

Chemical Analysis Report

SE-DIST-2023-09-21-02

Florida DEP Laboratory
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Tallahassee, FL 32399-2400
DOH Accreditation E31780

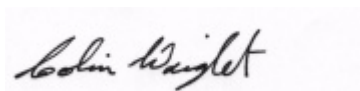
Event Description: **SMP - Fort Pierce, Fort Drum + Blank**
Request ID: **RQ-2023-09-11-29**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
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2199 South Rock Road
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Attn: Andrew Luering

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Certified by: Colin Wright, Program Administrator

Date Certified: 10-OCT-2023 15:05

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light blue rectangular background.

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: BLUE CYPRESS CREEK

Collection Date/Time: 09/20/2023 11:50

Field ID: G3SE0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2438946	DEP SOP: NU-094-1	Color (true)	480		PCU	P435345	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P435350	
	EPA 300.0 Rev. 2.1	Chloride	12		mg Cl/L	P435832	
		Sulfate	1.5		mg SO4/L	P435835	
	SM 2320 B-2011	Total Alkalinity	15		mg CaCO3/L	P435731	
	SM 2540 C-2015	TDS	128		mg/L	P435879	
	SM 2540 D-2015	TSS	3	I	mg/L	P435849	
	SM 4500-F- C-2011	Fluoride	0.061	I	mg F/L	P435734	
2438947	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P435511	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P436037	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.026		mg N/L	P436059	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P435423	
	SM 5310 B-2011	Organic Carbon	39		mg C/L	P435756	

Ref. Method and Comment:

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

Sample Location: FIVEMILE CREEK AT SR 68

Collection Date/Time: 09/20/2023 13:20

Field ID: G2SE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2438951	EPA 8321B	2,4-D	0.0083		ug/L	P435439	
		Acesulfame K	0.10	U	ug/L	P435314	
		2,4,5-T	0.0040	U	ug/L	P435439	
		AMPA	0.70		ug/L	P435314	
		Acetaminophen	0.0080	U	ug/L	P435439	
		Acetamiprid	0.0020	U	ug/L	P435439	
		Endothall	0.25	U	ug/L	P435314	
		Glufosinate	0.10	U	ug/L	P435314	
		Glyphosate	0.10	U	ug/L	P435314	
		Afidopyropen	0.0020	U	ug/L	P435439	
		Bentazon	0.0015	I	ug/L	P435439	
		Sucralose	0.11		ug/L	P435314	
		Benzovindiflupyr	0.0020	U	ug/L	P435439	
		Carbamazepine	8.0E-04	U	ug/L	P435439	
		Clothianidin	0.0020	U	ug/L	P435439	
		Dinotefuran	0.0077	I	ug/L	P435439	
		Diuron	0.0039	I	ug/L	P435439	
		Fenuron	0.032	U	ug/L	P435439	
		Fluridone	8.0E-04	U	ug/L	P435439	
		Imazapyr	0.020		ug/L	P435439	
		Hydrocodone	0.0020	U	ug/L	P435439	
		Ibuprofen	0.080	U	ug/L	P435439	
		Imidacloprid	0.0055	I	ug/L	P435439	
		Linuron	0.0040	U	ug/L	P435439	
		Mandestrobin	0.0020	U	ug/L	P435439	
		MCPP	0.0020	U	ug/L	P435439	
		Naproxen	0.0080	U	ug/L	P435439	
		Primidone	0.0040	U	ug/L	P435439	
		Pyraclostrobin	0.0020	U	ug/L	P435439	
		Silvex	0.0040	U	ug/L	P435439	
		Thiamethoxam	0.0020	U	ug/L	P435439	
		Tolfenpyrad	0.0020	U	ug/L	P435439	
		Triclopyr	0.0040	U	ug/L	P435439	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: C 25 CANAL UPSTREAM OF S50

