjeldahl Nitrogen	61.4	63.8	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429491	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P433544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428665	2,4,5-T	99.8	114	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P433544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2428665	Acetaminophen	79.6	84.5	P/P	30 - 150
2428665	Acetamiprid	40.5	44.6	P/P	40 - 150
2428665	Afidopyropen	51.9	92.8	P/P	30 - 150
2428665	Bentazon	66.0	81.7	P/P	30 - 150
2428665	Benzovindiflupyr	52.1	66.6	P/P	40 - 150
2428665	Carbamazepine	36.7	40.3	F/P	40 - 150
2428665	Dinotefuran	80.2	77.0	P/P	40 - 150
2428665	Diuron	36.9	38.7	F/F	40 - 150
2428665	Fenuron	49.5	50.3	P/P	40 - 150
2428665	Fluridone	56.7	72.9	P/P	40 - 150
2428665	Hydrocodone	56.9	57.8	P/P	40 - 150
2428665	Ibuprofen	69.4	68.2	P/P	40 - 150
2428665	Imazapyr	74.9	90.9	P/P	40 - 150
2428665	Linuron	62.6	54.5	P/P	40 - 150
2428665	Mandestrobin	68.8	83.0	P/P	40 - 150
2428665	MCCP	111	107	P/P	40 - 150
2428665	Naproxen	66.8	65.2	P/P	40 - 150
2428665	Primidone	72.2	74.4	P/P	40 - 150
2428665	Pyraclostrobin	55.4	67.9	P/P	40 - 150
2428665	Silvex	102	101	P/P	40 - 150
2428665	Thiamethoxam	60.6	73.9	P/P	40 - 150
2428665	Tolfenpyrad	60.6	72.2	P/P	30 - 150
2428665	Triclopyr	111	107	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P433621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429139	Acesulfame K	155	157	F/F	40 - 150
2429139	AMPA	49.0	51.3	P/P	40 - 150
2429139	Endothall	109	103	P/P	40 - 150
2429139	Glufosinate	88.1	86.4	P/P	40 - 150
2429139	Glyphosate	95.8	121	P/P	40 - 150
2429139	Sucralose	95.0	102	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P433927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2429437	Fluoride	97.5	97.5	P/P	94 - 106

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P433636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429621	Color (true)	1.48	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P433640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429435	Turbidity	4.55	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P433806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429374	Calcium	1.21	Spike	P	0 - 20
2429374	Iron	1.24	Spike	P	0 - 20
2429374	Magnesium	1.35	Spike	P	0 - 20
2429374	Potassium	1.26	Spike	P	0 - 20
2429374	Sodium	0.0302	Spike	P	0 - 20
2429374	Strontium	0.713	Spike	P	0 - 20
2429374	Tin	1.69	Spike	P	0 - 20
2429374	Titanium	2.08	Spike	P	0 - 20
2429374	Vanadium	2.05	Spike	P	0 - 20
2429374	Zinc	1.91	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P433806

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429374	Aluminum	1.14	Spike	P	0 - 20
2429374	Antimony	0.407	Spike	P	0 - 20
2429374	Arsenic	1.16	Spike	P	0 - 20
2429374	Barium	1.13	Spike	P	0 - 20
2429374	Beryllium	1.89	Spike	P	0 - 20
2429374	Boron	0.628	Spike	P	0 - 20
2429374	Cadmium	1.04	Spike	P	0 - 20
2429374	Chromium	0.0312	Spike	P	0 - 20
2429374	Cobalt	0.120	Spike	P	0 - 20
2429374	Copper	0.0690	Spike	P	0 - 20
2429374	Lead	0.344	Spike	P	0 - 20
2429374	Manganese	2.49	Spike	P	0 - 20
2429374	Molybdenum	0.522	Spike	P	0 - 20
2429374	Nickel	0.306	Spike	P	0 - 20
2429374	Selenium	0.112	Spike	P	0 - 20
2429374	Silver	1.30	Spike	P	0 - 20
2429374	Thallium	0.170	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P434050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2431836	Aluminum	0.703	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433892

