

Chemical Analysis Report

SE-DIST-2019-12-17-01

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

Event Description: **SMP-Template**
Request ID: **RQ-2019-12-09-60**
Customer: **SE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 09-JAN-2020 08:26

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: C-11 @ Foot Bridge

Collection Date/Time: 12/16/2019 12:45

Field ID: G4SE0109

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144517	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P376087	
		2,4-D	0.038	J	ug/L	P376210	MS
		AMPA**	0.15	I	ug/L	P376087	
		Sucralose**	0.059		ug/L	P376087	
		Acetaminophen**	0.0080	U	ug/L	P376210	
		Acetamiprid**	0.0020	U	ug/L	P376210	
		Endothall**	0.25	U	ug/L	P376087	
		Glufosinate**	0.10	U	ug/L	P376087	
		Glyphosate**	0.29	I	ug/L	P376087	
		Afidopyropen**	0.0020	UJ	ug/L	P376210	
		Bentazon	0.030		ug/L	P376210	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P376210	
		Carbamazepine**	8.0E-04	U	ug/L	P376210	
		Clothianidin**	0.0020	U	ug/L	P376210	
		Dinotefuran**	0.0025	I	ug/L	P376210	
		Diuron	0.0048	I	ug/L	P376210	
		Fenuron	0.016	U	ug/L	P376210	
		Fluridone**	0.053		ug/L	P376210	
		Imazapyr**	0.49		ug/L	P376210	
		Hydrocodone**	0.0020	U	ug/L	P376210	
		Ibuprofen**	0.020	U	ug/L	P376210	
		Imidacloprid	0.040	J	ug/L	P376210	MS
		Linuron	0.0040	U	ug/L	P376210	
		Mandestrobin**	0.0020	UJ	ug/L	P376210	
		MCPP	0.0021	IJ	ug/L	P376210	MS
		Naproxen**	0.0080	U	ug/L	P376210	
		Primidone**	0.0040	U	ug/L	P376210	
		Pyraclostrobin**	0.0020	U	ug/L	P376210	
		Thiamethoxam**	0.0020	U	ug/L	P376210	
		Tolfenpyrad**	0.0020	U	ug/L	P376210	
		Triclopyr**	0.0040	U	ug/L	P376210	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: South New River Canal @ Crexent

Collection Date/Time: 12/16/2019 12:25

Field ID: G4SE0115

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144518	EPA 8321B	Acesulfame K**	0.13	I	ug/L	P376087	
		2,4-D	0.048		ug/L	P376210	MS
		AMPA**	0.27	I	ug/L	P376087	
		Sucralose**	0.15		ug/L	P376087	
		Acetaminophen**	0.0080	U	ug/L	P376210	
		Acetamiprid**	0.0020	U	ug/L	P376210	
		Endothall**	0.25	U	ug/L	P376087	
		Glufosinate**	0.10	U	ug/L	P376087	
		Glyphosate**	0.43		ug/L	P376087	
		Afidopyropen**	0.0020	UJ	ug/L	P376210	
		Bentazon	0.032		ug/L	P376210	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P376210	
		Carbamazepine**	8.0E-04	U	ug/L	P376210	
		Clothianidin**	0.0020	U	ug/L	P376210	
		Dinotefuran**	0.0072	I	ug/L	P376210	
		Diuron	0.0082		ug/L	P376210	
		Fenuron	0.016	U	ug/L	P376210	
		Fluridone**	0.084		ug/L	P376210	
		Imazapyr**	0.80		ug/L	P376210	
		Hydrocodone**	0.0020	U	ug/L	P376210	
		Ibuprofen**	0.020	U	ug/L	P376210	
		Imidacloprid	0.044		ug/L	P376210	MS
		Linuron	0.0040	U	ug/L	P376210	
		Mandestrobin**	0.0020	UJ	ug/L	P376210	
		MCPP	0.0020	U	ug/L	P376210	MS
		Naproxen**	0.0080	U	ug/L	P376210	
		Primidone**	0.0040	U	ug/L	P376210	
		Pyraclostrobin**	0.0020	U	ug/L	P376210	
		Thiamethoxam**	0.0020	U	ug/L	P376210	
		Tolfenpyrad**	0.0020	U	ug/L	P376210	
		Triclopyr**	0.0040	U	ug/L	P376210	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: West Lake @ Sheridan

Collection Date/Time: 12/16/2019 13:30

Field ID: G4SE0037

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144507	EPA 180.1 Rev. 2.0	Turbidity	7.2		NTU	P376033	
	EPA 300.0	Bromide	67		mg Br/L	P376612	
	SM 2320 B-97	Total Alkalinity	143		mg CaCO3/L	P376375	
	SM 2540 D-97	TSS	11		mg/L	P376498	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P376451	
2144508	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P376350	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P376558	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.064		mg N/L	P376243	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P376084	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P376167	
2144509	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P375996	

