

Chemical Analysis Report

CEN-DIST-2023-07-19-02

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

Event Description: **Run 8**
Request ID: **RQ-2023-07-17-32**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Chris Bowen, Environmental Administrator

Date Certified: 02-AUG-2023 09:58



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: 07/18/2023 11:14

Field ID: G3CE0055

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425109	EPA 8321B	2,4-D	0.029		ug/L	P432629	
		Acesulfame K	0.10	U	ug/L	P432878	RPD
		2,4,5-T	0.0040	U	ug/L	P432629	
		AMPA	0.10	U	ug/L	P432878	MS
		Acetaminophen	0.0080	U	ug/L	P432629	
		Acetamiprid	0.0020	U	ug/L	P432629	
		Endothall	0.25	U	ug/L	P432878	
		Glufosinate	0.10	U	ug/L	P432878	
		Glyphosate	0.10	U	ug/L	P432878	
		Afidopyropen	0.0020	U	ug/L	P432629	
		Bentazon	0.0060		ug/L	P432629	
		Sucralose	0.70		ug/L	P432878	RPD
		Benzovindiflupyr	0.0020	U	ug/L	P432629	
		Carbamazepine	8.0E-04	U	ug/L	P432629	
		Clothianidin	0.0020	U	ug/L	P432629	
		Dinotefuran	0.0020	U	ug/L	P432629	
		Diuron	0.0020	U	ug/L	P432629	
		Fenuron	0.032	U	ug/L	P432629	
		Fluridone	0.010		ug/L	P432629	
		Imazapyr	0.010	I	ug/L	P432629	
		Hydrocodone	0.0020	U	ug/L	P432629	
		Ibuprofen	0.080	U	ug/L	P432629	
		Imidacloprid	0.0062	I	ug/L	P432629	
		Linuron	0.0040	U	ug/L	P432629	
		Mandestrobin	0.0020	U	ug/L	P432629	
		MCPP	0.0020	U	ug/L	P432629	
		Naproxen	0.0080	U	ug/L	P432629	
		Primidone	0.0040	U	ug/L	P432629	
		Pyraclostrobin	0.0020	U	ug/L	P432629	
		Silvex	0.0040	U	ug/L	P432629	
		Thiamethoxam	0.0020	U	ug/L	P432629	
		Tolfenpyrad	0.0020	U	ug/L	P432629	
		Triclopyr	0.0040	U	ug/L	P432629	

Sample Location: Lake Henry at Center

Collection Date/Time: 07/18/2023 10:28

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425103	DEP SOP: NU-094-1	Color (true)	150		PCU	P432721	
	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P432716	
	EPA 300.0 Rev. 2.1	Chloride	21	A	mg Cl/L	P433120	
		Sulfate	7.9	A	mg SO4/L	P433123	
	SM 2320 B-2011	Total Alkalinity	21		mg CaCO3/L	P432900	
	SM 2540 C-2015	TDS	100		mg/L	P433231	
	SM 2540 D-2015	TSS	4	I	mg/L	P433084	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P432903	MS, RPD
2425104	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P432921	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P432905	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P432855	
	EPA 365.1 Rev. 2.0	Total-P	0.083		mg P/L	P432825	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P432910	
2425108	EPA 8321B	2,4-D	0.073		ug/L	P432629	
		Acesulfame K	0.10	U	ug/L	P432878	RPD
		2,4,5-T	0.0040	U	ug/L	P432629	
		AMPA	0.38	I	ug/L	P432878	MS
		Acetaminophen	0.0080	U	ug/L	P432629	
		Acetamiprid	0.0020	U	ug/L	P432629	
		Endothall	0.25	U	ug/L	P432878	
		Glufosinate	0.10	U	ug/L	P432878	
		Glyphosate	0.54		ug/L	P432878	
		Afidopyropen	0.0020	U	ug/L	P432629	
		Bentazon	0.049		ug/L	P432629	
		Sucralose	0.99		ug/L	P432878	RPD
		Benzovindiflupyr	0.0020	U	ug/L	P432629	
		Carbamazepine	0.0013	I	ug/L	P432629	
		Clothianidin	0.0020	U	ug/L	P432629	
		Dinotefuran	0.0020	U	ug/L	P432629	
		Diuron	0.0020	U	ug/L	P432629	
		Fenuron	0.032	U	ug/L	P432629	
		Fluridone	0.0040		ug/L	P432629	
		Imazapyr	0.021		ug/L	P432629	
		Hydrocodone	0.0020	U	ug/L	P432629	
		Ibuprofen	0.080	U	ug/L	P432629	
		Imidacloprid	0.0044	I	ug/L	P432629	
		Linuron	0.0040	U	ug/L	P432629	
		Mandestrobin	0.0020	U	ug/L	P432629	
		MCPP	0.0028	I	ug/L	P432629	
		Naproxen	0.0080	U	ug/L	P432629	
		Primidone	0.0058	I	ug/L	P432629	
		Pyraclostrobin	0.0020	U	ug/L	P432629	
		Silvex	0.0040	U	ug/L	P432629	
		Thiamethoxam	0.0020	U	ug/L	P432629	

