

Chemical Analysis Report

NW-DIST-2020-07-15-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Dune Lakes**
Request ID: **RQ-2020-07-13-48**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 07-AUG-2020 14:10



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: Eastern Lake North of CR-30A

Collection Date/Time: 07/14/2020 12:30

Field ID: G3NW0442

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183046	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P384668	
	EPA 300.0 Rev. 2.1	Bromide	28		mg Br/L	P385582	
	SM 2320 B-2011	Total Alkalinity	87		mg CaCO3/L	P384846	
	SM 2540 D-2011	TSS	6	I	mg/L	P385128	
	SM 4500 F-C-2011	Fluoride	0.58		mg F/L	P384852	
2183047	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P384820	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P384773	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384859	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P384877	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P385192	
2183048	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384673	
2183064	EPA 8321B	2,4-D	0.0020	U	ug/L	P384706	
		Acesulfame K**	0.10	UJ	ug/L	P384657	SUR
		AMPA**	1.0	U	ug/L	P384657	
		Sucralose**	0.23		ug/L	P384657	
		Acetaminophen**	0.0080	U	ug/L	P384706	
		Acetamiprid**	0.0020	U	ug/L	P384706	
		Endothall**	0.25	UJ	ug/L	P384657	SUR
		Glufosinate**	1.0	U	ug/L	P384657	
		Glyphosate**	1.0	U	ug/L	P384657	
		Afidopyropen**	0.0020	U	ug/L	P384706	
		Bentazon	0.0093		ug/L	P384706	
		Benzovindiflupyr**	0.0020	U	ug/L	P384706	
		Carbamazepine**	8.0E-04	U	ug/L	P384706	
		Clothianidin**	0.0020	U	ug/L	P384706	
		Dinotefuran**	0.0020	U	ug/L	P384706	
		Diuron	0.0020	U	ug/L	P384706	
		Fenuron	0.016	U	ug/L	P384706	
		Fluridone**	0.0015	I	ug/L	P384706	
		Imazapyr**	0.011	I	ug/L	P384706	
		Hydrocodone**	0.0020	U	ug/L	P384706	
		Ibuprofen**	0.020	U	ug/L	P384706	
		Imidacloprid	0.0043	I	ug/L	P384706	
		Linuron	0.0040	U	ug/L	P384706	
		Mandestrobin**	0.0020	U	ug/L	P384706	
		MCP	0.010		ug/L	P384706	
		Naproxen**	0.0080	U	ug/L	P384706	
		Primidone**	0.0040	U	ug/L	P384706	
		Pyraclostrobin**	0.0020	U	ug/L	P384706	
		Thiamethoxam**	0.0020	U	ug/L	P384706	
		Tolfenpyrad**	0.0020	U	ug/L	P384706	
		Triclopyr**	0.0040	U	ug/L	P384706	

Field ID: G3NW0442

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Eastern Lake off of Center Avenue

Collection Date/Time: 07/14/2020 12:40

Field ID: G3NW0124

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2183065	EPA 8321B	2,4-D	0.0020	U	ug/L	P384706	
		Acesulfame K**	0.10	UJ	ug/L	P384657	SUR
		AMPA**	1.0	U	ug/L	P384657	
		Sucralose**	0.043		ug/L	P384657	
		Acetaminophen**	0.0080	U	ug/L	P384706	
		Acetamiprid**	0.0020	U	ug/L	P384706	
		Endothall**	0.25	UJ	ug/L	P384657	SUR
		Glufosinate**	1.0	U	ug/L	P384657	
		Glyphosate**	1.0	U	ug/L	P384657	
		Afidopyropen**	0.0020	U	ug/L	P384706	
		Bentazon	8.0E-04	U	ug/L	P384706	
		Benzovindiflupyr**	0.0020	U	ug/L	P384706	
		Carbamazepine**	8.0E-04	U	ug/L	P384706	
		Clothianidin**	0.0020	U	ug/L	P384706	
		Dinotefuran**	0.0020	U	ug/L	P384706	
		Diuron	0.0020	U	ug/L	P384706	
		Fenuron	0.016	U	ug/L	P384706	
		Fluridone**	8.0E-04	U	ug/L	P384706	
		Imazapyr**	0.0040	U	ug/L	P384706	
		Hydrocodone**	0.0020	U	ug/L	P384706	
		Ibuprofen**	0.020	U	ug/L	P384706	
		Imidacloprid	0.011		ug/L	P384706	
		Linuron	0.0040	U	ug/L	P384706	
		Mandestrobin**	0.0020	U	ug/L	P384706	
		MCPP	0.0020	U	ug/L	P384706	
		Naproxen**	0.0080	U	ug/L	P384706	
		Primidone**	0.0040	U	ug/L	P384706	
		Pyraclostrobin**	0.0020	U	ug/L	P384706	
		Thiamethoxam**	0.0020	U	ug/L	P384706	
		Tolfenpyrad**	0.0020	U	ug/L	P384706	
		Triclopyr**	0.0040	U	ug/L	P384706	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384668

