

Chemical Analysis Report

SO-DIST-2020-07-02-01

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

Event Description: **2020 SMP : Small Highlands**

Request ID: **RQ-2020-04-06-36**

Customer: **SO-DIST**

Project ID: **SMP**

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FLDEP South District Office
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Date Certified: 23-JUL-2020 17:49



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: Little Bonnet Lake

Collection Date/Time: 07/01/2020 10:50

Field ID: G4SD0169

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180504	EPA 180.1 Rev. 2.0	Turbidity	8.6		NTU	P384012	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P384558	
		Sulfate	34		mg SO4/L	P384560	
	SM 2120 B-2011	Color (true)	11		PCU	P384018	
	SM 2320 B-2011	Total Alkalinity	37		mg CaCO3/L	P384611	
	SM 2540 C-2011	TDS	158	A	mg/L	P384666	
	SM 2540 D-2011	TSS	7	IA	mg/L	P384169	
2180505	SM 4500 F-C-2011	Fluoride	0.081	I	mg F/L	P384389	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P384040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P384278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384117	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P384402	
2180506	SM 5310 B-2011	Organic Carbon	10		mg C/L	P384264	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384087	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lake Apthorpe @ Center

Collection Date/Time: 07/01/2020 11:50

Field ID: G4SD0185

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180507	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P384012	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P384558	
		Sulfate	29		mg SO4/L	P384560	
	SM 2120 B-2011	Color (true)	51	A	PCU	P384018	
	SM 2320 B-2011	Total Alkalinity	16		mg CaCO3/L	P384611	
	SM 2540 C-2011	TDS	123		mg/L	P384665	
	SM 2540 D-2011	TSS	3	I	mg/L	P384168	
2180508	SM 4500 F-C-2011	Fluoride	0.050	I	mg F/L	P384389	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P384040	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P384278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P384117	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P384402	
2180509	SM 5310 B-2011	Organic Carbon	11		mg C/L	P384264	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384088	
2180518	EPA 8321B	2,4-D	0.12		ug/L	P384009	
		Acesulfame K**	0.10	U	ug/L	P384059	
		AMPA**	0.10	U	ug/L	P384059	
		Sucralose**	0.40		ug/L	P384059	
		Acetaminophen**	0.0080	U	ug/L	P384009	
		Acetamiprid**	0.0020	U	ug/L	P384009	
		Endothall**	0.25	U	ug/L	P384059	
		Glufosinate**	0.10	U	ug/L	P384059	
		Glyphosate**	0.10	U	ug/L	P384059	
		Afidopyropen**	0.0020	U	ug/L	P384009	
		Bentazon	0.0032		ug/L	P384009	
		Benzovindiflupyr**	0.0020	U	ug/L	P384009	
		Carbamazepine**	8.0E-04	U	ug/L	P384009	
		Clothianidin**	0.012		ug/L	P384009	
		Dinotefuran**	0.0020	U	ug/L	P384009	
		Diuron	0.0042	I	ug/L	P384009	
		Fenuron	0.016	U	ug/L	P384009	
		Fluridone**	0.0033		ug/L	P384009	
		Imazapyr**	0.030		ug/L	P384009	
		Hydrocodone**	0.0020	U	ug/L	P384009	
		Ibuprofen**	0.020	U	ug/L	P384009	
		Imidacloprid	0.14		ug/L	P384009	
		Linuron	0.0040	U	ug/L	P384009	
		Mandestrobin**	0.0020	U	ug/L	P384009	
		MCP	0.0020	U	ug/L	P384009	
		Naproxen**	0.0080	U	ug/L	P384009	
		Primidone**	0.0057	I	ug/L	P384009	
		Pyraclostrobin**	0.0020	U	ug/L	P384009	
		Thiamethoxam**	0.016		ug/L	P384009	

Field ID: G4SD0185

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180518	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P384009	
		Triclopyr**	0.0040	U	ug/L	P384009	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: Lake Apthorpe @ Center

Collection Date/Time: 07/01/2020 12:00

Field ID: FB_07012020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2180510	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P384012	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P384558	
		Sulfate	0.20	U	mg SO4/L	P384560	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P384018	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P384611	
	SM 2540 C-2011	TDS	15	U	mg/L	P384665	
	SM 2540 D-2011	TSS	2	U	mg/L	P384168	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P384389	
2180511	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P384435	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P384278	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P384117	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P384402	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P384264	
2180512	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P384088	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384012

