

Chemical Analysis Report

CEN-DIST-2023-09-15-02

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

Event Description: **Run 8**
Request ID: **RQ-2023-09-11-34**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Date Certified: 06-OCT-2023 13:51



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: 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: Lake Smart at Center

Collection Date/Time: 09/14/2023 10:20

Field ID: G3CE0055

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437694	EPA 8321B	2,4-D	0.080		ug/L	P435120	
		Acesulfame K	0.10	U	ug/L	P435158	
		2,4,5-T	0.0040	U	ug/L	P435120	
		AMPA	0.10	U	ug/L	P435158	
		Acetaminophen	0.0080	U	ug/L	P435120	
		Acetamiprid	0.0020	U	ug/L	P435120	
		Endothall	0.25	U	ug/L	P435158	
		Glufosinate	0.10	U	ug/L	P435158	
		Glyphosate	0.10	U	ug/L	P435158	
		Afidopyropen	0.0020	U	ug/L	P435120	
		Bentazon	0.0015	I	ug/L	P435120	
		Sucralose	0.79		ug/L	P435158	
		Benzovindiflupyr	0.0020	U	ug/L	P435120	
		Carbamazepine	8.0E-04	U	ug/L	P435120	
		Clothianidin	0.0020	U	ug/L	P435120	
		Dinotefuran	0.0020	U	ug/L	P435120	
		Diuron	0.0020	U	ug/L	P435120	
		Fenuron	0.032	U	ug/L	P435120	MS
		Fluridone	0.0072		ug/L	P435120	
		Imazapyr	0.0062	I	ug/L	P435120	
		Hydrocodone	0.0020	U	ug/L	P435120	
		Ibuprofen	0.080	U	ug/L	P435120	
		Imidacloprid	0.0032	I	ug/L	P435120	
		Linuron	0.0040	U	ug/L	P435120	
		Mandestrobin	0.0020	U	ug/L	P435120	
		MCPP	0.0020	U	ug/L	P435120	
		Naproxen	0.0080	U	ug/L	P435120	
		Primidone	0.0040	U	ug/L	P435120	
		Pyraclostrobin	0.0020	U	ug/L	P435120	
		Silvex	0.0040	U	ug/L	P435120	
		Thiamethoxam	0.0020	U	ug/L	P435120	
		Tolfenpyrad	0.0020	U	ug/L	P435120	
		Triclopyr	0.0040	U	ug/L	P435120	

Ref. Method and Comment:

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Lake Henry at Center

Collection Date/Time: 09/14/2023 11:17

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437682	DEP SOP: NU-094-1	Color (true)	2.5	U	PCU	P435081	
	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P435085	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P435515	
		Sulfate	8.1		mg SO4/L	P435517	
	SM 2320 B-2011	Total Alkalinity	20		mg CaCO3/L	P435325	
	SM 2540 C-2015	TDS	101		mg/L	P435610	
	SM 2540 D-2015	TSS	4	I	mg/L	P435612	
2437683	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P435328	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P435191	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.80		mg N/L	P435652	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P435658	
	EPA 365.1 Rev. 2.0	Total-P	0.079		mg P/L	P435708	
2437693	SM 5310 B-2011	Organic Carbon	15		mg C/L	P435615	
	EPA 8321B	2,4-D	0.032		ug/L	P435120	
		Acesulfame K	0.10	U	ug/L	P435158	
		2,4,5-T	0.0040	U	ug/L	P435120	
		AMPA	0.38	I	ug/L	P435158	
		Acetaminophen	0.0080	U	ug/L	P435120	
		Acetamiprid	0.0020	U	ug/L	P435120	
		Endothall	0.25	U	ug/L	P435158	
		Glufosinate	0.10	U	ug/L	P435158	
		Glyphosate	0.10	U	ug/L	P435158	
		Afidopyropen	0.0020	U	ug/L	P435120	
		Bentazon	0.011		ug/L	P435120	
		Sucralose	1.1		ug/L	P435158	
		Benzovindiflupyr	0.0020	U	ug/L	P435120	
		Carbamazepine	0.0013	I	ug/L	P435120	
		Clothianidin	0.0020	U	ug/L	P435120	
		Dinotefuran	0.0020	U	ug/L	P435120	
		Diuron	0.0020	U	ug/L	P435120	
		Fenuron	0.032	UJ	ug/L	P435120	MS
		Fluridone	0.0024	I	ug/L	P435120	
		Imazapyr	0.029		ug/L	P435120	
		Hydrocodone	0.0020	U	ug/L	P435120	
		Ibuprofen	0.080	U	ug/L	P435120	
		Imidacloprid	0.0026	I	ug/L	P435120	
		Linuron	0.0040	U	ug/L	P435120	
		Mandestrobin	0.0020	U	ug/L	P435120	
		MCPP	0.0020	U	ug/L	P435120	
		Naproxen	0.0080	U	ug/L	P435120	
		Primidone	0.0045	I	ug/L	P435120	
		Pyraclostrobin	0.0020	U	ug/L	P435120	
		Silvex	0.0040	U	ug/L	P435120	
		Thiamethoxam	0.0020	U	ug/L	P435120	

