

Chemical Analysis Report

CEN-DIST-2023-05-16-01

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

Event Description: **Run 8**
Request ID: **RQ-2023-05-08-29**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Date Certified: 01-JUN-2023 10:13



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: 05/15/2023 12:50

Field ID: G3CE0055

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2409833	EPA 8321B	2,4-D	0.0026	I	ug/L	P429946	
		Acesulfame K	0.10	U	ug/L	P429908	
		2,4,5-T	0.0040	U	ug/L	P429946	
		AMPA	0.10	U	ug/L	P429908	
		Acetaminophen	0.0080	U	ug/L	P429946	
		Acetamiprid	0.0020	U	ug/L	P429946	
		Endothall	0.25	U	ug/L	P429908	
		Glufosinate	0.10	U	ug/L	P429908	
		Glyphosate	0.10	U	ug/L	P429908	
		Afidopyropen	0.0020	U	ug/L	P429946	
		Bentazon	0.0055		ug/L	P429946	
		Sucralose	1.2		ug/L	P429908	
		Benzovindiflupyr	0.0020	U	ug/L	P429946	
		Carbamazepine	8.0E-04	U	ug/L	P429946	
		Clothianidin	0.0030	I	ug/L	P429946	
		Dinotefuran	0.0020	U	ug/L	P429946	
		Diuron	0.0020	U	ug/L	P429946	
		Fenuron	0.032	U	ug/L	P429946	
		Fluridone	0.013		ug/L	P429946	
		Imazapyr	0.015	I	ug/L	P429946	
		Hydrocodone	0.0020	U	ug/L	P429946	
		Ibuprofen	0.080	U	ug/L	P429946	
		Imidacloprid	0.012		ug/L	P429946	
		Linuron	0.0040	U	ug/L	P429946	
		Mandestrobin	0.0020	U	ug/L	P429946	
		MCPP	0.0020	U	ug/L	P429946	
		Naproxen	0.0080	U	ug/L	P429946	MS
		Primidone	0.0040	U	ug/L	P429946	
		Pyraclostrobin	0.0020	U	ug/L	P429946	
		Silvex	0.0040	U	ug/L	P429946	
		Thiamethoxam	0.0024	I	ug/L	P429946	
		Tolfenpyrad	0.0020	U	ug/L	P429946	
		Triclopyr	0.0040	U	ug/L	P429946	

Sample Location: Lake Henry at Center

Collection Date/Time: 05/15/2023 13:50

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2409827	DEP SOP: NU-094-1	Color (true)	170		PCU	P429921	
	EPA 180.1 Rev. 2.0	Turbidity	6.5		NTU	P429917	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P430144	
		Sulfate	9.2		mg SO4/L	P430146	
	SM 2320 B-2011	Total Alkalinity	23		mg CaCO3/L	P430438	
	SM 2540 C-2015	TDS	114		mg/L	P430416	
	SM 2540 D-2015	TSS	4	I	mg/L	P430221	
2409828	SM 4500-F- C-2011	Fluoride	0.16		mg F/L	P430529	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P430327	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P430048	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P430229	
	EPA 365.1 Rev. 2.0	Total-P	0.093		mg P/L	P429969	
2409832	SM 5310 B-2011	Organic Carbon	15		mg C/L	P430226	
	EPA 8321B	2,4-D	0.046		ug/L	P429946	
		Acesulfame K	0.10	U	ug/L	P429908	
		2,4,5-T	0.0040	U	ug/L	P429946	
		AMPA	0.27	I	ug/L	P429908	
		Acetaminophen	0.0080	U	ug/L	P429946	
		Acetamiprid	0.0020	U	ug/L	P429946	
		Endothall	0.25	U	ug/L	P429908	
		Glufosinate	0.10	U	ug/L	P429908	
		Glyphosate	0.35	I	ug/L	P429908	
		Afidopyropen	0.0020	U	ug/L	P429946	
		Bentazon	0.061		ug/L	P429946	
		Sucralose	1.4		ug/L	P429908	
		Benzovindiflupyr	0.0020	U	ug/L	P429946	
		Carbamazepine	0.0018	I	ug/L	P429946	
		Clothianidin	0.0020	U	ug/L	P429946	
		Dinotefuran	0.0020	U	ug/L	P429946	
		Diuron	0.0021	I	ug/L	P429946	
		Fenuron	0.032	U	ug/L	P429946	
		Fluridone	0.0037		ug/L	P429946	
		Imazapyr	0.013	I	ug/L	P429946	
		Hydrocodone	0.0020	U	ug/L	P429946	
		Ibuprofen	0.080	U	ug/L	P429946	
		Imidacloprid	0.0033	I	ug/L	P429946	
		Linuron	0.0040	U	ug/L	P429946	
		Mandestrobin	0.0020	U	ug/L	P429946	
		MCP	0.0020	U	ug/L	P429946	
		Naproxen	0.0080	U	ug/L	P429946	MS
		Primidone	0.0054	I	ug/L	P429946	
		Pyraclostrobin	0.0020	U	ug/L	P429946	
		Silvex	0.0040	U	ug/L	P429946	
		Thiamethoxam	0.0020	U	ug/L	P429946	

