

Chemical Analysis Report

NE-DIST-2019-09-17-01

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

Event Description: **Continuous Monitoring Event**
Request ID: **RQ-2019-06-10-66**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
Suite 100
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 08-OCT-2019 11:06



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: Metals, 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: Big Fishweir Creek at end of Merrimac Ave

Collection Date/Time: 09/16/2019 14:25

Field ID: G2NE1175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119719	EPA 180.1 Rev. 2.0	Turbidity	9.8	A	NTU	P370834	
	EPA 300.0	Bromide	3.5		mg Br/L	P371116	
	SM 2320 B-97	Total Alkalinity	184		mg CaCO3/L	P371113	
	SM 2540 D-97	TSS	11		mg/L	P371395	
	SM 4500 F-C-97	Fluoride	0.23		mg F/L	P371117	
2119720	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P370995	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P370967	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P370860	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P370981	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P371022	
2119721	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.064		mg P/L	P370818	
2119726	EPA 8321B	2,4-D	0.056		ug/L	P370771	
		Acesulfame K**	0.14	I J	ug/L	P370917	SUR
		AMPA**	0.10	U	ug/L	P370917	
		Sucralose**	0.82		ug/L	P370917	
		Acetaminophen**	0.021	I	ug/L	P370771	
		Acetamiprid**	0.0020	U	ug/L	P370771	
		Endothall**	0.25	UJ	ug/L	P370917	SUR
		Glufosinate**	0.10	U	ug/L	P370917	
		Glyphosate**	0.10	U	ug/L	P370917	
		Afidopyropen**	0.0020	UJ	ug/L	P370771	
		Bentazon	0.012		ug/L	P370771	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P370771	
		Carbamazepine**	0.0025	I	ug/L	P370771	
		Clothianidin**	0.0020	U	ug/L	P370771	
		Dinotefuran**	0.0023	I	ug/L	P370771	
		Diuron	0.021		ug/L	P370771	
		Fenuron	0.016	U	ug/L	P370771	
		Fluridone**	8.9E-04	I	ug/L	P370771	
		Imazapyr**	0.19		ug/L	P370771	
		Hydrocodone**	0.0020	U	ug/L	P370771	
		Ibuprofen**	0.020	U	ug/L	P370771	
		Imidacloprid	0.040		ug/L	P370771	
		Linuron	0.0040	U	ug/L	P370771	
		Mandestrobin**	0.0020	UJ	ug/L	P370771	
		MCP	0.010		ug/L	P370771	
		Naproxen**	0.0080	U	ug/L	P370771	
		Primidone**	0.0064	I	ug/L	P370771	
		Pyraclostrobin**	0.0020	U	ug/L	P370771	
		Thiamethoxam**	0.0020	U	ug/L	P370771	
		Tolfenpyrad**	0.0020	U	ug/L	P370771	
		Triclopyr**	0.0040	U	ug/L	P370771	
2119727	EPA 200.7 Rev. 4.4	Barium	97.1		ug/L	P371002	

Field ID: G2NE1175

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2119727	EPA 200.7 Rev. 4.4	Calcium	97.9		mg/L	P371002	
		Iron	360		ug/L	P371002	
		Magnesium	70.9		mg/L	P371002	
		Manganese	35.2		ug/L	P371002	
		Potassium	21.2		mg/L	P371002	
		Sodium	506		mg/L	P371002	
	EPA 200.8 Rev. 5.4	Zinc	8.5	I	ug/L	P371002	
		Aluminum	62		ug/L	P371002	
		Antimony	0.27		ug/L	P371002	
		Arsenic	1.48		ug/L	P371002	
		Cadmium	0.020	U	ug/L	P371002	
		Chromium	0.60	I	ug/L	P371002	
		Copper	1.29		ug/L	P371002	
		Lead	0.84		ug/L	P371002	
		Nickel	1.1	I	ug/L	P371002	
		Selenium	0.20	U	ug/L	P371002	
		Silver	0.010	U	ug/L	P371002	
		Thallium	0.10	U	ug/L	P371002	

Ref. Method and Comment:

SM 2540 D-97: 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: J - second source check standards for some analytes were not available for analysis.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370834

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P371116

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370860

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

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

Reference Method: EPA 8321B
Batch ID: P370771

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: P370917

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: P370917

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

Reference Method: SM 2320 B-97
Batch ID: P371113

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

Reference Method: SM 2540 D-97
Batch ID: P371395

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371022

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	108		P	85 - 115
Iron	107		P	85 - 115
Magnesium	110		P	85 - 115
Manganese	101		P	85 - 115
Potassium	104		P	85 - 115
Sodium	107		P	85 - 115
Zinc	97.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.3		P	85 - 115
Antimony	99.7		P	85 - 115
Arsenic	102		P	85 - 115
Cadmium	96.3		P	85 - 115
Chromium	95.2		P	85 - 115
Copper	101		P	85 - 115
Lead	98.7		P	85 - 115
Nickel	100		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.6		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P371116

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370860

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.4		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P370771

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	148		P	40 - 160
Acetaminophen	76.0		P	30 - 160
Acetamiprid	95.9		P	40 - 160
Afidopyropen	101		P	40 - 160
Bentazon	125		P	30 - 160
Benzovindiflupyr	94.1		P	40 - 160
Carbamazepine	103		P	40 - 160
Clothianidin	90.9		P	40 - 160
Dinotefuran	88.3		P	40 - 160
Diuron	107		P	40 - 160
Fenuron	101		P	40 - 160
Fluridone	97.3		P	40 - 160
Hydrocodone	93.1		P	40 - 160
Ibuprofen	96.4		P	30 - 160
Imazapyr	93.2		P	40 - 160
Imidacloprid	99.5		P	40 - 160
Linuron	84.6		P	40 - 160
Mandestrobin	92.2		P	40 - 160
MCPP	146		P	40 - 160
Naproxen	96.9		P	40 - 160
Primidone	93.5		P	40 - 160
Pyraclostrobin	91.9		P	30 - 160
Thiamethoxam	90.7		P	40 - 160
Tolfenpyrad	73.2		P	40 - 160
Triclopyr	120		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P370917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	74.5		P	40 - 150
AMPA	126		P	40 - 150
Endothall	145		P	40 - 150
Glufosinate	128		P	40 - 150
Glyphosate	126		P	40 - 140
Sucralose	138		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P371113

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371022

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Barium	103	99.8	P/P	80 - 120
2119832	Calcium	101		P	80 - 120
2119832	Iron	110	109	P/P	80 - 120
2119832	Magnesium	113	110	P/P	80 - 120
2119832	Manganese	103	99.7	P/P	80 - 120
2119832	Potassium	109	108	P/P	80 - 120
2119832	Sodium	105	105	P/P	80 - 120
2119832	Zinc	101	97.6	P/P	80 - 120
2120147	Barium	95.2		P	80 - 120
2120147	Calcium	105		P	80 - 120
2120147	Iron	103		P	80 - 120
2120147	Magnesium	99.1		P	80 - 120
2120147	Manganese	94.9		P	80 - 120
2120147	Potassium	97.1		P	80 - 120
2120147	Sodium	97.6		P	80 - 120
2120147	Zinc	95.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119832	Aluminum	98.1	97.4	P/P	80 - 120
2119832	Antimony	101	100	P/P	80 - 120
2119832	Arsenic	102	102	P/P	80 - 120
2119832	Cadmium	99.2	97.6	P/P	80 - 120
2119832	Chromium	95.3	94.9	P/P	80 - 120
2119832	Copper	107	102	P/P	80 - 120
2119832	Lead	99.9	100	P/P	80 - 120
2119832	Nickel	102	101	P/P	80 - 120
2119832	Selenium	99.6	99.4	P/P	80 - 120
2119832	Silver	105	102	P/P	80 - 120
2119832	Thallium	103	103	P/P	80 - 120
2120147	Aluminum	96.0		P	80 - 120
2120147	Antimony	101		P	80 - 120
2120147	Arsenic	103		P	80 - 120
2120147	Cadmium	95.4		P	80 - 120
2120147	Chromium	95.4		P	80 - 120
2120147	Copper	101		P	80 - 120
2120147	Lead	99.5		P	80 - 120
2120147	Nickel	99.6		P	80 - 120
2120147	Selenium	98.6		P	80 - 120
2120147	Silver	99.8		P	80 - 120
2120147	Thallium	101		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P371116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120060	Bromide	95.7	96.1	P/P	90 - 110
2120064	Bromide	95.2		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119720	Ammonia-N	95.7	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370860