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384435

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384278

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384088

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

Reference Method: EPA 8321B
Batch ID: P384009

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: EPA 8321B
Batch ID: P384059

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 2120 B-2011
Batch ID: P384018

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P384611

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

Reference Method: SM 2540 C-2011
Batch ID: P384665

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P384666

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384168

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P384169

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P384264

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: P384558

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384435

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384278

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: P384117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384088

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P384009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.8		P	30 - 160
Acetaminophen	71.6		P	30 - 160
Acetamiprid	72.0		P	30 - 160
Afidopyropen	74.5		P	30 - 160
Bentazon	66.7		P	30 - 160
Benzovindiflupyr	70.1		P	30 - 160
Carbamazepine	65.7		P	30 - 160
Clothianidin	76.4		P	30 - 160
Dinotefuran	72.1		P	30 - 160
Diuron	62.5		P	30 - 160
Fenuron	80.8		P	30 - 160
Fluridone	95.8		P	30 - 160
Hydrocodone	82.2		P	30 - 160
Ibuprofen	82.4		P	30 - 160
Imazapyr	77.6		P	30 - 160
Imidacloprid	87.3		P	30 - 160
Linuron	64.6		P	30 - 160
Mandestrobin	76.1		P	30 - 160
MCPP	95.6		P	30 - 160
Naproxen	70.7		P	30 - 160
Primidone	70.9		P	30 - 160
Pyraclostrobin	67.8		P	30 - 160
Thiamethoxam	79.8		P	30 - 160
Tolfenpyrad	57.3		P	30 - 160
Triclopyr	82.9		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384059

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	97.9		P	40 - 150
AMPA	76.9		P	40 - 150
Endothall	89.0		P	40 - 150
Glufosinate	86.9		P	40 - 150
Glyphosate	97.2		P	40 - 140
Sucralose	75.5		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P384018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.6		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P384611

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P384264

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Chloride	103		P	90 - 110
2180537	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Sulfate	102		P	90 - 110
2180537	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180452	Ammonia-N	98.5	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384435

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180538	Ammonia-N	100	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180451	NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180472	Total-P	107	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180435	O-Phosphate-P	98.0	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180509	O-Phosphate-P	92.2	91.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P384009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180218	Acetaminophen	77.1	85.4	P/P	30 - 160
2180218	Acetamidiprid	63.9	69.3	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P384009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180218	Afidopyropen	64.1	71.0	P/P	30 - 160
2180218	Benzovindiflupyr	69.1	73.2	P/P	30 - 160
2180218	Carbamazepine	51.8	56.2	P/P	30 - 160
2180218	Clothianidin	67.3	72.9	P/P	30 - 160
2180218	Dinotefuran	76.1	77.5	P/P	30 - 160
2180218	Diuron	46.1	50.1	P/P	30 - 160
2180218	Fenuron	66.9	72.0	P/P	30 - 160
2180218	Fluridone	46.0	54.1	P/P	30 - 160
2180218	Hydrocodone	68.1	74.1	P/P	30 - 160
2180218	Ibuprofen	66.5	76.1	P/P	30 - 160
2180218	Imidacloprid	100	110	P/P	30 - 160
2180218	Linuron	52.5	58.9	P/P	30 - 160
2180218	Mandestrobin	71.3	77.9	P/P	30 - 160
2180218	MCP	91.7	95.9	P/P	30 - 160
2180218	Naproxen	70.3	68.6	P/P	30 - 160
2180218	Primidone	78.7	85.9	P/P	30 - 160
2180218	Pyraclostrobin	69.6	75.9	P/P	30 - 160
2180218	Thiamethoxam	78.7	85.9	P/P	30 - 160
2180218	Tolfenpyrad	46.9	50.4	P/P	30 - 160
2180218	Triclopyr	76.7	83.0	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P384059

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180490	Acesulfame K	92.9	93.3	P/P	40 - 150
2180490	AMPA	101	111	P/P	40 - 150
2180490	Endothall	101	105	P/P	40 - 150
2180490	Glufosinate	83.5	85.9	P/P	40 - 150
2180490	Glyphosate	74.9	79.4	P/P	40 - 140
2180490	Sucralose	77.3	77.2	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P384389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180449	Fluoride	98.7	98.2	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P384264

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2180452	Organic Carbon	101	103	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P384012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180481	Turbidity	3.05	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Chloride	0.0178	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P384560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Sulfate	0.270	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180452	Ammonia-N	0.296	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P384435