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437693	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P435120	
		Triclopyr	0.0040	U	ug/L	P435120	

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: MS accuracy for bentazon 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: P435081

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435085

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435515

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435517

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435191

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435652

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435658

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435708

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

Reference Method: EPA 8321B
Batch ID: P435120

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P435120

Component	Result	Code	Units
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P435158

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: P435325

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

Reference Method: SM 2540 C-2015

Batch ID: P435610

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P435612

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P435328

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P435615

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: P435081

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435085

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435515

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435517

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435191

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435652

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435658

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435708

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

Reference Method: EPA 8321B
Batch ID: P435120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	65.2		P	40 - 150
2,4,5-T	63.9		P	40 - 150
Acetaminophen	80.9		P	30 - 150
Acetamiprid	80.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P435120

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Afidopyropen	60.9		P	30 - 150
Bentazon	59.3		P	30 - 150
Benzovindiflupyr	83.8		P	40 - 150
Carbamazepine	73.6		P	40 - 150
Clothianidin	79.3		P	40 - 150
Dinotefuran	90.0		P	40 - 150
Diuron	74.9		P	40 - 150
Fenuron	85.2		P	40 - 150
Fluridone	84.2		P	40 - 150
Hydrocodone	79.8		P	40 - 150
Ibuprofen	49.1		P	40 - 150
Imazapyr	64.3		P	40 - 150
Imidacloprid	79.7		P	40 - 150
Linuron	60.1		P	40 - 150
Mandestrobin	83.5		P	40 - 150
MCPP	78.7		P	40 - 150
Naproxen	52.9		P	40 - 150
Primidone	74.1		P	40 - 150
Pyraclostrobin	72.1		P	40 - 150
Silvex	65.0		P	40 - 150
Thiamethoxam	81.8		P	40 - 150
Tolfenpyrad	48.2		P	30 - 150
Triclopyr	67.9		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P435158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.3		P	40 - 150
AMPA	121		P	40 - 150
Endothall	96.0		P	40 - 150
Glufosinate	96.8		P	40 - 150
Glyphosate	89.6		P	40 - 150
Sucralose	95.2		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P435325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.8		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P435610

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.1		P	90 - 110

Reference Method: SM 2540 D-2015

Batch ID: P435612

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.0		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P435328

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

Reference Method: SM 5310 B-2011
Batch ID: P435615

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437620	Chloride	107		P	90 - 110
2437626	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437620	Sulfate	106		P	90 - 110
2437626	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435191

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437627	Ammonia-N	99.6	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437670	Kjeldahl Nitrogen	91.2	96.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435658