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385582

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384773

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384859

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384877

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384673

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P384657

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P384706

Component	Result	Code	Units
2,4-D	0.0020	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	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	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
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: P384846

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 D-2011
Batch ID: P385128

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384852

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P385192

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385582

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384773

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384859

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384673

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	90.8		P	40 - 150
AMPA	83.0		P	40 - 150
Endothall	77.4		P	40 - 150
Glufosinate	99.5		P	40 - 150
Glyphosate	92.6		P	40 - 140
Sucralose	93.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P384706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	104		P	30 - 160
Acetaminophen	62.1		P	30 - 160
Acetamiprid	76.1		P	30 - 160
Afidopyropen	59.3		P	30 - 160
Bentazon	51.4		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	61.7		P	30 - 160
Carbamazepine	61.6		P	30 - 160
Clothianidin	77.9		P	30 - 160
Dinotefuran	85.6		P	30 - 160
Diuron	51.4		P	30 - 160
Fenuron	88.8		P	30 - 160
Fluridone	79.7		P	30 - 160
Hydrocodone	73.7		P	30 - 160
Ibuprofen	66.1		P	30 - 160
Imazapyr	95.9		P	30 - 160
Imidacloprid	93.7		P	30 - 160
Linuron	57.5		P	30 - 160
Mandestrobin	66.9		P	30 - 160
MCPP	115		P	30 - 160
Naproxen	71.3		P	30 - 160
Primidone	76.7		P	30 - 160
Pyraclostrobin	68.6		P	30 - 160
Thiamethoxam	89.4		P	30 - 160
Tolfenpyrad	56.2		P	30 - 160
Triclopyr	92.0		P	30 - 160

Reference Method: SM 2320 B-2011
Batch ID: P384846

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P384852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P385192

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P385582

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182961	Bromide	92.9		P	90 - 110
2183177	Bromide	93.3	92.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183001	Ammonia-N	96.6	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183047	Kjeldahl Nitrogen	99.9	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384859