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180538	Ammonia-N	0.986	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P384278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180505	Kjeldahl Nitrogen	1.17	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P384117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180451	NO2NO3-N	0.504	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P384402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180472	Total-P	1.47	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180435	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P384088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180509	O-Phosphate-P	0.326	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P384009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180218	2,4-D	2.20	Spike	P	0 - 30
2180218	Acetaminophen	10.2	Spike	P	0 - 30
2180218	Acetamiprid	8.13	Spike	P	0 - 30
2180218	Afidopyropen	10.2	Spike	P	0 - 30
2180218	Bentazon	3.67	Spike	P	0 - 30
2180218	Benzovindiflupyr	5.86	Spike	P	0 - 30
2180218	Carbamazepine	6.90	Spike	P	0 - 30
2180218	Clothianidin	7.03	Spike	P	0 - 30
2180218	Dinotefuran	1.71	Spike	P	0 - 30
2180218	Diuron	2.59	Spike	P	0 - 30
2180218	Fenuron	7.37	Spike	P	0 - 30
2180218	Fluridone	2.37	Spike	P	0 - 30
2180218	Hydrocodone	8.46	Spike	P	0 - 30
2180218	Ibuprofen	13.5	Spike	P	0 - 30
2180218	Imazapyr	6.95	Spike	P	0 - 30
2180218	Imidacloprid	5.48	Spike	P	0 - 30
2180218	Linuron	11.4	Spike	P	0 - 30
2180218	Mandestrobin	8.79	Spike	P	0 - 30
2180218	MCP	4.32	Spike	P	0 - 30
2180218	Naproxen	2.39	Spike	P	0 - 30
2180218	Primidone	7.96	Spike	P	0 - 30
2180218	Pyraclostrobin	8.65	Spike	P	0 - 30
2180218	Thiamethoxam	8.23	Spike	P	0 - 30
2180218	Tolfenpyrad	7.37	Spike	P	0 - 30
2180218	Triclopyr	7.88	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P384059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180490	Acesulfame K	0.411	Spike	P	0 - 30
2180490	AMPA	9.19	Spike	P	0 - 30
2180490	Endothall	3.69	Spike	P	0 - 30
2180490	Glufosinate	2.89	Spike	P	0 - 30
2180490	Glyphosate	5.93	Spike	P	0 - 30
2180490	Sucralose	0.154	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B-2011
 Batch ID: P384018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180507	Color (true)	0.126	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
 Batch ID: P384611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Total Alkalinity	0.158	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
 Batch ID: P384665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	TDS	3.23	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
 Batch ID: P384666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180504	TDS	8.86	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P384389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180449	Fluoride	0.462	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P384264

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2180452	Organic Carbon	1.09	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2180518
Field Sample ID: G4SD0185

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	72.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.9	P	30 - 160
EPA 8321B	Diuron-d6	55.2	P	30 - 160
EPA 8321B	Endothall-d6	92.8	P	30 - 160
EPA 8321B	Endothall-d6	92.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	75.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.0	P	30 - 160
EPA 8321B	Primidone-d5	77.0	P	30 - 160
EPA 8321B	Sucralose-d6	75.3	P	30 - 160
EPA 8321B	Sucralose-d6	75.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A99661

Included Lab Sample IDs: 2180504, 2180507, 2180510

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

Reference Method: SM 2120 B-2011

Run ID: A99662

Included Lab Sample IDs: 2180504, 2180507, 2180510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99668

Included Lab Sample IDs: 2180505, 2180508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A99692

Included Lab Sample IDs: 2180506, 2180509, 2180512

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.5	P/P	90 - 110
O-Phosphate-P	99.5	98.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A99705

Included Lab Sample IDs: 2180505, 2180508, 2180511

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

Reference Method: EPA 8321B

Run ID: A99707

Included Lab Sample IDs: 2180518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	73.0	72.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99729

Included Lab Sample IDs: 2180518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	99.0	103	P/P	60 - 160
Endothall	94.2	97.2	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A99742

Included Lab Sample IDs: 2180518

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

Reference Method: EPA 8321B

Run ID: A99742

Included Lab Sample IDs: 2180518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.5	82.4	P/P	60 - 160
Glufosinate	98.7	99.1	P/P	60 - 160
Glyphosate	100	108	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A99754

Included Lab Sample IDs: 2180505, 2180508, 2180511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	99.8	P/P	90 - 110
Organic Carbon	99.0	102	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A99792

Included Lab Sample IDs: 2180504, 2180507, 2180510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A99805