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119720	NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119715	Total-P	97.4	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119808	O-Phosphate-P	97.2	98.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P370771

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119072	2,4-D	141	141	P/P	40 - 160
2119072	Acetaminophen	88.5	86.5	P/P	30 - 160
2119072	Acetamiprid	110	100	P/P	40 - 160
2119072	Afidopyropen	109	93.4	P/P	40 - 160
2119072	Bentazon	109	101	P/P	30 - 160
2119072	Benzovindiflupyr	96.0	93.5	P/P	40 - 160
2119072	Carbamazepine	108	102	P/P	40 - 160
2119072	Clothianidin	102	97.1	P/P	40 - 160
2119072	Dinotefuran	103	101	P/P	40 - 160
2119072	Diuron	106	103	P/P	40 - 160
2119072	Fenuron	100	98.4	P/P	40 - 160
2119072	Fluridone	94.4	92.7	P/P	40 - 160
2119072	Hydrocodone	103	95.6	P/P	40 - 160
2119072	Ibuprofen	92.9	93.2	P/P	30 - 160
2119072	Imazapyr	112	103	P/P	40 - 160
2119072	Imidacloprid	124	136	P/P	40 - 160
2119072	Linuron	82.3	81.0	P/P	40 - 160
2119072	Mandestrobin	95.2	95.3	P/P	40 - 160
2119072	MCP	151	147	P/P	40 - 160
2119072	Naproxen	97.8	95.8	P/P	40 - 160
2119072	Primidone	86.4	88.8	P/P	40 - 160
2119072	Pyraclostrobin	91.3	92.0	P/P	30 - 160
2119072	Thiamethoxam	118	115	P/P	40 - 160
2119072	Tolfenpyrad	71.1	73.6	P/P	40 - 160
2119072	Triclopyr	111	122	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P370917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119620	Acesulfame K	60.3	55.1	P/P	40 - 150
2119620	AMPA	115	108	P/P	40 - 150
2119620	Endothall	115	105	P/P	40 - 150
2119620	Glufosinate	115	116	P/P	40 - 150
2119620	Glyphosate	111	110	P/P	40 - 140
2119620	Sucralose	147	133	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P371117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2120409	Fluoride	96.9	95.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P371022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2119672	Organic Carbon	103	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P370834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119719	Turbidity	10.7	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Barium	3.34	Spike	P	0 - 20
2119832	Calcium	1.90	Spike	P	0 - 20
2119832	Iron	1.40	Spike	P	0 - 20
2119832	Magnesium	2.14	Spike	P	0 - 20
2119832	Manganese	3.54	Spike	P	0 - 20
2119832	Potassium	0.782	Spike	P	0 - 20
2119832	Sodium	0.428	Spike	P	0 - 20
2119832	Zinc	3.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P371002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119832	Aluminum	0.769	Spike	P	0 - 20
2119832	Antimony	0.464	Spike	P	0 - 20
2119832	Arsenic	0.280	Spike	P	0 - 20
2119832	Cadmium	1.63	Spike	P	0 - 20
2119832	Chromium	0.511	Spike	P	0 - 20
2119832	Copper	4.58	Spike	P	0 - 20
2119832	Lead	0.121	Spike	P	0 - 20
2119832	Nickel	1.21	Spike	P	0 - 20
2119832	Selenium	0.197	Spike	P	0 - 20
2119832	Silver	2.80	Spike	P	0 - 20
2119832	Thallium	0.0415	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P371116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120060	Bromide	0.450	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119720	Ammonia-N	1.12	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P370967

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119672	Kjeldahl Nitrogen	0.757	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P370860