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437627	NO2NO3-N	98.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2440437	Total-P	108	104	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P435120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437693	2,4-D	115	85.8	P/P	40 - 150
2437693	2,4,5-T	100	82.3	P/P	40 - 150
2437693	Acetaminophen	64.7	63.5	P/P	30 - 150
2437693	Acetamiprid	61.0	54.8	P/P	40 - 150
2437693	Afidopyropen	63.5	49.3	P/P	30 - 150
2437693	Benzovindiflupyr	81.6	75.0	P/P	40 - 150
2437693	Carbamazepine	61.5	55.4	P/P	40 - 150
2437693	Clothianidin	59.3	55.5	P/P	40 - 150
2437693	Dinotefuran	55.3	53.2	P/P	40 - 150
2437693	Diuron	57.8	51.9	P/P	40 - 150
2437693	Fenuron	40.9	38.4	P/F	40 - 150
2437693	Fluridone	68.3	60.4	P/P	40 - 150
2437693	Hydrocodone	46.7	44.9	P/P	40 - 150
2437693	Ibuprofen	50.1	51.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P435120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437693	Imazapyr	70.9	62.7	P/P	40 - 150
2437693	Imidacloprid	102	97.2	P/P	40 - 150
2437693	Linuron	57.1	52.4	P/P	40 - 150
2437693	Mandestrobin	79.4	70.8	P/P	40 - 150
2437693	MCCP	107	94.0	P/P	40 - 150
2437693	Naproxen	47.9	60.5	P/P	40 - 150
2437693	Primidone	58.3	53.1	P/P	40 - 150
2437693	Pyraclostrobin	74.6	68.6	P/P	40 - 150
2437693	Silvex	82.0	69.1	P/P	40 - 150
2437693	Thiamethoxam	63.0	58.4	P/P	40 - 150
2437693	Tolfenpyrad	49.8	45.7	P/P	30 - 150
2437693	Triclopyr	105	93.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437647	Acesulfame K	103	102	P/P	40 - 150
2437647	AMPA	106	115	P/P	40 - 150
2437647	Endothall	96.3	96.4	P/P	40 - 150
2437647	Glufosinate	105	91.4	P/P	40 - 150
2437647	Glyphosate	73.4	68.2	P/P	40 - 150
2437647	Sucralose	112	110	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P435328

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437756	Fluoride	99.9	98.9	P/P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P435615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437670	Organic Carbon	95.8	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P435081

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437641	Color (true)	0.145	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437669	Turbidity	0.266	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437620	Chloride	2.15	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437620	Sulfate	1.80	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435191

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437627	Ammonia-N	0.180	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437670	Kjeldahl Nitrogen	3.28	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435658

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437627	NO2NO3-N	0.583	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2440437	Total-P	3.70	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P435120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437693	2,4-D	20.7	Spike	P	0 - 30
2437693	2,4,5-T	19.9	Spike	P	0 - 30
2437693	Acetaminophen	1.83	Spike	P	0 - 30
2437693	Acetamiprid	10.7	Spike	P	0 - 30
2437693	Afidopyropen	25.3	Spike	P	0 - 30
2437693	Bentazon	10.5	Spike	P	0 - 30
2437693	Benzovindiflupyr	8.39	Spike	P	0 - 30
2437693	Carbamazepine	9.41	Spike	P	0 - 30
2437693	Clothianidin	6.75	Spike	P	0 - 30
2437693	Dinotefuran	3.84	Spike	P	0 - 30
2437693	Diuron	10.7	Spike	P	0 - 30
2437693	Fenuron	6.44	Spike	P	0 - 30
2437693	Fluridone	10.3	Spike	P	0 - 30
2437693	Hydrocodone	3.80	Spike	P	0 - 30
2437693	Ibuprofen	2.51	Spike	P	0 - 30
2437693	Imazapyr	8.01	Spike	P	0 - 30
2437693	Imidacloprid	4.77	Spike	P	0 - 30
2437693	Linuron	8.65	Spike	P	0 - 30
2437693	Mandestrobin	11.3	Spike	P	0 - 30
2437693	MCP	12.7	Spike	P	0 - 30
2437693	Naproxen	23.3	Spike	P	0 - 30
2437693	Primidone	8.47	Spike	P	0 - 30
2437693	Pyraclostrobin	8.28	Spike	P	0 - 30
2437693	Silvex	17.0	Spike	P	0 - 30
2437693	Thiamethoxam	7.63	Spike	P	0 - 30
2437693	Tolfenpyrad	8.56	Spike	P	0 - 30
2437693	Triclopyr	11.3	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P435158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437647	Acesulfame K	0.615	Spike	P	0 - 30
2437647	AMPA	8.48	Spike	P	0 - 30
2437647	Endothall	0.122	Spike	P	0 - 30
2437647	Glufosinate	13.7	Spike	P	0 - 30
2437647	Glyphosate	7.29	Spike	P	0 - 30
2437647	Sucralose	1.73	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P435325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437756	Total Alkalinity	0.944	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P435610