Ref. Method and Comment:

EPA 300.0: Bromide: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Middle River @ US 1

Collection Date/Time: 12/16/2019 14:25

Field ID: G4SE0113

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144515	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P376087	
		2,4-D	0.057		ug/L	P376210	MS
		AMPA**	1.0	U	ug/L	P376087	
		Sucralose**	0.22		ug/L	P376087	
		Acetaminophen**	0.24		ug/L	P376210	
		Acetamiprid**	0.0020	U	ug/L	P376210	
		Endothall**	0.25	U	ug/L	P376087	
		Glufosinate**	1.0	U	ug/L	P376087	
		Glyphosate**	1.0	U	ug/L	P376087	
		Afidopyropen**	0.0020	UJ	ug/L	P376210	
		Bentazon	0.034		ug/L	P376210	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P376210	
		Carbamazepine**	0.0011	I	ug/L	P376210	
		Clothianidin**	0.0020	I	ug/L	P376210	
		Dinotefuran**	0.0020	U	ug/L	P376210	
		Diuron	0.016		ug/L	P376210	
		Fenuron	0.016	U	ug/L	P376210	
		Fluridone**	0.0056		ug/L	P376210	
		Imazapyr**	0.094		ug/L	P376210	
		Hydrocodone**	0.0020	U	ug/L	P376210	
		Ibuprofen**	0.14		ug/L	P376210	
		Imidacloprid	0.029		ug/L	P376210	MS
		Linuron	0.0040	U	ug/L	P376210	
		Mandestrobin**	0.0020	UJ	ug/L	P376210	
		MCPP	0.0020	U	ug/L	P376210	MS
		Naproxen**	0.034		ug/L	P376210	
		Primidone**	0.0040	U	ug/L	P376210	
		Pyraclostrobin**	0.0020	U	ug/L	P376210	
		Thiamethoxam**	0.0020	U	ug/L	P376210	
		Tolfenpyrad**	0.0020	U	ug/L	P376210	
		Triclopyr**	0.0040	U	ug/L	P376210	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: North Fork Middle River @ NE 16th Ave

Collection Date/Time: 12/16/2019 14:40

Field ID: G4SE0121

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2144516	EPA 8321B	2,4-D	0.076		ug/L	P376210	MS
		Acesulfame K**	0.10	UJ	ug/L	P376087	SUR
		AMPA**	1.0	U	ug/L	P376087	
		Sucralose**	0.14		ug/L	P376087	
		Acetaminophen**	0.060		ug/L	P376210	
		Acetamiprid**	0.0020	U	ug/L	P376210	
		Endothall**	0.25	UJ	ug/L	P376087	SUR
		Glufosinate**	1.0	U	ug/L	P376087	
		Glyphosate**	1.0	U	ug/L	P376087	
		Afidopyropen**	0.0020	UJ	ug/L	P376210	
		Bentazon	0.033		ug/L	P376210	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P376210	
		Carbamazepine**	0.0011	I	ug/L	P376210	
		Clothianidin**	0.0026	I	ug/L	P376210	
		Dinotefuran**	0.0020	U	ug/L	P376210	
		Diuron	0.014		ug/L	P376210	
		Fenuron	0.016	U	ug/L	P376210	
		Fluridone**	0.0063		ug/L	P376210	
		Imazapyr**	0.12		ug/L	P376210	
		Hydrocodone**	0.0020	U	ug/L	P376210	
		Ibuprofen**	0.020	U	ug/L	P376210	
		Imidacloprid	0.030		ug/L	P376210	MS
		Linuron	0.0040	U	ug/L	P376210	
		Mandestrobin**	0.0020	UJ	ug/L	P376210	
		MCPP	0.0020	U	ug/L	P376210	MS
		Naproxen**	0.015	I	ug/L	P376210	
		Primidone**	0.0040	U	ug/L	P376210	
		Pyraclostrobin**	0.0020	U	ug/L	P376210	
		Thiamethoxam**	0.0020	U	ug/L	P376210	
		Tolfenpyrad**	0.0020	U	ug/L	P376210	
		Triclopyr**	0.0040	U	ug/L	P376210	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376033

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P376612

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376350

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376558

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375996

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

Reference Method: EPA 8321B
Batch ID: P376087

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: P376210

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-97
Batch ID: P376375

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

Reference Method: SM 2540 D-97
Batch ID: P376498

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P376451

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P376167

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P376612

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376350

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.9		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376558