Collection Date/Time: 09/20/2023 13:40

Field ID: G5SE0129

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2438952	EPA 8321B	2,4-D	0.0088		ug/L	P435439	
		Acesulfame K	0.10	U	ug/L	P435314	
		2,4,5-T	0.0040	U	ug/L	P435439	
		AMPA	0.37	I	ug/L	P435314	
		Acetaminophen	0.0080	U	ug/L	P435439	
		Acetamiprid	0.0020	U	ug/L	P435439	
		Endothall	0.25	U	ug/L	P435314	
		Glufosinate	0.10	U	ug/L	P435314	
		Glyphosate	0.10	U	ug/L	P435314	
		Afidopyropen	0.0020	U	ug/L	P435439	
		Bentazon	8.0E-04	U	ug/L	P435439	
		Sucralose	0.045		ug/L	P435314	
		Benzovindiflupyr	0.0020	U	ug/L	P435439	
		Carbamazepine	8.0E-04	U	ug/L	P435439	
		Clothianidin	0.0042	I	ug/L	P435439	
		Dinotefuran	0.0020	U	ug/L	P435439	
		Diuron	0.0027	I	ug/L	P435439	
		Fenuron	0.032	U	ug/L	P435439	
		Fluridone	8.0E-04	U	ug/L	P435439	
		Imazapyr	0.057		ug/L	P435439	
		Hydrocodone	0.0020	U	ug/L	P435439	
		Ibuprofen	0.080	U	ug/L	P435439	
		Imidacloprid	0.016		ug/L	P435439	
		Linuron	0.0040	U	ug/L	P435439	
		Mandestrobin	0.0020	U	ug/L	P435439	
		MCPP	0.0020	U	ug/L	P435439	
		Naproxen	0.0080	U	ug/L	P435439	
		Primidone	0.0040	U	ug/L	P435439	
		Pyraclostrobin	0.0020	U	ug/L	P435439	
		Silvex	0.0040	U	ug/L	P435439	
		Thiamethoxam	0.0052	I	ug/L	P435439	
		Tolfenpyrad	0.0020	U	ug/L	P435439	
		Triclopyr	0.0040	U	ug/L	P435439	

Ref. Method and Comment:

EPA 8321B: MS accuracy for 2,4-D could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P435345

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435511

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436037

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

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

Reference Method: EPA 8321B
Batch ID: P435314

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: P435314

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

Reference Method: EPA 8321B
Batch ID: P435439

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: P435731

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

Reference Method: SM 2540 C-2015
Batch ID: P435879

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P435849

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500-F- C-2011
Batch ID: P435734

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P435756

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: P435345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435511

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436037

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	109		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P435314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	118		P	40 - 150
AMPA	92.1		P	40 - 150
Endothall	106		P	40 - 150
Glufosinate	114		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P435314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	90.4		P	40 - 150
Sucralose	88.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435439

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.0		P	40 - 150
2,4,5-T	108		P	40 - 150
Acetaminophen	88.7		P	30 - 150
Acetamiprid	89.8		P	40 - 150
Afidopyropen	66.8		P	30 - 150
Bentazon	91.2		P	30 - 150
Benzovindiflupyr	86.6		P	40 - 150
Carbamazepine	86.7		P	40 - 150
Clothianidin	92.4		P	40 - 150
Dinotefuran	96.6		P	40 - 150
Diuron	79.0		P	40 - 150
Fenuron	90.6		P	40 - 150
Fluridone	93.9		P	40 - 150
Hydrocodone	94.6		P	40 - 150
Ibuprofen	63.6		P	40 - 150
Imazapyr	76.1		P	40 - 150
Imidacloprid	87.8		P	40 - 150
Linuron	67.3		P	40 - 150
Mandestrobin	91.4		P	40 - 150
MCPP	120		P	40 - 150
Naproxen	63.5		P	40 - 150
Primidone	77.6		P	40 - 150
Pyraclostrobin	85.7		P	40 - 150
Silvex	96.7		P	40 - 150
Thiamethoxam	95.5		P	40 - 150
Tolfenpyrad	55.4		P	30 - 150
Triclopyr	109		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P435731

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.3		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P435879

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	96.1		P	90 - 110

Reference Method: SM 2540 D-2015
Batch ID: P435849

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	99.6		P	85 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P435734