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2409832	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P429946	
		Triclopyr	0.0040	U	ug/L	P429946	

Ref. Method and Comment:
SM 4500-F- C-2011: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P429921

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429917

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430144

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430146

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430327

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430048

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430229

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429969

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

Reference Method: EPA 8321B
Batch ID: P429908

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P429908

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P429946

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P430438

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

Reference Method: SM 2540 C-2015
Batch ID: P430416

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P430221

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P430529

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P430226

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: P429921

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429917

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430144

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430146

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430327

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430048

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430229

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: P429969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.4		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P429908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	92.2		P	40 - 150
AMPA	106		P	40 - 150
Endothall	85.6		P	40 - 150
Glufosinate	84.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P429908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	102		P	40 - 150
Sucralose	117		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429946

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.3		P	40 - 150
2,4,5-T	90.4		P	40 - 150
Acetaminophen	82.2		P	30 - 150
Acetamiprid	69.3		P	40 - 150
Afidopyropen	80.8		P	30 - 150
Bentazon	103		P	30 - 150
Benzovindiflupyr	82.2		P	40 - 150
Carbamazepine	85.0		P	40 - 150
Clothianidin	79.4		P	40 - 150
Dinotefuran	88.5		P	40 - 150
Diuron	89.0		P	40 - 150
Fenuron	83.4		P	40 - 150
Fluridone	94.5		P	40 - 150
Hydrocodone	86.8		P	40 - 150
Ibuprofen	61.2		P	40 - 150
Imazapyr	87.8		P	40 - 150
Imidacloprid	76.6		P	40 - 150
Linuron	80.5		P	40 - 150
Mandestrobin	84.3		P	40 - 150
MCPP	81.9		P	40 - 150
Naproxen	72.9		P	40 - 150
Primidone	88.4		P	40 - 150
Pyraclostrobin	82.6		P	40 - 150
Silvex	78.0		P	40 - 150
Thiamethoxam	76.5		P	40 - 150
Tolfenpyrad	60.0		P	30 - 150
Triclopyr	85.3		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P430438

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.6		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P430416

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	93.1		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P430221

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.8		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P430529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P430226

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409578	Chloride	99.5		P	90 - 110
2409764	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409578	Sulfate	98.1		P	90 - 110
2409764	Sulfate	98.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430327

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409813	Ammonia-N	94.2	97.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430048

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409977	Kjeldahl Nitrogen	109	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430229