Field ID: G3CE0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2425108	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P432629	
		Triclopyr	0.0040	U	ug/L	P432629	

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P432721

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432716

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433120

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433123

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432921

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432905

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432855

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432825

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

Reference Method: EPA 8321B
Batch ID: P432629

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: P432629

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: P432878

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: P432900

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

Reference Method: SM 2540 C-2015

Batch ID: P433231

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P433084

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P432910

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: P432721

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: P432716

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433120

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433123

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432921

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432855

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432825

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

Reference Method: EPA 8321B
Batch ID: P432629

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.0		P	40 - 150
2,4,5-T	68.9		P	40 - 150
Acetaminophen	70.7		P	30 - 150
Acetamiprid	75.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P432629

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Afidopyropen	69.0		P	30 - 150
Bentazon	131		P	30 - 150
Benzovindiflupyr	92.3		P	40 - 150
Carbamazepine	75.3		P	40 - 150
Clothianidin	84.8		P	40 - 150
Dinotefuran	92.3		P	40 - 150
Diuron	71.7		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	92.6		P	40 - 150
Hydrocodone	84.7		P	40 - 150
Ibuprofen	67.9		P	40 - 150
Imazapyr	84.9		P	40 - 150
Imidacloprid	77.9		P	40 - 150
Linuron	69.3		P	40 - 150
Mandestrobin	91.3		P	40 - 150
MCPP	84.3		P	40 - 150
Naproxen	72.8		P	40 - 150
Primidone	78.8		P	40 - 150
Pyraclostrobin	87.3		P	40 - 150
Silvex	77.1		P	40 - 150
Thiamethoxam	91.3		P	40 - 150
Tolfenpyrad	60.6		P	30 - 150
Triclopyr	68.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432878

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.8		P	40 - 150
AMPA	144		P	40 - 150
Endothall	106		P	40 - 150
Glufosinate	93.4		P	40 - 150
Glyphosate	91.5		P	40 - 150
Sucralose	83.8		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P432900

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.8		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P433231

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	98.0		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P433084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	89.7		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P432910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433120

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425103	Chloride	98.0		P	90 - 110
2425308	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425103	Sulfate	96.3		P	90 - 110
2425308	Sulfate	94.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432921

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425104	Ammonia-N	95.6	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2423699	Kjeldahl Nitrogen	99.0	97.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424950	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425210	Total-P	100	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P432629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424473	2,4-D	98.9	90.0	P/P	40 - 150
2424473	2,4,5-T	97.9	82.2	P/P	40 - 150
2424473	Acetaminophen	73.7	70.9	P/P	30 - 150
2424473	Acetamiprid	58.0	48.3	P/P	40 - 150
2424473	Afidopyropen	64.3	48.0	P/P	30 - 150
2424473	Bentazon	85.2	79.3	P/P	30 - 150
2424473	Benzovindiflupyr	83.9	77.2	P/P	40 - 150
2424473	Carbamazepine	51.8	46.5	P/P	40 - 150
2424473	Clothianidin	76.5	70.0	P/P	40 - 150
2424473	Dinotefuran	69.1	70.9	P/P	40 - 150
2424473	Diuron	40.4	45.0	P/P	40 - 150
2424473	Fenuron	58.2	51.4	P/P	40 - 150
2424473	Fluridone	76.7	71.5	P/P	40 - 150
2424473	Hydrocodone	60.9	59.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P432629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424473	Ibuprofen	65.0	51.8	P/P	40 - 150
2424473	Imazapyr	90.2	83.5	P/P	40 - 150
2424473	Imidacloprid	108	99.2	P/P	40 - 150
2424473	Linuron	47.0	52.0	P/P	40 - 150
2424473	Mandestrobin	82.9	74.6	P/P	40 - 150
2424473	MCP	105	99.5	P/P	40 - 150
2424473	Naproxen	86.0	77.7	P/P	40 - 150
2424473	Primidone	78.4	66.6	P/P	40 - 150
2424473	Pyraclostrobin	82.9	73.2	P/P	40 - 150
2424473	Silvex	91.1	90.1	P/P	40 - 150
2424473	Thiamethoxam	71.6	69.1	P/P	40 - 150
2424473	Tolfenpyrad	61.4	52.6	P/P	30 - 150
2424473	Triclopyr	89.6	77.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P432878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424967	Acesulfame K	60.0	81.4	P/P	40 - 150
2424967	AMPA	25.0	25.9	F/F	40 - 150
2424967	Endothall	133	124	P/P	40 - 150
2424967	Glufosinate	42.6	42.5	P/P	40 - 150
2424967	Glyphosate	79.8	82.6	P/P	40 - 150
2424967	Sucralose	91.2	125	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P432903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2425505	Fluoride	93.4	95.6	F/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P432910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2424928	Organic Carbon	92.6	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P432721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425080	Color (true)	3.11	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P432716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424822	Turbidity	9.66	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433120