Included Lab Sample IDs: 2180505, 2180508, 2180511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A99808

Included Lab Sample IDs: 2180511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A99828

Included Lab Sample IDs: 2180518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	109	93.6	P/P	50 - 150
Acetaminophen	111	109	P/P	60 - 160
Acetamiprid	112	110	P/P	50 - 150
Afidopyropen	103	104	P/P	50 - 150
Bentazon	109	118	P/P	50 - 160
Benzovindiflupyr	99.1	92.7	P/P	50 - 150
Carbamazepine	108	109	P/P	60 - 150
Clothianidin	96.5	102	P/P	60 - 150
Dinotefuran	101	103	P/P	50 - 150
Diuron	110	112	P/P	60 - 160
Fenuron	91.6	83.7	P/P	60 - 150
Fluridone	122	124	P/P	60 - 160
Hydrocodone	117	119	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A99828

Included Lab Sample IDs: 2180518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ibuprofen	110	90.1	P/P	50 - 160
Imazapyr	84.2	81.6	P/P	50 - 150
Imidacloprid	103	99.9	P/P	60 - 150
Linuron	94.3	102	P/P	60 - 150
Mandestrobin	100	105	P/P	50 - 150
MCPP	95.0	107	P/P	50 - 150
Naproxen	105	113	P/P	50 - 160
Primidone	102	97.4	P/P	60 - 150
Pyraclostrobin	99.8	98.7	P/P	60 - 150
Thiamethoxam	111	116	P/P	50 - 150
Tolfenpyrad	105	108	P/P	60 - 150
Triclopyr	91.4	97.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A99844

Included Lab Sample IDs: 2180505, 2180508, 2180511

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A99856

Included Lab Sample IDs: 2180504, 2180507, 2180510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.9	99.5	P/P	90 - 110
Sulfate	99.1	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A99877

Included Lab Sample IDs: 2180504, 2180507, 2180510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.6	99.6	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	
EPA 180.1 Rev. 2.0	Turbidity					3.05	
EPA 300.0 Rev. 2.1	Chloride	101	103	102		0.0178	
	Sulfate	100	102	102		0.270	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.5	98.8			0.296
	Ammonia-N	103	100	99.0			0.986
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102					1.17
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	99.5	99.0			0.504
EPA 365.1 Rev. 2.0	Total-P	103	107	109			1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.0	98.0	99.2			1.22
	O-Phosphate-P	99.3	92.2	91.9			0.326
EPA 8321B	2,4-D	99.8					2.20
	Acesulfame K	97.9	92.9	93.3			0.411
	Acetaminophen	71.6	77.1	85.4			10.2
	Acetamiprid	72.0	63.9	69.3			8.13
	Afidopyropen	74.5	64.1	71.0			10.2
	AMPA	76.9	101	111			9.19
	Bentazon	66.7					3.67
	Benzovindiflupyr	70.1	69.1	73.2			5.86
	Carbamazepine	65.7	51.8	56.2			6.90
	Clothianidin	76.4	67.3	72.9			7.03
	Dinotefuran	72.1	76.1	77.5			1.71
	Diuron	62.5	46.1	50.1			2.59
	Endothall	89.0	101	105			3.69
	Fenuron	80.8	66.9	72.0			7.37
	Fluridone	95.8	46.0	54.1			2.37
	Glufosinate	86.9	83.5	85.9			2.89
	Glyphosate	97.2	74.9	79.4			5.93
	Hydrocodone	82.2	68.1	74.1			8.46
	Ibuprofen	82.4	66.5	76.1			13.5
	Imazapyr	77.6					6.95
	Imidacloprid	87.3	100	110			5.48
	Linuron	64.6	52.5	58.9			11.4
	Mandestrobin	76.1	71.3	77.9			8.79
	MCPP	95.6	91.7	95.9			4.32
	Naproxen	70.7	70.3	68.6			2.39
	Primidone	70.9	78.7	85.9			7.96
	Pyraclostrobin	67.8	69.6	75.9			8.65
	Sucralose	75.5	77.3	77.2			0.154
	Thiamethoxam	79.8	78.7	85.9			8.23
	Tolfenpyrad	57.3	46.9	50.4			7.37
	Triclopyr	82.9	76.7	83.0			7.88
SM 2120 B-2011	Color (true)	99.6				0.126	
SM 2320 B-2011	Total Alkalinity	99.5				0.158	
SM 2540 C-2011	TDS					3.23	
	TDS					8.86	
SM 4500 F-C-2011	Fluoride	100	98.7	98.2			0.462
SM 5310 B-2011	Organic Carbon	100	101	103			1.09