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182999	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182999	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2183025	O-Phosphate-P	97.2	97.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182983	Acesulfame K	99.2	95.0	P/P	40 - 150
2182983	AMPA	86.0	83.0	P/P	40 - 150
2182983	Endothall	85.5	88.4	P/P	40 - 150
2182983	Glufosinate	85.1	84.0	P/P	40 - 150
2182983	Glyphosate	70.4	65.3	P/P	40 - 140
2182983	Sucralose	106	98.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P384706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182738	2,4-D	117	102	P/P	30 - 160
2182738	Acetaminophen	69.7	77.9	P/P	30 - 160
2182738	Acetamiprid	66.7	66.9	P/P	30 - 160
2182738	Afidopyropen	68.8	68.0	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P384706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182738	Bentazon	44.0	41.1	P/P	30 - 160
2182738	Benzovindiflupyr	70.8	65.0	P/P	30 - 160
2182738	Carbamazepine	52.3	53.9	P/P	30 - 160
2182738	Clothianidin	61.9	66.0	P/P	30 - 160
2182738	Dinotefuran	73.1	76.9	P/P	30 - 160
2182738	Diuron	45.6	49.5	P/P	30 - 160
2182738	Fenuron	70.2	73.3	P/P	30 - 160
2182738	Fluridone	89.5	82.3	P/P	30 - 160
2182738	Hydrocodone	57.4	62.3	P/P	30 - 160
2182738	Ibuprofen	71.6	63.0	P/P	30 - 160
2182738	Imazapyr	98.9	99.6	P/P	30 - 160
2182738	Imidacloprid	114	120	P/P	30 - 160
2182738	Linuron	61.9	58.7	P/P	30 - 160
2182738	Mandestrobin	74.5	73.2	P/P	30 - 160
2182738	MCPP	121	115	P/P	30 - 160
2182738	Naproxen	68.9	73.0	P/P	30 - 160
2182738	Primidone	80.6	75.3	P/P	30 - 160
2182738	Pyraclostrobin	77.3	75.0	P/P	30 - 160
2182738	Thiamethoxam	79.7	84.7	P/P	30 - 160
2182738	Tolfenpyrad	47.5	47.4	P/P	30 - 160
2182738	Triclopyr	103	89.1	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
 Batch ID: P384852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2182995	Fluoride	99.7	99.7	P/P	94 - 107

Reference Method: SM 5310 B-2011
 Batch ID: P385192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2184275	Organic Carbon	93.1	92.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P384668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182995	Turbidity	0.959	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P385582

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183177	Bromide	0.308	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P384820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183001	Ammonia-N	0.310	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P384773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183047	Kjeldahl Nitrogen	2.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P384859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182999	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P384877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182999	Total-P	1.59	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P384673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2183025	O-Phosphate-P	0.243	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P384657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182983	Acesulfame K	4.11	Spike	P	0 - 30
2182983	AMPA	3.61	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P384657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182983	Endothall	3.40	Spike	P	0 - 30
2182983	Glufosinate	1.31	Spike	P	0 - 30
2182983	Glyphosate	6.45	Spike	P	0 - 30
2182983	Sucralose	5.88	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182738	2,4-D	13.5	Spike	P	0 - 30
2182738	Acetaminophen	11.1	Spike	P	0 - 30
2182738	Acetamiprid	0.416	Spike	P	0 - 30
2182738	Afidopyropen	1.16	Spike	P	0 - 30
2182738	Bentazon	3.25	Spike	P	0 - 30
2182738	Benzovindiflupyr	8.44	Spike	P	0 - 30
2182738	Carbamazepine	3.16	Spike	P	0 - 30
2182738	Clothianidin	6.53	Spike	P	0 - 30
2182738	Dinotefuran	5.16	Spike	P	0 - 30
2182738	Diuron	8.30	Spike	P	0 - 30
2182738	Fenuron	4.36	Spike	P	0 - 30
2182738	Fluridone	5.24	Spike	P	0 - 30
2182738	Hydrocodone	8.22	Spike	P	0 - 30
2182738	Ibuprofen	12.8	Spike	P	0 - 30
2182738	Imazapyr	0.477	Spike	P	0 - 30
2182738	Imidacloprid	5.22	Spike	P	0 - 30
2182738	Linuron	5.26	Spike	P	0 - 30
2182738	Mandestrobin	1.66	Spike	P	0 - 30
2182738	MCP	4.93	Spike	P	0 - 30
2182738	Naproxen	5.86	Spike	P	0 - 30
2182738	Primidone	6.87	Spike	P	0 - 30
2182738	Pyraclostrobin	3.08	Spike	P	0 - 30
2182738	Thiamethoxam	6.05	Spike	P	0 - 30
2182738	Tolfenpyrad	0.181	Spike	P	0 - 30
2182738	Triclopyr	14.1	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P384846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182995	Total Alkalinity	0.817	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
Batch ID: P384852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2182995	Fluoride	0.0	Spike	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P385192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2184275	Organic Carbon	0.202	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2183064
Field Sample ID: G3NW0442