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437620	TDS	6.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P435328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437756	Fluoride	0.968	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P435615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437670	Organic Carbon	1.43	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2437693

Field Sample ID: G3CE0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	58.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	142	P	30 - 160
EPA 8321B	Diuron-d6	40.7	P	30 - 160
EPA 8321B	Endothall-d6	128	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	45.5	P	30 - 160
EPA 8321B	Primidone-d5	45.8	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Lab Sample ID: 2437694

Field Sample ID: G3CE0055

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	80.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	59.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	50.3	P	30 - 160
EPA 8321B	Diuron-d6	40.0	P	30 - 160
EPA 8321B	Endothall-d6	109	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	45.1	P	30 - 160
EPA 8321B	Primidone-d5	55.6	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A121567

Included Lab Sample IDs: 2437682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121569

Included Lab Sample IDs: 2437682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	97.0	97.0	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121624

Included Lab Sample IDs: 2437683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121665

Included Lab Sample IDs: 2437693, 2437694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.4	112	P/P	60 - 160
Sucralose	110	107	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121666

Included Lab Sample IDs: 2437693, 2437694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	105	110	P/P	60 - 160
Endothall	97.4	95.5	P/P	60 - 160
Glufosinate	98.4	107	P/P	60 - 160
Glyphosate	95.4	89.5	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A121687

Included Lab Sample IDs: 2437682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.9	94.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121687

Included Lab Sample IDs: 2437682

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A121760

Included Lab Sample IDs: 2437693, 2437694

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.3	73.1	P/P	50 - 150
2,4,5-T	93.4	89.5	P/P	50 - 150
Acetaminophen	106	105	P/P	60 - 160
Acetamiprid	107	106	P/P	50 - 150
Afidopyropen	101	106	P/P	50 - 150
Bentazon	115	95.8	P/P	50 - 160
Benzovindiflupyr	105	103	P/P	50 - 150
Carbamazepine	106	99.9	P/P	60 - 150
Clothianidin	113	98.3	P/P	60 - 150
Dinotefuran	109	107	P/P	50 - 150
Diuron	111	113	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	113	114	P/P	60 - 160
Hydrocodone	116	110	P/P	60 - 150
Ibuprofen	78.1	80.7	P/P	50 - 160
Imazapyr	103	72.8	P/P	50 - 150
Imidacloprid	100	97.6	P/P	60 - 150
Linuron	108	102	P/P	60 - 150
Mandestrobin	107	105	P/P	50 - 150
MCPP	94.6	76.7	P/P	50 - 150
Naproxen	73.4	74.8	P/P	50 - 160
Primidone	100	102	P/P	60 - 150
Pyraclostrobin	105	107	P/P	60 - 150
Silvex	94.7	81.2	P/P	50 - 150
Thiamethoxam	109	114	P/P	50 - 150
Tolfenpyrad	104	102	P/P	60 - 150
Triclopyr	84.4	93.7	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121771

Included Lab Sample IDs: 2437682

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	99.6	P/P	90 - 110
Sulfate	104	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A121799