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119720	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P370981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119715	Total-P	1.94	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P370818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119808	O-Phosphate-P	1.23	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P370771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119072	2,4-D	0.219	Spike	P	0 - 30
2119072	Acetaminophen	2.37	Spike	P	0 - 30
2119072	Acetamiprid	8.84	Spike	P	0 - 30
2119072	Afidopyropen	15.0	Spike	P	0 - 30
2119072	Bentazon	7.30	Spike	P	0 - 30
2119072	Benzovindiflupyr	2.61	Spike	P	0 - 30
2119072	Carbamazepine	5.56	Spike	P	0 - 30
2119072	Clothianidin	5.27	Spike	P	0 - 30
2119072	Dinotefuran	2.02	Spike	P	0 - 30
2119072	Diuron	2.37	Spike	P	0 - 30
2119072	Fenuron	1.65	Spike	P	0 - 30
2119072	Fluridone	1.79	Spike	P	0 - 30
2119072	Hydrocodone	7.85	Spike	P	0 - 30
2119072	Ibuprofen	0.280	Spike	P	0 - 30
2119072	Imazapyr	8.42	Spike	P	0 - 30
2119072	Imidacloprid	6.52	Spike	P	0 - 30
2119072	Linuron	1.66	Spike	P	0 - 30
2119072	Mandestrobin	0.115	Spike	P	0 - 30
2119072	MCPP	2.13	Spike	P	0 - 30
2119072	Naproxen	2.00	Spike	P	0 - 30
2119072	Primidone	2.79	Spike	P	0 - 30
2119072	Pyraclostrobin	0.692	Spike	P	0 - 30
2119072	Thiamethoxam	2.87	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P370771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119072	Tolfenpyrad	3.55	Spike	P	0 - 30
2119072	Triclopyr	9.27	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P370917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119620	Acesulfame K	9.13	Spike	P	0 - 30
2119620	AMPA	6.30	Spike	P	0 - 30
2119620	Endothall	9.18	Spike	P	0 - 30
2119620	Glufosinate	0.610	Spike	P	0 - 30
2119620	Glyphosate	0.974	Spike	P	0 - 30
2119620	Sucralose	9.12	Spike	P	0 - 30

Reference Method: SM 2320 B-97
 Batch ID: P371113

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120409	Total Alkalinity	1.95	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
 Batch ID: P371117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2120409	Fluoride	1.47	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P371022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2119672	Organic Carbon	2.61	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2119726

Field Sample ID: G2NE1175

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	151	P	30 - 160
EPA 8321B	Acetaminophen-d4	70.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.5	P	30 - 160
EPA 8321B	Diuron-d6	79.1	P	30 - 160
EPA 8321B	Endothall-d6	362	F	30 - 160
EPA 8321B	Endothall-d6	362	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	51.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	51.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.7	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	152	P	30 - 160
EPA 8321B	Sucralose-d6	152	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94279

Included Lab Sample IDs: 2119721

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94291

Included Lab Sample IDs: 2119719

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94302

Included Lab Sample IDs: 2119720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94340

Included Lab Sample IDs: 2119720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.3	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A94349

Included Lab Sample IDs: 2119720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94380

Included Lab Sample IDs: 2119720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	97.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94386

Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.4	98.3	P/P	90 - 110
Thallium	93.6	93.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94387

Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.0	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A94387

Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	108	P/P	90 - 110
Iron	100	110	P/P	90 - 110
Magnesium	100	109	P/P	90 - 110
Manganese	100	102	P/P	90 - 110
Potassium	99.7	109	P/P	90 - 110
Zinc	97.6	98.4	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94398

Included Lab Sample IDs: 2119719

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

Reference Method: SM 4500 F-C-97

Run ID: A94398

Included Lab Sample IDs: 2119719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A94401

Included Lab Sample IDs: 2119719

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	105	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94410