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	135	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.5	P	30 - 160
EPA 8321B	Diuron-d6	67.8	P	30 - 160
EPA 8321B	Endothall-d6	335	F	30 - 160
EPA 8321B	Endothall-d6	335	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	44.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	44.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.0	P	30 - 160
EPA 8321B	Primidone-d5	90.2	P	30 - 160
EPA 8321B	Sucralose-d6	91.4	P	30 - 160
EPA 8321B	Sucralose-d6	91.4	P	30 - 160

Lab Sample ID: 2183065
Field Sample ID: G3NW0124

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	149	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.2	P	30 - 160
EPA 8321B	Diuron-d6	78.8	P	30 - 160
EPA 8321B	Endothall-d6	365	F	30 - 160
EPA 8321B	Endothall-d6	365	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	48.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	48.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.1	P	30 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	84.3	P	30 - 160
EPA 8321B	Sucralose-d6	84.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100005

Included Lab Sample IDs: 2183047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.5	97.2	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100098

Included Lab Sample IDs: 2183047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.8	93.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100141

Included Lab Sample IDs: 2183064, 2183065

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.9	94.2	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100250

Included Lab Sample IDs: 2183046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	107	94.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99896

Included Lab Sample IDs: 2183046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99898

Included Lab Sample IDs: 2183048

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	96.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99937

Included Lab Sample IDs: 2183064, 2183065

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	78.1	79.4	P/P	60 - 160
Glufosinate	85.3	102	P/P	60 - 160
Glyphosate	94.5	95.1	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99954

Included Lab Sample IDs: 2183047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99954

Included Lab Sample IDs: 2183047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	101	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A99965

Included Lab Sample IDs: 2183046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.3	99.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99965

Included Lab Sample IDs: 2183046

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99968

Included Lab Sample IDs: 2183047

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99971

Included Lab Sample IDs: 2183047

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99981

Included Lab Sample IDs: 2183064, 2183065

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	117	124	P/P	50 - 150
Acetaminophen	111	113	P/P	60 - 160
Acetamiprid	119	117	P/P	50 - 150
Afidopyropen	106	108	P/P	50 - 150
Bentazon	101	90.8	P/P	50 - 160
Benzovindiflupyr	103	111	P/P	50 - 150
Carbamazepine	112	112	P/P	60 - 150
Clothianidin	105	107	P/P	60 - 150
Dinotefuran	106	105	P/P	50 - 150
Diuron	118	110	P/P	60 - 160
Fenuron	111	117	P/P	60 - 150
Fluridone	110	115	P/P	60 - 160
Hydrocodone	114	117	P/P	60 - 150
Ibuprofen	74.6	75.9	P/P	50 - 160
Imazapyr	130	124	P/P	50 - 150
Imidacloprid	103	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99981

Included Lab Sample IDs: 2183064, 2183065

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	107	115	P/P	60 - 150
Mandestrobin	118	120	P/P	50 - 150
MCPP	112	98.5	P/P	50 - 150
Naproxen	125	77.5	P/P	50 - 160
Primidone	93.7	106	P/P	60 - 150
Pyraclostrobin	117	106	P/P	60 - 150
Thiamethoxam	97.5	119	P/P	50 - 150
Tolfenpyrad	110	103	P/P	60 - 150
Triclopyr	112	102	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A99984

Included Lab Sample IDs: 2183064, 2183065

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	89.8	73.9	P/P	60 - 160
Endothall	98.3	100	P/P	60 - 160