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425103	Chloride	0.0914	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P433123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425103	Sulfate	0.286	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P432921

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425104	Ammonia-N	0.243	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P432905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2423699	Kjeldahl Nitrogen	0.791	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P432855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424950	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P432825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425210	Total-P	2.39	Spike	P	0 - 20

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P432629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424473	2,4-D	9.44	Spike	P	0 - 30
2424473	2,4,5-T	17.5	Spike	P	0 - 30
2424473	Acetaminophen	3.84	Spike	P	0 - 30
2424473	Acetamiprid	18.3	Spike	P	0 - 30
2424473	Afidopyropen	28.9	Spike	P	0 - 30
2424473	Bentazon	7.25	Spike	P	0 - 30
2424473	Benzovindiflupyr	8.31	Spike	P	0 - 30
2424473	Carbamazepine	10.8	Spike	P	0 - 30
2424473	Clothianidin	8.83	Spike	P	0 - 30
2424473	Dinotefuran	2.56	Spike	P	0 - 30
2424473	Diuron	10.6	Spike	P	0 - 30
2424473	Fenuron	12.3	Spike	P	0 - 30
2424473	Fluridone	6.96	Spike	P	0 - 30
2424473	Hydrocodone	2.85	Spike	P	0 - 30
2424473	Ibuprofen	22.7	Spike	P	0 - 30
2424473	Imazapyr	6.22	Spike	P	0 - 30
2424473	Imidacloprid	8.13	Spike	P	0 - 30
2424473	Linuron	10.2	Spike	P	0 - 30
2424473	Mandestrobin	10.5	Spike	P	0 - 30
2424473	MCP	5.55	Spike	P	0 - 30
2424473	Naproxen	10.2	Spike	P	0 - 30
2424473	Primidone	16.3	Spike	P	0 - 30
2424473	Pyraclostrobin	12.5	Spike	P	0 - 30
2424473	Silvex	1.10	Spike	P	0 - 30
2424473	Thiamethoxam	3.45	Spike	P	0 - 30
2424473	Tolfenpyrad	15.4	Spike	P	0 - 30
2424473	Triclopyr	14.4	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P432878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424967	Acesulfame K	30.2	Spike	F	0 - 30
2424967	AMPA	2.87	Spike	P	0 - 30
2424967	Endothall	6.61	Spike	P	0 - 30
2424967	Glufosinate	0.199	Spike	P	0 - 30
2424967	Glyphosate	3.46	Spike	P	0 - 30
2424967	Sucralose	30.8	Spike	F	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P432900

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425505	Total Alkalinity	1.19	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P433231

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424591	TDS	6.28	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P432903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2425505	Fluoride	2.02	Spike	F	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P432910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2424928	Organic Carbon	2.43	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2425108

Field Sample ID: G3CE0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	89.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	53.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	49.9	P	30 - 160
EPA 8321B	Diuron-d6	41.5	P	30 - 160
EPA 8321B	Endothall-d6	105	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	90.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.3	P	30 - 160
EPA 8321B	Primidone-d5	58.6	P	30 - 160
EPA 8321B	Sucralose-d6	98.6	P	30 - 160