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429531	Chloride	0.791	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P433853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2427797	Ammonia-N	1.23	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P433701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429632	Kjeldahl Nitrogen	2.53	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P433787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429491	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P433723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429632	Total-P	1.94	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P433544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428665	2,4-D	9.70	Spike	P	0 - 30
2428665	2,4,5-T	12.9	Spike	P	0 - 30
2428665	Acetaminophen	5.99	Spike	P	0 - 30
2428665	Acetamiprid	9.79	Spike	P	0 - 30
2428665	Afidopyropen	56.6	Spike	F	0 - 30
2428665	Bentazon	12.7	Spike	P	0 - 30
2428665	Benzovindiflupyr	24.4	Spike	P	0 - 30
2428665	Carbamazepine	9.33	Spike	P	0 - 30
2428665	Clothianidin	2.54	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P433544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2428665	Dinotefuran	4.05	Spike	P	0 - 30
2428665	Diuron	4.64	Spike	P	0 - 30
2428665	Fenuron	1.61	Spike	P	0 - 30
2428665	Fluridone	24.9	Spike	P	0 - 30
2428665	Hydrocodone	1.57	Spike	P	0 - 30
2428665	Ibuprofen	1.69	Spike	P	0 - 30
2428665	Imazapyr	12.1	Spike	P	0 - 30
2428665	Imidacloprid	14.0	Spike	P	0 - 30
2428665	Linuron	13.8	Spike	P	0 - 30
2428665	Mandestrobin	18.7	Spike	P	0 - 30
2428665	MCPPP	4.26	Spike	P	0 - 30
2428665	Naproxen	2.50	Spike	P	0 - 30
2428665	Primidone	3.06	Spike	P	0 - 30
2428665	Pyraclostrobin	20.1	Spike	P	0 - 30
2428665	Silvex	0.709	Spike	P	0 - 30
2428665	Thiamethoxam	19.8	Spike	P	0 - 30
2428665	Tolfenpyrad	17.4	Spike	P	0 - 30
2428665	Triclopyr	3.93	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P433621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429139	Acesulfame K	0.818	Spike	P	0 - 30
2429139	AMPA	3.01	Spike	P	0 - 30
2429139	Endothall	5.59	Spike	P	0 - 30
2429139	Glufosinate	1.94	Spike	P	0 - 30
2429139	Glyphosate	6.79	Spike	P	0 - 30
2429139	Sucralose	6.38	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P433830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429631	Total Alkalinity	3.31	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P434110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429490	TDS	5.94	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P433927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2429437	Fluoride	0.0	Spike	P	0 - 1.9

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2429654

Field Sample ID: G2SW0103

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	48.4	P	30 - 160
EPA 8321B	Diuron-d6	42.6	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	122	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.9	P	30 - 160
EPA 8321B	Primidone-d5	67.6	P	30 - 160
EPA 8321B	Sucralose-d6	59.3	P	30 - 160

Lab Sample ID: 2429655

Field Sample ID: G2SW0023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	89.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.1	P	30 - 160
EPA 8321B	Diuron-d6	35.3	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	123	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.0	P	30 - 160
EPA 8321B	Primidone-d5	68.7	P	30 - 160
EPA 8321B	Sucralose-d6	96.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A120926

Included Lab Sample IDs: 2429631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.1	97.5	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120929

Included Lab Sample IDs: 2429631

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

Reference Method: SM 5310 B-2011

Run ID: A120987

Included Lab Sample IDs: 2429632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	96.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120992

Included Lab Sample IDs: 2429632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120993

Included Lab Sample IDs: 2429632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121007

Included Lab Sample IDs: 2429632

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

Reference Method: EPA 8321B

Run ID: A121009

Included Lab Sample IDs: 2429654, 2429655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	86.9	74.1	P/P	60 - 160
Endothall	103	93.6	P/P	60 - 160
Glufosinate	99.3	90.6	P/P	60 - 160
Glyphosate	105	102	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A121022