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

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: P375996

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.8		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P376087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	116		P	40 - 150
AMPA	89.4		P	40 - 150
Endothall	90.3		P	40 - 150
Glufosinate	86.6		P	40 - 150
Glyphosate	123		P	40 - 140
Sucralose	91.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P376210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	40 - 160
Acetaminophen	103		P	30 - 160
Acetamiprid	95.8		P	40 - 160
Afidopyropen	92.1		P	40 - 160
Bentazon	69.7		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P376210

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Benzovindiflupyr	93.1		P	40 - 160
Carbamazepine	92.6		P	40 - 160
Clothianidin	94.2		P	40 - 160
Dinotefuran	98.4		P	40 - 160
Diuron	79.0		P	40 - 160
Fenuron	99.2		P	40 - 160
Fluridone	90.1		P	40 - 160
Hydrocodone	106		P	40 - 160
Ibuprofen	69.7		P	30 - 160
Imazapyr	97.6		P	40 - 160
Imidacloprid	104		P	40 - 160
Linuron	56.6		P	40 - 160
Mandestrobin	91.5		P	40 - 160
MCPP	144		P	40 - 160
Naproxen	43.0		P	40 - 160
Primidone	92.8		P	40 - 160
Pyraclostrobin	90.6		P	30 - 160
Thiamethoxam	89.5		P	40 - 160
Tolfenpyrad	52.8		P	40 - 160
Triclopyr	89.6		P	30 - 160

Reference Method: SM 2320 B-97

Batch ID: P376375

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

Reference Method: SM 4500 F-C-97

Batch ID: P376451

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.5		P	92 - 103

Reference Method: SM 5310 B-00

Batch ID: P376167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P376612

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144584	Bromide	101	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376350

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144401	Ammonia-N	99.8	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376558

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144460	Kjeldahl Nitrogen	97.2	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144544	NO2NO3-N	98.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144527	Total-P	106	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144562	O-Phosphate-P	95.0	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P376087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144312	Acesulfame K	57.7	60.7	P/P	40 - 150
2144312	AMPA	97.8	96.0	P/P	40 - 150
2144312	Endothall	89.2	90.2	P/P	40 - 150
2144312	Glufosinate	85.3	90.8	P/P	40 - 150
2144312	Glyphosate	110	95.3	P/P	40 - 140
2144312	Sucralose	87.4	90.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P376210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144517	2,4-D	160	149	F/P	40 - 160
2144517	Acetaminophen	117	119	P/P	30 - 160
2144517	Acetamiprid	111	112	P/P	40 - 160
2144517	Afidopyropen	108	104	P/P	40 - 160
2144517	Benzovindiflupyr	103	105	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P376210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144517	Carbamazepine	70.2	92.9	P/P	40 - 160
2144517	Clothianidin	117	104	P/P	40 - 160
2144517	Dinotefuran	123	127	P/P	40 - 160
2144517	Diuron	80.2	81.4	P/P	40 - 160
2144517	Fenuron	94.0	97.9	P/P	40 - 160
2144517	Hydrocodone	97.0	91.9	P/P	40 - 160
2144517	Ibuprofen	73.1	75.9	P/P	30 - 160
2144517	Imidacloprid	183	167	F/F	40 - 160
2144517	Linuron	71.5	72.9	P/P	40 - 160
2144517	Mandestrobin	90.3	95.6	P/P	40 - 160
2144517	MCP	149	165	P/F	40 - 160
2144517	Naproxen	99.8	98.7	P/P	40 - 160
2144517	Primidone	101	101	P/P	40 - 160
2144517	Pyraclostrobin	92.7	97.4	P/P	30 - 160
2144517	Thiamethoxam	152	152	P/P	40 - 160
2144517	Tolfenpyrad	55.9	58.4	P/P	40 - 160
2144517	Triclopyr	101	121	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P376451

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145953	Fluoride	95.6	97.0	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P376167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2144402	Organic Carbon	102	102	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144323	Turbidity	6.49	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P376612