Lab Sample ID: 2425109

Field Sample ID: G3CE0055

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	54.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	52.1	P	30 - 160
EPA 8321B	Diuron-d6	42.9	P	30 - 160
EPA 8321B	Endothall-d6	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.1	P	30 - 160
EPA 8321B	Primidone-d5	68.7	P	30 - 160
EPA 8321B	Sucralose-d6	97.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A120498

Included Lab Sample IDs: 2425103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	100	P/P	95 - 105

Reference Method: DEP SOP: NU-094-1

Run ID: A120499

Included Lab Sample IDs: 2425103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120558

Included Lab Sample IDs: 2425104

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

Reference Method: EPA 8321B

Run ID: A120571

Included Lab Sample IDs: 2425108, 2425109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	117	P/P	50 - 150
2,4,5-T	98.5	100	P/P	50 - 150
Acetaminophen	96.8	90.1	P/P	60 - 160
Acetamiprid	123	118	P/P	50 - 150
Afidopyropen	126	118	P/P	50 - 150
Bentazon	125	123	P/P	50 - 160
Benzovindiflupyr	125	115	P/P	50 - 150
Carbamazepine	118	119	P/P	60 - 150
Clothianidin	104	112	P/P	60 - 150
Dinotefuran	110	108	P/P	50 - 150
Diuron	124	123	P/P	60 - 160
Fenuron	112	109	P/P	60 - 150
Fluridone	129	119	P/P	60 - 160
Hydrocodone	118	116	P/P	60 - 150
Ibuprofen	96.0	91.6	P/P	50 - 160
Imazapyr	95.4	99.7	P/P	50 - 150
Imidacloprid	97.8	101	P/P	60 - 150
Linuron	86.8	106	P/P	60 - 150
Mandestrobin	123	121	P/P	50 - 150
MCPP	101	101	P/P	50 - 150
Naproxen	89.9	109	P/P	50 - 160
Primidone	105	107	P/P	60 - 150
Pyraclostrobin	128	119	P/P	60 - 150
Silvex	102	105	P/P	50 - 150
Thiamethoxam	115	136	P/P	50 - 150
Tolfenpyrad	116	113	P/P	60 - 150
Triclopyr	96.8	85.0	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120576

Included Lab Sample IDs: 2425104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	103	102	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A120580

Included Lab Sample IDs: 2425103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.7	93.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120580

Included Lab Sample IDs: 2425103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A120583

Included Lab Sample IDs: 2425104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	97.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A120586

Included Lab Sample IDs: 2425104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.0	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A120601

Included Lab Sample IDs: 2425108, 2425109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.9	96.7	P/P	60 - 160
Acesulfame K	96.7	106	P/P	60 - 160
Sucralose	88.3	86.2	P/P	60 - 160
Sucralose	98.2	88.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A120604

Included Lab Sample IDs: 2425108, 2425109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	75.2	86.3	P/P	60 - 160
AMPA	92.8	75.2	P/P	60 - 160
Endothall	108	117	P/P	60 - 160
Endothall	117	110	P/P	60 - 160
Glufosinate	89.5	99.4	P/P	60 - 160
Glufosinate	97.9	89.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A120604

Included Lab Sample IDs: 2425108, 2425109

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	107	110	P/P	60 - 160
Glyphosate	99.7	107	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A120625