Included Lab Sample IDs: 2429654, 2429655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	107	109	P/P	60 - 160
Sucralose	99.6	96.6	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A121026

Included Lab Sample IDs: 2429631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.0	96.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121038

Included Lab Sample IDs: 2429654, 2429655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.2	96.4	P/P	50 - 150
2,4,5-T	87.5	85.9	P/P	50 - 150
Acetaminophen	94.9	84.8	P/P	60 - 160
Acetamiprid	111	111	P/P	50 - 150
Afidopyropen	153*	117	F/P	50 - 150
Bentazon	123	101	P/P	50 - 160
Benzovindiflupyr	108	114	P/P	50 - 150
Carbamazepine	113	97.8	P/P	60 - 150
Clothianidin	109	102	P/P	60 - 150
Dinotefuran	141	121	P/P	50 - 150
Diuron	93.6	96.5	P/P	60 - 160
Fenuron	119	108	P/P	60 - 150
Fluridone	105	106	P/P	60 - 160
Hydrocodone	114	124	P/P	60 - 150
Ibuprofen	133	110	P/P	50 - 160
Imazapyr	97.1	99.7	P/P	50 - 150
Imidacloprid	91.5	100	P/P	60 - 150
Linuron	154*	104	F/P	60 - 150
Mandestrobin	95.1	141	P/P	50 - 150
MCPP	85.3	98.1	P/P	50 - 150
Naproxen	112	94.1	P/P	50 - 160
Primidone	112	115	P/P	60 - 150
Pyraclostrobin	121	108	P/P	60 - 150
Silvex	103	86.9	P/P	50 - 150
Thiamethoxam	99.1	110	P/P	50 - 150
Tolfenpyrad	98.5	104	P/P	60 - 150
Triclopyr	87.5	80.3	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121039

Included Lab Sample IDs: 2429632

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A121050

Included Lab Sample IDs: 2429656, 2429657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Calcium	102	102	P/P	90 - 110
Iron	101	101	P/P	90 - 110
Iron	102	101	P/P	90 - 110
Magnesium	101	100	P/P	90 - 110
Magnesium	101	101	P/P	90 - 110
Potassium	96.0	96.8	P/P	90 - 110
Potassium	96.8	97.1	P/P	90 - 110
Sodium	98.2	99.0	P/P	90 - 110
Sodium	99.0	99.7	P/P	90 - 110
Strontium	96.8	98.0	P/P	90 - 110
Strontium	98.0	99.3	P/P	90 - 110
Tin	102	102	P/P	90 - 110
Tin	102	102	P/P	90 - 110
Titanium	102	102	P/P	90 - 110
Titanium	103	102	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	102	102	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121054

Included Lab Sample IDs: 2429656, 2429657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	101	P/P	90 - 110
Antimony	102	101	P/P	90 - 110
Arsenic	99.2	97.5	P/P	90 - 110
Barium	102	101	P/P	90 - 110
Beryllium	98.1	96.9	P/P	90 - 110
Boron	98.8	99.6	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	102	100	P/P	90 - 110
Cobalt	95.4	93.2	P/P	90 - 110
Copper	95.0	92.1	P/P	90 - 110
Lead	93.0	93.3	P/P	90 - 110
Manganese	102	101	P/P	90 - 110
Molybdenum	100	98.4	P/P	90 - 110
Selenium	102	101	P/P	90 - 110
Silver	97.2	97.0	P/P	90 - 110
Thallium	99.3	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121057

Included Lab Sample IDs: 2429631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.3	P/P	90 - 110
Sulfate	99.5	97.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A121067

Included Lab Sample IDs: 2429631

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121080

Included Lab Sample IDs: 2429656, 2429657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	94.1	94.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A121158

Included Lab Sample IDs: 2429657

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.5	99.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A21056

Included Lab Sample IDs: 2429654, 2429655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	101	114	P/P	50 - 160
Imazapyr	106	94.6	P/P	50 - 150