Included Lab Sample IDs: 2119726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.7	114	P/P	50 - 150
Acetaminophen	114	115	P/P	60 - 160
Acetamiprid	113	115	P/P	50 - 150
Afidopyropen	110	101	P/P	50 - 150
Bentazon	112	109	P/P	50 - 160
Benzovindiflupyr	112	112	P/P	50 - 150
Carbamazepine	107	104	P/P	60 - 150
Clothianidin	105	102	P/P	60 - 150
Dinotefuran	109	103	P/P	50 - 150
Diuron	112	112	P/P	60 - 150
Fenuron	107	110	P/P	60 - 150
Fluridone	113	112	P/P	60 - 160
Hydrocodone	112	112	P/P	60 - 150
Ibuprofen	90.5	121	P/P	50 - 160
Imazapyr	97.7	106	P/P	50 - 150
Imidacloprid	98.6	96.0	P/P	60 - 150
Linuron	104	105	P/P	60 - 150
Mandestrobin	108	113	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A94410
Included Lab Sample IDs: 2119726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	96.7	104	P/P	50 - 150
Naproxen	113	87.7	P/P	50 - 160
Primidone	105	102	P/P	60 - 150
Pyraclostrobin	120	122	P/P	60 - 150
Thiamethoxam	104	98.6	P/P	50 - 150
Tolfenpyrad	121	127	P/P	60 - 150
Triclopyr	96.5	108	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A94412
Included Lab Sample IDs: 2119720

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.8	96.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A94416
Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	98.4	96.8	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A94421
Included Lab Sample IDs: 2119726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	116	120	P/P	60 - 160
Glufosinate	107	124	P/P	60 - 160
Glyphosate	134	135	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A94423
Included Lab Sample IDs: 2119726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	158	60.0	P/P	60 - 160
Endothall	138	134	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A94533
Included Lab Sample IDs: 2119726

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	138	131	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A9471
Included Lab Sample IDs: 2119727

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A9471

Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	96.2	95.7	P/P	90 - 110
Nickel	100	101	P/P	90 - 110
Selenium	99.5	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94722

Included Lab Sample IDs: 2119727

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	101	P/P	90 - 110
Cadmium	96.9	95.4	P/P	90 - 110
Chromium	96.1	93.7	P/P	90 - 110
Copper	100	101	P/P	90 - 110
Lead	99.8	99.6	P/P	90 - 110
Silver	98.7	98.0	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 SMP	MS
EPA 180.1 Rev. 2.0	Turbidity								10.7	
EPA 200.7 Rev. 4.4	Barium	100			103	99.8	95.2			3.34
	Calcium	108			101	105				1.90
	Iron	107			110	109	103			1.40
	Magnesium	110			113	110	99.1			2.14
	Manganese	101			103	99.7	94.9			3.54
	Potassium	104			109	108	97.1			0.782
	Sodium	107			105	105	97.6			0.428
	Zinc	97.4			101	97.6	95.5			3.27
EPA 200.8 Rev. 5.4	Aluminum	97.3			98.1	97.4	96.0			0.769
	Antimony	99.7			101	100	101			0.464
	Arsenic	102			102	102	103			0.280
	Cadmium	96.3			99.2	97.6	95.4			1.63
	Chromium	95.2			95.3	94.9	95.4			0.511
	Copper	101			107	102	101			4.58
	Lead	98.7			99.9	100	99.5			0.121
	Nickel	100			102	101	99.6			1.21
	Selenium	100			99.6	99.4	98.6			0.197
	Silver	101			105	102	99.8			2.80
	Thallium	99.6			103	103	101			0.0415
EPA 300.0	Bromide	98.2			95.7	96.1	95.2			0.450
EPA 350.1 Rev. 2.0	Ammonia-N	99.0			95.7	96.9				1.12
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103								0.757
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5			99.0	99.0				0.0
EPA 365.1 Rev. 2.0	Total-P	96.4			97.4	99.4				1.94
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4			97.2	98.4				1.23
EPA 8321B	2,4-D	148			141	141				0.219
	Acesulfame K	74.5			60.3	55.1				9.13
	Acetaminophen	76.0			88.5	86.5				2.37
	Acetamiprid	95.9			110	100				8.84
	Afidopyropen	101			109	93.4				15.0
	AMPA	126			115	108				6.30
	Bentazon	125			109	101				7.30
	Benzovindiflupyr	94.1			96.0	93.5				2.61
	Carbamazepine	103			108	102				5.56
	Clothianidin	90.9			102	97.1				5.27
	Dinotefuran	88.3			103	101				2.02
	Diuron	107			106	103				2.37
	Endothall	145			115	105				9.18
	Fenuron	101			100	98.4				1.65
	Fluridone	97.3			94.4	92.7				1.79
	Glufosinate	128			115	116				0.610
	Glyphosate	126			111	110				0.974
	Hydrocodone	93.1			103	95.6				7.85
	Ibuprofen	96.4			92.9	93.2				0.280
	Imazapyr	93.2			112	103				8.42
	Imidacloprid	99.5			124	136				6.52
	Linuron	84.6			82.3	81.0				1.66
	Mandestrobin	92.2			95.2	95.3				0.115
	MCPP	146			151	147				2.13
	Naproxen	96.9			97.8	95.8				2.00
	Primidone	93.5			86.4	88.8				2.79
	Pyraclostrobin	91.9			91.3	92.0				0.692
	Sucralose	138			147	133				9.12