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409787	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P429908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409832	Acesulfame K	80.8	81.0	P/P	40 - 150
2409832	AMPA	97.6	102	P/P	40 - 150
2409832	Endothall	95.1	92.9	P/P	40 - 150
2409832	Glufosinate	74.2	82.1	P/P	40 - 150
2409832	Glyphosate	90.3	100	P/P	40 - 150
2409832	Sucralose	119	96.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P429946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409703	2,4-D	109	116	P/P	40 - 150
2409703	2,4,5-T	101	111	P/P	40 - 150
2409703	Acetaminophen	78.6	83.2	P/P	30 - 150
2409703	Acetamiprid	90.8	89.3	P/P	40 - 150
2409703	Afidopyropen	86.6	89.4	P/P	30 - 150
2409703	Bentazon	113	116	P/P	30 - 150
2409703	Benzovindiflupyr	79.4	82.4	P/P	40 - 150
2409703	Carbamazepine	87.9	94.3	P/P	40 - 150
2409703	Clothianidin	93.8	97.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P429946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409703	Dinotefuran	96.0	87.9	P/P	40 - 150
2409703	Diuron	93.0	96.5	P/P	40 - 150
2409703	Fenuron	80.5	81.1	P/P	40 - 150
2409703	Fluridone	93.3	95.0	P/P	40 - 150
2409703	Hydrocodone	90.4	95.7	P/P	40 - 150
2409703	Ibuprofen	67.4	72.6	P/P	40 - 150
2409703	Imazapyr	111	119	P/P	40 - 150
2409703	Imidacloprid	94.7	99.1	P/P	40 - 150
2409703	Linuron	89.9	72.9	P/P	40 - 150
2409703	Mandestrobin	85.9	91.8	P/P	40 - 150
2409703	MCPP	89.0	90.9	P/P	40 - 150
2409703	Naproxen	45.8	33.8	P/F	40 - 150
2409703	Primidone	96.0	92.1	P/P	40 - 150
2409703	Pyraclostrobin	80.5	82.1	P/P	40 - 150
2409703	Silvex	85.8	92.7	P/P	40 - 150
2409703	Thiamethoxam	99.5	102	P/P	40 - 150
2409703	Tolfenpyrad	46.6	55.2	P/P	30 - 150
2409703	Triclopyr	101	115	P/P	40 - 150

Reference Method: SM 5310 B-2011
Batch ID: P430226

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2409757	Organic Carbon	98.0	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P429921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409812	Color (true)	5.83	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P429917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409812	Turbidity	1.87	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409578	Chloride	1.30	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P430146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409578	Sulfate	1.59	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P430327

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409813	Ammonia-N	2.58	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P430048

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409977	Kjeldahl Nitrogen	2.94	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P430229

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409787	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P429969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409759	Total-P	0.675	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P429908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409832	Acesulfame K	0.158	Spike	P	0 - 30
2409832	AMPA	4.23	Spike	P	0 - 30
2409832	Endothall	2.43	Spike	P	0 - 30
2409832	Glufosinate	10.1	Spike	P	0 - 30
2409832	Glyphosate	9.05	Spike	P	0 - 30
2409832	Sucralose	14.0	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P429946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409703	2,4-D	5.80	Spike	P	0 - 30
2409703	2,4,5-T	10.1	Spike	P	0 - 30
2409703	Acetaminophen	5.61	Spike	P	0 - 30
2409703	Acetamiprid	1.65	Spike	P	0 - 30
2409703	Afidopyropen	3.21	Spike	P	0 - 30
2409703	Bentazon	2.28	Spike	P	0 - 30
2409703	Benzovindiflupyr	3.64	Spike	P	0 - 30
2409703	Carbamazepine	7.03	Spike	P	0 - 30
2409703	Clothianidin	3.55	Spike	P	0 - 30
2409703	Dinotefuran	8.83	Spike	P	0 - 30
2409703	Diuron	3.77	Spike	P	0 - 30
2409703	Fenuron	0.752	Spike	P	0 - 30
2409703	Fluridone	1.85	Spike	P	0 - 30
2409703	Hydrocodone	5.71	Spike	P	0 - 30
2409703	Ibuprofen	7.43	Spike	P	0 - 30
2409703	Imazapyr	7.02	Spike	P	0 - 30
2409703	Imidacloprid	4.55	Spike	P	0 - 30
2409703	Linuron	21.0	Spike	P	0 - 30
2409703	Mandestrobin	6.54	Spike	P	0 - 30
2409703	MCPP	2.08	Spike	P	0 - 30
2409703	Naproxen	20.1	Spike	P	0 - 30
2409703	Primidone	4.19	Spike	P	0 - 30
2409703	Pyraclostrobin	1.93	Spike	P	0 - 30
2409703	Silvex	7.76	Spike	P	0 - 30
2409703	Thiamethoxam	2.22	Spike	P	0 - 30
2409703	Tolfenpyrad	16.9	Spike	P	0 - 30
2409703	Triclopyr	12.2	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P430438

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2410591	Total Alkalinity	3.90	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P430416

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409745	TDS	4.72	Sample	P	0 - 10