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

Reference Method: SM 5310 B-2011
Batch ID: P435756

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438915	Chloride	98.6		P	90 - 110
2439112	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438915	Sulfate	101		P	90 - 110
2439112	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438890	Ammonia-N	97.4	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438916	Kjeldahl Nitrogen	106	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438786	NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438977	Total-P	107	108	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P435314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438929	Acesulfame K	131	133	P/P	40 - 150
2438929	AMPA	82.0	80.3	P/P	40 - 150
2438929	Endothall	121	124	P/P	40 - 150
2438929	Glufosinate	95.1	96.2	P/P	40 - 150
2438929	Glyphosate	73.9	78.4	P/P	40 - 150
2438929	Sucralose	92.8	97.2	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438930	2,4,5-T	114	104	P/P	40 - 150
2438930	Acetaminophen	58.5	58.6	P/P	30 - 150
2438930	Acetamiprid	66.0	62.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P435439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438930	Afidopyropen	91.8	79.4	P/P	30 - 150
2438930	Bentazon	33.3	31.8	P/P	30 - 150
2438930	Benzovindiflupyr	90.2	95.9	P/P	40 - 150
2438930	Carbamazepine	63.8	64.1	P/P	40 - 150
2438930	Clothianidin	58.7	57.7	P/P	40 - 150
2438930	Dinotefuran	47.8	48.2	P/P	40 - 150
2438930	Diuron	57.7	57.4	P/P	40 - 150
2438930	Fenuron	41.6	41.4	P/P	40 - 150
2438930	Fluridone	79.3	75.7	P/P	40 - 150
2438930	Hydrocodone	49.2	48.3	P/P	40 - 150
2438930	Ibuprofen	66.5	65.4	P/P	40 - 150
2438930	Imazapyr	93.7	84.7	P/P	40 - 150
2438930	Imidacloprid	95.4	93.6	P/P	40 - 150
2438930	Linuron	64.8	69.3	P/P	40 - 150
2438930	Mandestrobin	89.1	90.1	P/P	40 - 150
2438930	MCPP	108	110	P/P	40 - 150
2438930	Naproxen	70.0	76.1	P/P	40 - 150
2438930	Primidone	58.3	63.7	P/P	40 - 150
2438930	Pyraclostrobin	93.7	93.5	P/P	40 - 150
2438930	Silvex	89.1	90.4	P/P	40 - 150
2438930	Thiamethoxam	57.0	54.0	P/P	40 - 150
2438930	Tolfenpyrad	59.8	63.0	P/P	30 - 150
2438930	Triclopyr	111	109	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P435734

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438976	Fluoride	101	101	P/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P435756

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2438696	Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P435345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438888	Color (true)	0.836	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438888	Turbidity	6.41	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438915	Chloride	1.02	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435835

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438915	Sulfate	0.461	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438890	Ammonia-N	0.902	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P436037

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438916	Kjeldahl Nitrogen	5.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P436059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438786	NO2NO3-N	1.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438977	Total-P	0.742	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P435314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438929	Acesulfame K	1.10	Spike	P	0 - 30
2438929	AMPA	2.11	Spike	P	0 - 30
2438929	Endothall	2.62	Spike	P	0 - 30
2438929	Glufosinate	1.16	Spike	P	0 - 30
2438929	Glyphosate	6.03	Spike	P	0 - 30
2438929	Sucralose	3.66	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P435439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438930	2,4-D	1.44	Spike	P	0 - 30
2438930	2,4,5-T	8.93	Spike	P	0 - 30
2438930	Acetaminophen	0.161	Spike	P	0 - 30
2438930	Acetamiprid	5.93	Spike	P	0 - 30
2438930	Afidopyropen	14.4	Spike	P	0 - 30
2438930	Bentazon	4.44	Spike	P	0 - 30
2438930	Benzovindiflupyr	6.11	Spike	P	0 - 30
2438930	Carbamazepine	0.388	Spike	P	0 - 30
2438930	Clothianidin	1.69	Spike	P	0 - 30
2438930	Dinotefuran	0.822	Spike	P	0 - 30
2438930	Diuron	0.486	Spike	P	0 - 30
2438930	Fenuron	0.486	Spike	P	0 - 30
2438930	Fluridone	4.68	Spike	P	0 - 30
2438930	Hydrocodone	1.91	Spike	P	0 - 30
2438930	Ibuprofen	1.73	Spike	P	0 - 30
2438930	Imazapyr	6.63	Spike	P	0 - 30
2438930	Imidacloprid	1.88	Spike	P	0 - 30
2438930	Linuron	6.77	Spike	P	0 - 30
2438930	Mandestrobin	1.16	Spike	P	0 - 30
2438930	MCPP	2.17	Spike	P	0 - 30
2438930	Naproxen	8.41	Spike	P	0 - 30
2438930	Primidone	8.77	Spike	P	0 - 30
2438930	Pyraclostrobin	0.193	Spike	P	0 - 30
2438930	Silvex	1.46	Spike	P	0 - 30
2438930	Thiamethoxam	5.33	Spike	P	0 - 30
2438930	Tolfenpyrad	5.29	Spike	P	0 - 30
2438930	Triclopyr	2.14	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P435731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438976	Total Alkalinity	0.230	Sample	P	0 - 3.9