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.959	
EPA 300.0 Rev. 2.1	Bromide	96.2	93.3	92.9	92.9		0.308
EPA 350.1 Rev. 2.0	Ammonia-N	102	96.6	96.9			0.310
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	99.9	104			2.33
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	106	105	103			1.59
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	97.2	97.5			0.243
EPA 8321B	2,4-D	104	117	102			13.5
	Acesulfame K	90.8	99.2	95.0			4.11
	Acetaminophen	62.1	69.7	77.9			11.1
	Acetamiprid	76.1	66.7	66.9			0.416
	Afidopyropen	59.3	68.8	68.0			1.16
	AMPA	83.0	86.0	83.0			3.61
	Bentazon	51.4	44.0	41.1			3.25
	Benzovindiflupyr	61.7	70.8	65.0			8.44
	Carbamazepine	61.6	52.3	53.9			3.16
	Clothianidin	77.9	61.9	66.0			6.53
	Dinotefuran	85.6	73.1	76.9			5.16
	Diuron	51.4	45.6	49.5			8.30
	Endothall	77.4	85.5	88.4			3.40
	Fenuron	88.8	70.2	73.3			4.36
	Fluridone	79.7	89.5	82.3			5.24
	Glufosinate	99.5	85.1	84.0			1.31
	Glyphosate	92.6	70.4	65.3			6.45
	Hydrocodone	73.7	57.4	62.3			8.22
	Ibuprofen	66.1	71.6	63.0			12.8
	Imazapyr	95.9	98.9	99.6			0.477
	Imidacloprid	93.7	114	120			5.22
	Linuron	57.5	61.9	58.7			5.26
	Mandestrobin	66.9	74.5	73.2			1.66
	MCPP	115	121	115			4.93
	Naproxen	71.3	68.9	73.0			5.86
	Primidone	76.7	80.6	75.3			6.87
	Pyraclostrobin	68.6	77.3	75.0			3.08
	Sucralose	93.1	106	98.9			5.88
	Thiamethoxam	89.4	79.7	84.7			6.05
	Tolfenpyrad	56.2	47.5	47.4			0.181
	Triclopyr	92.0	103	89.1			14.1
SM 2320 B-2011	Total Alkalinity	98.8				0.817	
SM 4500 F-C-2011	Fluoride	98.5	99.7	99.7			0.0
SM 5310 B-2011	Organic Carbon	94.0	93.1	92.9			0.202

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2183046
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2183046
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2183047
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2183047
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2183047
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2183047
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2183048

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2183064, 2183065
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2183064, 2183065
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2183046
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2183046
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2183046
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2183047

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/15/2020			07/15/2020 15:03	Yen Ta	2183046
EPA 300.0 Rev. 2.1	07/15/2020			07/28/2020 19:48	Julia Storbeck	2183046
EPA 350.1 Rev. 2.0	07/15/2020			07/18/2020 12:25	Ping Hua	2183047
EPA 351.2 Rev. 2.0	07/15/2020	07/17/2020 11:15	Jhamieka S. Greenwood	07/20/2020 12:45	Jhamieka S. Greenwood	2183047
EPA 353.2 Rev. 2.0	07/15/2020			07/20/2020 09:29	Beverly Y. Sanders	2183047
EPA 365.1 Rev. 2.0	07/15/2020	07/20/2020 13:21	Yen Ta	07/22/2020 08:09	Lipi Saha	2183047
EPA 365.1 Rev. 2.0 dissolved	07/15/2020			07/15/2020 15:24	Jhamieka S. Greenwood	2183048
EPA 8321B	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/15/2020 22:37	Rebecca Ware	2183064
	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/15/2020 22:47	Rebecca Ware	2183065
	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/20/2020 14:07	Rebecca Ware	2183064
	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/20/2020 14:21	Rebecca Ware	2183065
	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/28/2020 22:22	Mohammad Ghaffari	2183064
	07/15/2020	07/15/2020 15:30	Rebecca Ware	07/28/2020 22:34	Mohammad Ghaffari	2183065
	07/15/2020	07/20/2020 08:45	Hoor Shaik	07/21/2020 10:22	Juyoung Kim	2183064
	07/15/2020	07/20/2020 08:45	Hoor Shaik	07/21/2020 10:57	Juyoung Kim	2183065
SM 2320 B-2011	07/15/2020			07/17/2020 19:37	Samantha Davila	2183046
SM 2540 D-2011	07/15/2020			07/20/2020 13:22	Yijie Li	2183046
SM 4500 F-C-2011	07/15/2020			07/17/2020 17:43	Samantha Davila	2183046
SM 5310 B-2011	07/15/2020			07/25/2020 03:23	David Boose	2183047