Reference Method: SM 2540 D-2015
Batch ID: P430221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409745	TSS	3.31	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P430529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409948	Fluoride	0.945	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P430226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2409757	Organic Carbon	1.26	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2409832
Field Sample ID: G3CE0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	65.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.5	P	30 - 160
EPA 8321B	Diuron-d6	72.3	P	30 - 160
EPA 8321B	Endothall-d6	97.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	98.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	46.6	P	30 - 160
EPA 8321B	Primidone-d5	74.7	P	30 - 160
EPA 8321B	Sucralose-d6	117	P	30 - 160

Lab Sample ID: 2409833
Field Sample ID: G3CE0055

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	67.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.3	P	30 - 160
EPA 8321B	Diuron-d6	72.1	P	30 - 160
EPA 8321B	Endothall-d6	89.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	46.4	P	30 - 160
EPA 8321B	Primidone-d5	84.0	P	30 - 160
EPA 8321B	Sucralose-d6	127	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119194

Included Lab Sample IDs: 2409827

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

Reference Method: DEP SOP: NU-094-1

Run ID: A119195

Included Lab Sample IDs: 2409827

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A119211

Included Lab Sample IDs: 2409827

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119250

Included Lab Sample IDs: 2409828

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119280

Included Lab Sample IDs: 2409828

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

Reference Method: EPA 8321B

Run ID: A119295

Included Lab Sample IDs: 2409832, 2409833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.3	99.2	P/P	60 - 160
Sucralose	119	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A119309

Included Lab Sample IDs: 2409832, 2409833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	107	120	P/P	60 - 160
Endothall	95.9	89.1	P/P	60 - 160
Glufosinate	92.3	96.1	P/P	60 - 160
Glyphosate	115	109	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A119341

Included Lab Sample IDs: 2409828

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	95.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A119342

Included Lab Sample IDs: 2409828

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A119375

Included Lab Sample IDs: 2409828

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	99.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A119395

Included Lab Sample IDs: 2409832, 2409833

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.9	87.4	P/P	50 - 150
2,4,5-T	95.0	101	P/P	50 - 150
Acetaminophen	89.4	82.9	P/P	60 - 160
Acetamiprid	102	100	P/P	50 - 150
Afidopyropen	106	86.7	P/P	50 - 150
Bentazon	132	125	P/P	50 - 160
Bentazon	138	126	P/P	50 - 160
Benzovindiflupyr	107	108	P/P	50 - 150
Carbamazepine	109	117	P/P	60 - 150
Clothianidin	98.4	102	P/P	60 - 150
Dinotefuran	113	114	P/P	50 - 150
Diuron	110	120	P/P	60 - 160
Fenuron	97.9	102	P/P	60 - 150
Fluridone	113	117	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	60.8	65.4	P/P	50 - 160
Imazapyr	89.7	95.0	P/P	50 - 150
Imidacloprid	92.8	94.7	P/P	60 - 150
Linuron	114	90.5	P/P	60 - 150
Mandestrobin	105	99.4	P/P	50 - 150
MCPP	118	98.1	P/P	50 - 150
Naproxen	95.2	64.7	P/P	50 - 160
Primidone	105	107	P/P	60 - 150
Pyraclostrobin	104	103	P/P	60 - 150
Silvex	63.2	62.4	P/P	50 - 150
Thiamethoxam	96.8	98.8	P/P	50 - 150
Tolfenpyrad	100	105	P/P	60 - 150
Triclopyr	76.5	74.3	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A119421

Included Lab Sample IDs: 2409827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	96.4	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A119457