Quality Assurance Report Precision

Reference Method: SM 2540 C-2015
Batch ID: P435879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438524	TDS	1.90	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P435734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438976	Fluoride	0.0	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P435756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2438696	Organic Carbon	0.558	Sample	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2438951
Field Sample ID: G2SE0072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.8	P	30 - 160
EPA 8321B	Diuron-d6	48.0	P	30 - 160
EPA 8321B	Endothall-d6	140	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	70.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.7	P	30 - 160
EPA 8321B	Primidone-d5	52.3	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	30 - 160

Lab Sample ID: 2438952
Field Sample ID: G5SE0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	88.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	60.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.5	P	30 - 160
EPA 8321B	Diuron-d6	43.8	P	30 - 160
EPA 8321B	Endothall-d6	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	57.3	P	30 - 160
EPA 8321B	Primidone-d5	45.9	P	30 - 160
EPA 8321B	Sucralose-d6	141	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A121696

Included Lab Sample IDs: 2438946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121700

Included Lab Sample IDs: 2438946

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121764

Included Lab Sample IDs: 2438947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.2	99.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121765

Included Lab Sample IDs: 2438951, 2438952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.7	109	P/P	60 - 160
Endothall	102	117	P/P	60 - 160
Glufosinate	109	110	P/P	60 - 160
Glyphosate	92.6	93.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121768

Included Lab Sample IDs: 2438951, 2438952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	116	129	P/P	60 - 160
Sucralose	105	104	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121771

Included Lab Sample IDs: 2438946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.8	97.3	P/P	90 - 110
Sulfate	101	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121784

Included Lab Sample IDs: 2438951, 2438952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	76.0	79.9	P/P	50 - 150
2,4,5-T	98.8	89.4	P/P	50 - 150
Acetaminophen	115	116	P/P	60 - 160
Acetamiprid	110	112	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A121784

Included Lab Sample IDs: 2438951, 2438952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Afidopyropen	89.8	94.8	P/P	50 - 150
Bentazon	128	131	P/P	50 - 160
Benzovindiflupyr	104	109	P/P	50 - 150
Carbamazepine	106	106	P/P	60 - 150
Clothianidin	106	112	P/P	60 - 150
Dinotefuran	109	110	P/P	50 - 150
Diuron	109	110	P/P	60 - 160
Fenuron	107	109	P/P	60 - 150
Fluridone	118	117	P/P	60 - 160
Hydrocodone	112	114	P/P	60 - 150
Ibuprofen	106	103	P/P	50 - 160
Imazapyr	96.0	95.2	P/P	50 - 150
Imidacloprid	101	101	P/P	60 - 150
Linuron	107	98.5	P/P	60 - 150
Mandestrobin	105	109	P/P	50 - 150
MCPP	98.6	93.8	P/P	50 - 150
Naproxen	88.3	82.1	P/P	50 - 160
Primidone	97.6	96.8	P/P	60 - 150
Pyraclostrobin	111	114	P/P	60 - 150
Silvex	113	101	P/P	50 - 150
Thiamethoxam	114	121	P/P	50 - 150
Tolfenpyrad	103	108	P/P	60 - 150
Triclopyr	88.7	80.6	P/P	50 - 150

Reference Method: SM 2320 B-2011

Run ID: A121844

Included Lab Sample IDs: 2438946

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.0	94.9	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A121844

Included Lab Sample IDs: 2438946

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

Reference Method: SM 5310 B-2011

Run ID: A121855

Included Lab Sample IDs: 2438947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.0	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121915

Included Lab Sample IDs: 2438947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A121981

Included Lab Sample IDs: 2438947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A122007