Included Lab Sample IDs: 2437683

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121819

Included Lab Sample IDs: 2437683

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121856

Included Lab Sample IDs: 2437683

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121874

Included Lab Sample IDs: 2437683

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
DEP SOP: NU-094-1	Color (true)	103				0.145
EPA 180.1 Rev. 2.0	Turbidity	101				0.266
EPA 300.0 Rev. 2.1	Chloride	101	107	105		2.15
	Sulfate	103	106	102		1.80
EPA 350.1 Rev. 2.0	Ammonia-N	98.4	99.6	99.8		
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	91.2	96.7		0.180
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.8			0.583
EPA 365.1 Rev. 2.0	Total-P	102	108	104		3.70
EPA 8321B	2,4-D	65.2	115	85.8		20.7
	2,4,5-T	63.9	100	82.3		19.9
	Acesulfame K	97.3	103	102		0.615
	Acetaminophen	80.9	64.7	63.5		1.83
	Acetamiprid	80.8	61.0	54.8		10.7
	Afidopyropen	60.9	63.5	49.3		25.3
	AMPA	121	106	115		8.48
	Bentazon	59.3				10.5
	Benzovindiflupyr	83.8	81.6	75.0		8.39
	Carbamazepine	73.6	61.5	55.4		9.41
	Clothianidin	79.3	59.3	55.5		6.75
	Dinotefuran	90.0	55.3	53.2		3.84
	Diuron	74.9	57.8	51.9		10.7
	Endothall	96.0	96.3	96.4		0.122
	Fenuron	85.2	40.9	38.4		6.44
	Fluridone	84.2	68.3	60.4		10.3
	Glufosinate	96.8	105	91.4		13.7
	Glyphosate	89.6	73.4	68.2		7.29
	Hydrocodone	79.8	46.7	44.9		3.80
	Ibuprofen	49.1	50.1	51.4		2.51
	Imazapyr	64.3	70.9	62.7		8.01
	Imidacloprid	79.7	102	97.2		4.77
	Linuron	60.1	57.1	52.4		8.65
	Mandestrobin	83.5	79.4	70.8		11.3
	MCPP	78.7	107	94.0		12.7
	Naproxen	52.9	47.9	60.5		23.3
	Primidone	74.1	58.3	53.1		8.47
	Pyraclostrobin	72.1	74.6	68.6		8.28
	Silvex	65.0	82.0	69.1		17.0
	Sucralose	95.2	112	110		1.73
	Thiamethoxam	81.8	63.0	58.4		7.63
	Tolfenpyrad	48.2	49.8	45.7		8.56
	Triclopyr	67.9	105	93.8		11.3
SM 2320 B-2011	Total Alkalinity	95.8				0.944
SM 2540 C-2015	TDS	98.1				6.67
SM 2540 D-2015	TSS	96.0				
SM 4500-F- C-2011	Fluoride	100	99.9	98.9		0.968
SM 5310 B-2011	Organic Carbon	95.6	95.8	97.8		1.43

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2437682
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2437682
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2437682

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2437682
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2437683
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2437683
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2437683
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2437683
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2437693, 2437694
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2437682
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2437682
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2437682
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2437682
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2437683

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	09/15/2023			09/15/2023 15:01	Alexis Price	2437682
EPA 180.1 Rev. 2.0	09/15/2023			09/15/2023 14:23	Alexis Price	2437682
EPA 300.0 Rev. 2.1	09/15/2023			09/26/2023 04:59	James L Waggeberby	2437682
EPA 350.1 Rev. 2.0	09/15/2023			09/19/2023 13:53	Ping Hua	2437683
EPA 351.2 Rev. 2.0	09/15/2023	09/28/2023 17:05	Simonne.V. Calhoun	09/29/2023 13:36	Ping Hua	2437683
EPA 353.2 Rev. 2.0	09/15/2023			09/27/2023 14:21	Anna M. Plaviak	2437683
EPA 365.1 Rev. 2.0	09/15/2023	09/28/2023 10:00	Simonne.V. Calhoun	09/29/2023 13:56	Chandler E Cox	2437683
EPA 8321B	09/15/2023	09/20/2023 08:30	Tae K Lee	09/20/2023 10:06	Hana Lee	2437693
	09/15/2023	09/20/2023 08:30	Tae K Lee	09/20/2023 10:19	Hana Lee	2437694
	09/15/2023	09/20/2023 08:30	Tae K Lee	09/20/2023 18:26	Hana Lee	2437693
	09/15/2023	09/20/2023 08:30	Tae K Lee	09/20/2023 18:40	Hana Lee	2437694
	09/15/2023	09/20/2023 14:00	Hoor Shaik	09/22/2023 18:58	Juyoung Kim	2437693
	09/15/2023	09/20/2023 14:00	Hoor Shaik	09/22/2023 19:15	Juyoung Kim	2437694
SM 2320 B-2011	09/15/2023			09/21/2023 05:33	Dale L. Simmons	2437682
SM 2540 C-2015	09/15/2023			09/19/2023 15:12	Yijie Li	2437682
SM 2540 D-2015	09/15/2023			09/19/2023 15:12	Yijie Li	2437682
SM 4500-F- C-2011	09/15/2023			09/21/2023 05:33	Dale L. Simmons	2437682
SM 5310 B-2011	09/15/2023			09/27/2023 01:12	Elise M. Gillis	2437683