* 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)	100				1.48	
EPA 180.1 Rev. 2.0	Turbidity	99.8				4.55	
EPA 200.7 Rev. 4.4	Calcium	102	102	104			1.21
	Iron	104	102	103	104		1.24
	Magnesium	104	101	103	102		1.35
	Potassium	94.0	91.4	93.0	98.3		1.26
	Sodium	97.3	98.2	102			0.0302
	Strontium	96.4	94.8	95.5	101		0.713
	Tin	98.6	99.1	97.6	95.9		1.69
	Titanium	101	102	100	103		2.08
	Vanadium	100	102	99.9	104		2.05
	Zinc	101	101	98.9	99.9		1.91
EPA 200.8 Rev. 5.4	Aluminum	101	98.8	97.7	98.5		1.14
	Aluminum	100	99.6	100	99.0		0.703
	Antimony	103	105	105	106		0.407
	Arsenic	99.5	98.3	99.5	99.3		1.16
	Barium	104	106	105	106		1.13
	Beryllium	96.3	96.2	98.0	98.4		1.89
	Boron	104	102	101	104		0.628
	Cadmium	101	103	104	103		1.04
	Chromium	99.1	97.4	97.4	98.0		0.0312
	Cobalt	96.4	93.8	93.6	91.5		0.120
	Copper	95.2	94.0	94.1	89.0		0.0690
	Lead	93.9	94.2	94.5	93.0		0.344
	Manganese	99.4	97.2	100	99.2		2.49
	Molybdenum	99.6	101	101	103		0.522
	Nickel	96.0	91.7	92.0	89.8		0.306
	Selenium	100	98.4	98.5	97.0		0.112
	Silver	111	110	109	110		1.30
	Thallium	101	105	105	104		0.170
EPA 300.0 Rev. 2.1	Chloride	101	102	99.3		0.791	
	Sulfate	99.5	99.4	99.8			
EPA 350.1 Rev. 2.0	Ammonia-N	96.6	96.2	97.6			1.23
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	61.4	63.8			2.53
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	103			0.976
EPA 365.1 Rev. 2.0	Total-P	105					1.94
EPA 8321B	2,4-D	78.8					9.70
	2,4,5-T	81.6	114	99.8			12.9
	Acesulfame K	101	155	157			0.818
	Acetaminophen	71.6	79.6	84.5			5.99
	Acetamiprid	85.6	40.5	44.6			9.79
	Afidopyropen	88.6	51.9	92.8			56.6
	AMPA	81.6	49.0	51.3			3.01
	Bentazon	118	81.7	66.0			12.7
	Benzovindiflupyr	61.0	52.1	66.6			24.4
	Carbamazepine	67.9	36.7	40.3			9.33
	Clothianidin	87.2					2.54
	Dinotefuran	109	80.2	77.0			4.05
	Diuron	61.8	36.9	38.7			4.64
	Endothall	103	109	103			5.59
	Fenuron	95.7	49.5	50.3			1.61
	Fluridone	97.4	56.7	72.9			24.9
	Glufosinate	98.0	88.1	86.4			1.94
	Glyphosate	114	95.8	121			6.79

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	111	56.9	57.8		1.57
	Ibuprofen	69.4	68.2	69.4		1.69
	Imazapyr	100	90.9	74.9		12.1
	Imidacloprid	84.0				14.0
	Linuron	71.9	62.6	54.5		13.8
	Mandestrobin	94.6	68.8	83.0		18.7
	MCP	90.3	107	111		4.26
	Naproxen	66.6	65.2	66.8		2.50
	Primidone	85.4	72.2	74.4		3.06
	Pyraclostrobin	75.8	55.4	67.9		20.1
	Silvex	93.2	101	102		0.709
	Sucralose	93.2	95.0	102		6.38
	Thiamethoxam	82.7	60.6	73.9		19.8
	Tolfenpyrad	74.0	72.2	60.6		17.4
	Triclopyr	85.0	107	111		3.93
SM 2320 B-2011	Total Alkalinity	98.2			3.31	
SM 2540 C-2015	TDS	99.1			5.94	
SM 2540 D-2015	TSS	91.4				
SM 4500-F- C-2011	Fluoride	98.2	97.5	97.5		0.0
SM 5310 B-2011	Organic Carbon	94.2				