Included Lab Sample IDs: 2438947

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.1	100	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)	99.9				0.836	
EPA 180.1 Rev. 2.0	Turbidity	105				6.41	
EPA 300.0 Rev. 2.1	Chloride	97.5	98.6	99.9		1.02	
	Sulfate	100	101	101		0.461	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	97.4	98.4			0.902
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	106	98.2			5.02
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.0	100			1.01
EPA 365.1 Rev. 2.0	Total-P	109	107	108			0.742
EPA 8321B	2,4-D	90.0					1.44
	2,4,5-T	108	104	114			8.93
	Acesulfame K	118	131	133			1.10
	Acetaminophen	88.7	58.5	58.6			0.161
	Acetamiprid	89.8	66.0	62.2			5.93
	Afidopyropen	66.8	91.8	79.4			14.4
	AMPA	92.1	82.0	80.3			2.11
	Bentazon	91.2	33.3	31.8			4.44
	Benzovindiflupyr	86.6	90.2	95.9			6.11
	Carbamazepine	86.7	63.8	64.1			0.388
	Clothianidin	92.4	58.7	57.7			1.69
	Dinotefuran	96.6	47.8	48.2			0.822
	Diuron	79.0	57.7	57.4			0.486
	Endothall	106	121	124			2.62
	Fenuron	90.6	41.6	41.4			0.486
	Fluridone	93.9	79.3	75.7			4.68
	Glufosinate	114	95.1	96.2			1.16
	Glyphosate	90.4	73.9	78.4			6.03
	Hydrocodone	94.6	49.2	48.3			1.91
	Ibuprofen	63.6	65.4	66.5			1.73
	Imazapyr	76.1	93.7	84.7			6.63
	Imidacloprid	87.8	95.4	93.6			1.88
	Linuron	67.3	64.8	69.3			6.77
	Mandestrobin	91.4	89.1	90.1			1.16
	MCPP	120	110	108			2.17
	Naproxen	63.5	76.1	70.0			8.41
	Primidone	77.6	58.3	63.7			8.77
	Pyraclostrobin	85.7	93.7	93.5			0.193
	Silvex	96.7	90.4	89.1			1.46
	Sucralose	88.9	92.8	97.2			3.66
	Thiamethoxam	95.5	57.0	54.0			5.33
	Tolfenpyrad	55.4	59.8	63.0			5.29
	Triclopyr	109	111	109			2.14
SM 2320 B-2011	Total Alkalinity	94.3				0.230	
SM 2540 C-2015	TDS	96.1				1.90	
SM 2540 D-2015	TSS	99.6					
SM 4500-F- C-2011	Fluoride	101	101	101			0.0
SM 5310 B-2011	Organic Carbon	98.2	96.7			0.558	

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2438946
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2438946
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2438946

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2438946
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2438947
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2438947
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2438947
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2438947
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2438951, 2438952
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2438946
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2438946
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2438946
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2438946
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2438947

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	09/21/2023			09/21/2023 15:35	Alexis Price	2438946
EPA 180.1 Rev. 2.0	09/21/2023			09/21/2023 14:32	Samantha L Bates	2438946
EPA 300.0 Rev. 2.1	09/21/2023			09/27/2023 19:55	James L Waggeberby	2438946
EPA 350.1 Rev. 2.0	09/21/2023			09/26/2023 14:01	Ping Hua	2438947
EPA 351.2 Rev. 2.0	09/21/2023	10/05/2023 11:40	Simonne.V. Calhoun	10/06/2023 13:05	Samantha L Bates	2438947
EPA 353.2 Rev. 2.0	09/21/2023			10/05/2023 11:48	Anna M. Plaviak	2438947
EPA 365.1 Rev. 2.0	09/21/2023	09/25/2023 13:35	Adam P Silver	10/03/2023 12:03	James L Waggeberby	2438947
EPA 8321B	09/21/2023	09/25/2023 11:00	Hana Lee	09/25/2023 15:07	Hana Lee	2438951
	09/21/2023	09/25/2023 11:00	Hana Lee	09/25/2023 15:20	Hana Lee	2438952
	09/21/2023	09/25/2023 11:00	Hana Lee	09/26/2023 02:07	Tae K Lee	2438951
	09/21/2023	09/25/2023 11:00	Hana Lee	09/26/2023 02:21	Tae K Lee	2438952
	09/21/2023	09/26/2023 13:00	Hoor Shaik	09/26/2023 18:20	Juyoung Kim	2438951
	09/21/2023	09/26/2023 13:00	Hoor Shaik	09/26/2023 18:38	Juyoung Kim	2438952
SM 2320 B-2011	09/21/2023			09/28/2023 19:20	Adam P Silver	2438946
SM 2540 C-2015	09/21/2023			09/25/2023 15:40	Yijie Li	2438946
SM 2540 D-2015	09/21/2023			09/25/2023 15:40	Yijie Li	2438946
SM 4500-F- C-2011	09/21/2023			09/28/2023 19:20	Adam P Silver	2438946
SM 5310 B-2011	09/21/2023			09/29/2023 02:01	Khloe J Berg	2438947