Included Lab Sample IDs: 2409827

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	102	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	MS
DEP SOP: NU-094-1	Color (true)	102			5.83	
EPA 180.1 Rev. 2.0	Turbidity	99.5			1.87	
EPA 300.0 Rev. 2.1	Chloride	100	99.5	102	1.30	
	Sulfate	101	98.1	98.8	1.59	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0	94.2	97.8		2.58
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110	109	106		2.94
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100		0.499
EPA 365.1 Rev. 2.0	Total-P	99.4				0.675
EPA 8321B	2,4-D	96.3	109	116		5.80
	2,4,5-T	90.4	101	111		10.1
	Acesulfame K	92.2	80.8	81.0		0.158
	Acetaminophen	82.2	78.6	83.2		5.61
	Acetamiprid	69.3	90.8	89.3		1.65
	Afidopyropen	80.8	86.6	89.4		3.21
	AMPA	106	97.6	102		4.23
	Bentazon	103	113	116		2.28
	Benzovindiflupyr	82.2	79.4	82.4		3.64
	Carbamazepine	85.0	87.9	94.3		7.03
	Clothianidin	79.4	93.8	97.2		3.55
	Dinotefuran	88.5	96.0	87.9		8.83
	Diuron	89.0	93.0	96.5		3.77
	Endothall	85.6	95.1	92.9		2.43
	Fenuron	83.4	80.5	81.1		0.752
	Fluridone	94.5	93.3	95.0		1.85
	Glufosinate	84.6	74.2	82.1		10.1
	Glyphosate	102	90.3	100		9.05
	Hydrocodone	86.8	90.4	95.7		5.71
	Ibuprofen	61.2	67.4	72.6		7.43
	Imazapyr	87.8	111	119		7.02
	Imidacloprid	76.6	94.7	99.1		4.55
	Linuron	80.5	89.9	72.9		21.0
	Mandestrobin	84.3	85.9	91.8		6.54
	MCPP	81.9	89.0	90.9		2.08
	Naproxen	72.9	45.8	33.8		20.1
	Primidone	88.4	96.0	92.1		4.19
	Pyraclostrobin	82.6	80.5	82.1		1.93
	Silvex	78.0	85.8	92.7		7.76
	Sucralose	117	119	96.2		14.0
	Thiamethoxam	76.5	99.5	102		2.22
	Tolfenpyrad	60.0	46.6	55.2		16.9
	Triclopyr	85.3	101	115		12.2
SM 2320 B-2011	Total Alkalinity	97.6			3.90	
SM 2540 C-2015	TDS	93.1			4.72	
SM 2540 D-2015	TSS	93.8			3.31	
SM 4500-F- C-2011	Fluoride	99.0				0.945
SM 5310 B-2011	Organic Carbon	97.0	98.0	96.5		1.26

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2409827
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2409827
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2409827

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2409827
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2409828
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2409828
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2409828
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2409828
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2409832, 2409833
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2409827
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2409827
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2409827
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2409827
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2409828

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	05/16/2023			05/16/2023 13:57	Chandler E Cox	2409827
EPA 180.1 Rev. 2.0	05/16/2023			05/16/2023 13:03	Alexis Price	2409827
EPA 300.0 Rev. 2.1	05/16/2023			05/18/2023 17:18	James L Waggeberby	2409827
EPA 350.1 Rev. 2.0	05/16/2023			05/24/2023 11:42	Ping Hua	2409828
EPA 351.2 Rev. 2.0	05/16/2023	05/18/2023 11:55	Simonne.V. Calhoun	05/19/2023 12:23	Ping Hua	2409828
EPA 353.2 Rev. 2.0	05/16/2023			05/23/2023 10:17	Beverly Y. Sanders	2409828
EPA 365.1 Rev. 2.0	05/16/2023	05/17/2023 12:30	Alexis Price	05/18/2023 12:40	Chandler E Cox	2409828
EPA 8321B	05/16/2023	05/19/2023 09:00	Manjita Shrestha	05/19/2023 19:56	Manjita Shrestha	2409832
	05/16/2023	05/19/2023 09:00	Manjita Shrestha	05/19/2023 20:09	Manjita Shrestha	2409833
	05/16/2023	05/19/2023 09:00	Manjita Shrestha	05/20/2023 21:17	Manjita Shrestha	2409832
	05/16/2023	05/19/2023 09:00	Manjita Shrestha	05/20/2023 21:31	Manjita Shrestha	2409833
	05/16/2023	05/22/2023 09:00	Hoor Shaik	05/25/2023 02:39	Juyoung Kim	2409832
	05/16/2023	05/22/2023 09:00	Hoor Shaik	05/25/2023 02:58	Juyoung Kim	2409833
	05/16/2023	05/22/2023 09:00	Hoor Shaik	05/25/2023 09:14	Juyoung Kim	2409832
SM 2320 B-2011	05/16/2023			05/24/2023 22:21	Dale L. Simmons	2409827
SM 2540 C-2015	05/16/2023			05/17/2023 16:36	Yijie Li	2409827
SM 2540 D-2015	05/16/2023			05/17/2023 16:36	Yijie Li	2409827
SM 4500-F- C-2011	05/16/2023			05/27/2023 05:29	Dale L. Simmons	2409827
SM 5310 B-2011	05/16/2023			05/22/2023 19:14	Elise M. Gillis	2409828