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
EPA 8321B	Thiamethoxam	90.7	118	115		2.87
	Tolfenpyrad	73.2	71.1	73.6		3.55
	Triclopyr	120	111	122		9.27
SM 2320 B-97	Total Alkalinity	103			1.95	
SM 4500 F-C-97	Fluoride	97.2	96.9	95.4		1.47
SM 5310 B-00	Organic Carbon	100	103	98.8		2.61

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2119719
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2119727
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2119727
EPA 300.0 / E31780	Bromide in aqueous matrices	2119719
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2119720
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2119720
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2119720
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2119720
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2119721
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2119726
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2119726
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2119719
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2119719
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2119719
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2119720

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	09/17/2019			09/17/2019 15:16	Samantha Davila	2119719
EPA 200.7 Rev. 4.4	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 15:06	Alexander Thompson	2119727
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/20/2019 15:14	Alexander Thompson	2119727
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/23/2019 11:19	Alexander Thompson	2119727
EPA 200.8 Rev. 5.4	09/17/2019	09/19/2019 16:45	Elliott D. Healy	09/21/2019 04:26	Justin Cutchin	2119727
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/04/2019 02:20	Justin Cutchin	2119727
	09/17/2019	09/19/2019 16:45	Elliott D. Healy	10/05/2019 04:59	Justin Cutchin	2119727
EPA 300.0	09/17/2019			09/20/2019 22:48	Jhamieka S. Greenwood	2119719
EPA 350.1 Rev. 2.0	09/17/2019			09/19/2019 12:38	Ping Hua	2119720
EPA 351.2 Rev. 2.0	09/17/2019	09/19/2019 14:00	Sima Feizi	09/20/2019 17:20	Julia Storbeck	2119720
EPA 353.2 Rev. 2.0	09/17/2019			09/18/2019 10:14	Beverly Y. Sanders	2119720
EPA 365.1 Rev. 2.0	09/17/2019	09/19/2019 14:14	Lipi Saha	09/20/2019 12:32	Rosalyn Ballman	2119720
EPA 365.1 Rev. 2.0 dissolved	09/17/2019			09/17/2019 15:30	Jhamieka S. Greenwood	2119721
EPA 8321B	09/17/2019	09/18/2019 12:00	Hoor Shaik	09/19/2019 06:11	Juyoung Kim	2119726
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/19/2019 12:03	Rebecca Ware	2119726
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/20/2019 11:24	Rebecca Ware	2119726
	09/17/2019	09/19/2019 10:30	Rebecca Ware	09/25/2019 17:10	Rebecca Ware	2119726
SM 2320 B-97	09/17/2019			09/20/2019 10:06	Dale L. Simmons	2119719
SM 2540 D-97	09/17/2019			09/20/2019 15:02	Yijie Li	2119719
SM 4500 F-C-97	09/17/2019			09/20/2019 10:06	Dale L. Simmons	2119719
SM 5310 B-00	09/17/2019			09/19/2019 02:18	Madeline Funaro	2119720