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2429631
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2429631
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2429656, 2429657
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2429656, 2429657
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2429631
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2429631
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2429632
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2429632
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2429632
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2429632
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2429654, 2429655
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2429631
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2429656, 2429657
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2429631
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2429631
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2429631
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2429632

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	08/09/2023			08/09/2023 15:12	Alexis Price	2429631
EPA 180.1 Rev. 2.0	08/09/2023			08/09/2023 13:20	Alexis Price	2429631
EPA 200.7 Rev. 4.4	08/09/2023	08/14/2023 14:30	George D Taylor	08/15/2023 17:47	Chase Roberts	2429656
	08/09/2023	08/14/2023 14:30	George D Taylor	08/15/2023 18:19	Chase Roberts	2429657
EPA 200.8 Rev. 5.4	08/09/2023	08/14/2023 14:30	George D Taylor	08/15/2023 16:39	Emily M Philpot	2429656
	08/09/2023	08/14/2023 14:30	George D Taylor	08/15/2023 16:49	Emily M Philpot	2429657
	08/09/2023	08/14/2023 14:30	George D Taylor	08/16/2023 15:16	Emily M Philpot	2429656
	08/09/2023	08/14/2023 14:30	George D Taylor	08/16/2023 15:23	Emily M Philpot	2429657
	08/09/2023	08/18/2023 13:25	George D Taylor	08/21/2023 16:48	Conrad Hartmann	2429657
EPA 300.0 Rev. 2.1	08/09/2023			08/15/2023 13:59	James L Waggeberby	2429631
EPA 350.1 Rev. 2.0	08/09/2023			08/15/2023 10:51	Khloe J Berg	2429632
EPA 351.2 Rev. 2.0	08/09/2023	08/10/2023 12:54	Dana G. Hughes	08/11/2023 13:44	Samantha L Bates	2429632
EPA 353.2 Rev. 2.0	08/09/2023			08/11/2023 17:18	Anna M. Plaviak	2429632
EPA 365.1 Rev. 2.0	08/09/2023	08/10/2023 17:20	Adam P Silver	08/11/2023 10:59	James L Waggeberby	2429632
EPA 8321B	08/09/2023	08/09/2023 14:00	Hoor Shaik	08/15/2023 05:16	Juyoung Kim	2429654
	08/09/2023	08/09/2023 14:00	Hoor Shaik	08/15/2023 05:34	Juyoung Kim	2429655
	08/09/2023	08/09/2023 14:00	Hoor Shaik	08/16/2023 03:31	Juyoung Kim	2429654
	08/09/2023	08/09/2023 14:00	Hoor Shaik	08/16/2023 03:50	Juyoung Kim	2429655
	08/09/2023	08/10/2023 11:00	Hana Lee	08/10/2023 13:32	Tae K Lee	2429654
	08/09/2023	08/10/2023 11:00	Hana Lee	08/10/2023 13:45	Tae K Lee	2429655
	08/09/2023	08/10/2023 11:00	Hana Lee	08/11/2023 20:49	Tae K Lee	2429654
	08/09/2023	08/10/2023 11:00	Hana Lee	08/11/2023 21:03	Tae K Lee	2429655
SM 2320 B-2011	08/09/2023			08/15/2023 00:42	Chandler E Cox	2429631
SM 2340 B-2011	08/09/2023			08/15/2023 17:47	Chase Roberts	2429656
	08/09/2023			08/15/2023 18:19	Chase Roberts	2429657
SM 2540 C-2015	08/09/2023			08/11/2023 15:21	Yijie Li	2429631
SM 2540 D-2015	08/09/2023			08/11/2023 15:21	Yijie Li	2429631
SM 4500-F- C-2011	08/09/2023			08/15/2023 16:25	Dale L. Simmons	2429631
SM 5310 B-2011	08/09/2023			08/10/2023 21:37	Elise M. Gillis	2429632