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2180504, 2180507, 2180510
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2180504, 2180507, 2180510

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2180504, 2180507, 2180510
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2180505, 2180508, 2180511
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2180505, 2180508, 2180511
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2180505, 2180508, 2180511
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2180505, 2180508, 2180511
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2180506, 2180509, 2180512
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2180518
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2180518
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2180504, 2180507, 2180510
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2180504, 2180507, 2180510
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2180504, 2180507, 2180510
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2180504, 2180507, 2180510
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2180504, 2180507, 2180510
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2180505, 2180508, 2180511

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	07/02/2020			07/02/2020 14:42	Yen Ta	2180504, 2180507, 2180510
EPA 300.0 Rev. 2.1	07/02/2020			07/09/2020 02:58	Elliott Rodriguez	2180504
	07/02/2020			07/09/2020 03:10	Elliott Rodriguez	2180507
	07/02/2020			07/09/2020 03:22	Elliott Rodriguez	2180510
EPA 350.1 Rev. 2.0	07/02/2020			07/05/2020 21:24	Ping Hua	2180505
	07/02/2020			07/05/2020 21:26	Ping Hua	2180508
	07/02/2020			07/11/2020 16:38	Ping Hua	2180511
EPA 351.2 Rev. 2.0	07/02/2020	07/09/2020 09:20	Sima Feizi	07/10/2020 14:35	Jhamieka S. Greenwood	2180505
	07/02/2020	07/09/2020 09:20	Sima Feizi	07/10/2020 14:42	Jhamieka S. Greenwood	2180508
	07/02/2020	07/09/2020 09:20	Sima Feizi	07/10/2020 14:43	Jhamieka S. Greenwood	2180511
EPA 353.2 Rev. 2.0	07/02/2020			07/07/2020 09:22	Beverly Y. Sanders	2180505
	07/02/2020			07/07/2020 09:23	Beverly Y. Sanders	2180508
	07/02/2020			07/07/2020 09:25	Beverly Y. Sanders	2180511
EPA 365.1 Rev. 2.0	07/02/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:12	Lipi Saha	2180505
	07/02/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:13	Lipi Saha	2180508
	07/02/2020	07/10/2020 13:26	Yen Ta	07/14/2020 08:14	Lipi Saha	2180511
EPA 365.1 Rev. 2.0 dissolved	07/02/2020			07/02/2020 17:26	Carlos Miranda	2180506
	07/02/2020			07/02/2020 17:33	Carlos Miranda	2180509
	07/02/2020			07/02/2020 17:36	Carlos Miranda	2180512
EPA 8321B	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/06/2020 17:31	Rebecca Ware	2180518
	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/07/2020 17:05	Rebecca Ware	2180518
	07/02/2020	07/06/2020 10:45	Rebecca Ware	07/08/2020 11:11	Rebecca Ware	2180518
	07/02/2020	07/07/2020 09:00	Hoor Shaik	07/11/2020 06:55	Juyoung Kim	2180518
SM 2120 B-2011	07/02/2020			07/02/2020 16:11	Madeline Gruver	2180504
	07/02/2020			07/02/2020 16:12	Madeline Gruver	2180507
	07/02/2020			07/02/2020 16:13	Madeline Gruver	2180510
SM 2320 B-2011	07/02/2020			07/14/2020 00:03	Dale L. Simmons	2180504
	07/02/2020			07/14/2020 00:14	Dale L. Simmons	2180507
	07/02/2020			07/14/2020 00:20	Dale L. Simmons	2180510
SM 2540 C-2011	07/02/2020			07/06/2020 19:14	Madeline Gruver	2180504, 2180507, 2180510
SM 2540 D-2011	07/02/2020			07/06/2020 19:14	Madeline Gruver	2180504, 2180507, 2180510
SM 4500 F-C-2011	07/02/2020			07/09/2020 05:05	Dale L. Simmons	2180504
	07/02/2020			07/09/2020 05:18	Dale L. Simmons	2180507
	07/02/2020			07/09/2020 05:27	Dale L. Simmons	2180510
SM 5310 B-2011	07/02/2020			07/08/2020 19:05	David Boose	2180505
	07/02/2020			07/08/2020 19:18	David Boose	2180508
	07/02/2020			07/08/2020 19:54	David Boose	2180511