Included Lab Sample IDs: 2425104

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A120686

Included Lab Sample IDs: 2425103

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.9	100	P/P	90 - 110
Sulfate	98.7	99.8	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	100				3.11	
EPA 180.1 Rev. 2.0	Turbidity	100				9.66	
EPA 300.0 Rev. 2.1	Chloride	99.3	98.0	99.3		0.0914	
	Sulfate	97.1	96.3	94.2		0.286	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	95.6	95.2			0.243
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.6	99.0	97.9			0.791
EPA 353.2 Rev. 2.0	NO2NO3-N	103	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	100	100	103			2.39
EPA 8321B	2,4-D	82.0	98.9	90.0			9.44
	2,4,5-T	68.9	97.9	82.2			17.5
	Acesulfame K	94.8	60.0	81.4			30.2
	Acetaminophen	70.7	73.7	70.9			3.84
	Acetamiprid	75.7	58.0	48.3			18.3
	Afidopyropen	69.0	64.3	48.0			28.9
	AMPA	144	25.0	25.9			2.87
	Bentazon	131	85.2	79.3			7.25
	Benzovindiflupyr	92.3	83.9	77.2			8.31
	Carbamazepine	75.3	51.8	46.5			10.8
	Clothianidin	84.8	76.5	70.0			8.83
	Dinotefuran	92.3	69.1	70.9			2.56
	Diuron	71.7	40.4	45.0			10.6
	Endothall	106	133	124			6.61
	Fenuron	101	58.2	51.4			12.3
	Fluridone	92.6	76.7	71.5			6.96
	Glufosinate	93.4	42.6	42.5			0.199
	Glyphosate	91.5	79.8	82.6			3.46
	Hydrocodone	84.7	60.9	59.2			2.85
	Ibuprofen	67.9	65.0	51.8			22.7
	Imazapyr	84.9	90.2	83.5			6.22
	Imidacloprid	77.9	108	99.2			8.13
	Linuron	69.3	47.0	52.0			10.2
	Mandestrobin	91.3	82.9	74.6			10.5
	MCPP	84.3	105	99.5			5.55
	Naproxen	72.8	86.0	77.7			10.2
	Primidone	78.8	78.4	66.6			16.3
	Pyraclostrobin	87.3	82.9	73.2			12.5
	Silvex	77.1	91.1	90.1			1.10
	Sucralose	83.8	91.2	125			30.8
	Thiamethoxam	91.3	71.6	69.1			3.45
	Tolfenpyrad	60.6	61.4	52.6			15.4
	Triclopyr	68.6	89.6	77.6			14.4
SM 2320 B-2011	Total Alkalinity	94.8				1.19	
SM 2540 C-2015	TDS	98.0				6.28	
SM 2540 D-2015	TSS	89.7					
SM 4500-F- C-2011	Fluoride	97.2	93.4	95.6			2.02
SM 5310 B-2011	Organic Carbon	94.5	92.6	95.4			2.43

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2425103
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2425103
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2425103

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2425103
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2425104
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2425104
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2425104
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2425104
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2425108, 2425109
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2425103
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2425103
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2425103
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2425103
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2425104

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	07/19/2023			07/19/2023 15:21	Samantha L Bates	2425103
EPA 180.1 Rev. 2.0	07/19/2023			07/19/2023 14:10	Alexis Price	2425103
EPA 300.0 Rev. 2.1	07/19/2023			07/25/2023 16:15	James L Waggeberby	2425103
EPA 350.1 Rev. 2.0	07/19/2023			07/24/2023 13:39	Khloe J Berg	2425104
EPA 351.2 Rev. 2.0	07/19/2023	07/24/2023 16:09	Dana G. Hughes	07/25/2023 14:54	Samantha L Bates	2425104
EPA 353.2 Rev. 2.0	07/19/2023			07/21/2023 13:09	Judith K. Clark	2425104
EPA 365.1 Rev. 2.0	07/19/2023	07/21/2023 16:45	Adam P Silver	07/24/2023 10:29	James L Waggeberby	2425104
EPA 8321B	07/19/2023	07/19/2023 14:00	Hoor Shaik	07/21/2023 09:34	Juyoung Kim	2425108
	07/19/2023	07/19/2023 14:00	Hoor Shaik	07/21/2023 09:52	Juyoung Kim	2425109
	07/19/2023	07/24/2023 10:00	Hana Lee	07/24/2023 15:42	Tae K Lee	2425108
	07/19/2023	07/24/2023 10:00	Hana Lee	07/24/2023 16:10	Tae K Lee	2425109
	07/19/2023	07/24/2023 10:00	Hana Lee	07/25/2023 02:19	Tae K Lee	2425108
	07/19/2023	07/24/2023 10:00	Hana Lee	07/25/2023 02:46	Tae K Lee	2425109
SM 2320 B-2011	07/19/2023			07/22/2023 10:57	Dale L. Simmons	2425103
SM 2540 C-2015	07/19/2023			07/21/2023 17:02	Yijie Li	2425103
SM 2540 D-2015	07/19/2023			07/21/2023 17:02	Yijie Li	2425103
SM 4500-F- C-2011	07/19/2023			07/22/2023 10:57	Dale L. Simmons	2425103
SM 5310 B-2011	07/19/2023			07/21/2023 18:54	Elise M. Gillis	2425104