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144584	Bromide	0.513	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144401	Ammonia-N	2.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144460	Kjeldahl Nitrogen	2.75	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144544	NO2NO3-N	0.509	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144527	Total-P	2.14	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P375996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144562	O-Phosphate-P	1.15	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P376087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144312	Acesulfame K	5.03	Spike	P	0 - 30
2144312	AMPA	1.66	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P376087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144312	Endothall	1.07	Spike	P	0 - 30
2144312	Glufosinate	6.30	Spike	P	0 - 30
2144312	Glyphosate	14.5	Spike	P	0 - 30
2144312	Sucralose	1.81	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P376210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144517	2,4-D	5.47	Spike	P	0 - 30
2144517	Acetaminophen	1.61	Spike	P	0 - 30
2144517	Acetamiprid	0.488	Spike	P	0 - 30
2144517	Afidopyropen	3.76	Spike	P	0 - 30
2144517	Bentazon	12.0	Spike	P	0 - 30
2144517	Benzovindiflupyr	2.00	Spike	P	0 - 30
2144517	Carbamazepine	27.8	Spike	P	0 - 30
2144517	Clothianidin	11.6	Spike	P	0 - 30
2144517	Dinotefuran	3.15	Spike	P	0 - 30
2144517	Diuron	1.39	Spike	P	0 - 30
2144517	Fenuron	4.07	Spike	P	0 - 30
2144517	Fluridone	1.88	Spike	P	0 - 30
2144517	Hydrocodone	5.37	Spike	P	0 - 30
2144517	Ibuprofen	3.88	Spike	P	0 - 30
2144517	Imazapyr	15.9	Spike	P	0 - 30
2144517	Imidacloprid	7.44	Spike	P	0 - 30
2144517	Linuron	1.93	Spike	P	0 - 30
2144517	Mandestrobin	5.76	Spike	P	0 - 30
2144517	MCP	10.0	Spike	P	0 - 30
2144517	Naproxen	1.10	Spike	P	0 - 30
2144517	Primidone	0.124	Spike	P	0 - 30
2144517	Pyraclostrobin	4.94	Spike	P	0 - 30
2144517	Thiamethoxam	0.145	Spike	P	0 - 30
2144517	Tolfenpyrad	4.30	Spike	P	0 - 30
2144517	Triclopyr	17.7	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P376375

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145125	Total Alkalinity	0.364	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P376451

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145953	Fluoride	0.953	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P376167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2144402	Organic Carbon	0.0328	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2144515
Field Sample ID: G4SE0113

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	158	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.3	P	30 - 160
EPA 8321B	Diuron-d6	86.2	P	30 - 160
EPA 8321B	Endothall-d6	159	P	30 - 160
EPA 8321B	Endothall-d6	159	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	64.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	64.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.5	P	30 - 160
EPA 8321B	Primidone-d5	116	P	30 - 160
EPA 8321B	Sucralose-d6	91.2	P	30 - 160
EPA 8321B	Sucralose-d6	91.2	P	30 - 160

Lab Sample ID: 2144516
Field Sample ID: G4SE0121

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	154	P	30 - 160
EPA 8321B	Acetaminophen-d4	115	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.8	P	30 - 160
EPA 8321B	Diuron-d6	81.6	P	30 - 160
EPA 8321B	Endothall-d6	270	F	30 - 160
EPA 8321B	Endothall-d6	270	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	142	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	142	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.8	P	30 - 160
EPA 8321B	Primidone-d5	86.2	P	30 - 160
EPA 8321B	Sucralose-d6	99.3	P	30 - 160
EPA 8321B	Sucralose-d6	99.3	P	30 - 160

Lab Sample ID: 2144517
Field Sample ID: G4SE0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	157	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.7	P	30 - 160
EPA 8321B	Diuron-d6	74.8	P	30 - 160
EPA 8321B	Endothall-d6	51.1	P	30 - 160
EPA 8321B	Endothall-d6	51.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	84.1	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	98.2	P	30 - 160
EPA 8321B	Sucralose-d6	98.2	P	30 - 160

Lab Sample ID: 2144518
Field Sample ID: G4SE0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2144518
Field Sample ID: G4SE0115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	99.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	85.0	P	30 - 160
EPA 8321B	Diuron-d6	76.5	P	30 - 160
EPA 8321B	Endothall-d6	51.2	P	30 - 160
EPA 8321B	Endothall-d6	51.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	71.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.3	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	97.5	P	30 - 160
EPA 8321B	Sucralose-d6	97.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96398

Included Lab Sample IDs: 2144509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	96.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96416

Included Lab Sample IDs: 2144507

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

Reference Method: SM 5310 B-00

Run ID: A96470

Included Lab Sample IDs: 2144508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.8	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A96486

Included Lab Sample IDs: 2144508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96502

Included Lab Sample IDs: 2144515, 2144516, 2144517, 2144518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	113	108	P/P	60 - 160
Endothall	107	92.7	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96503

Included Lab Sample IDs: 2144508

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

Reference Method: EPA 8321B

Run ID: A96534

Included Lab Sample IDs: 2144515, 2144516, 2144517, 2144518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	98.4	102	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96549

Included Lab Sample IDs: 2144508

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A96559
Included Lab Sample IDs: 2144507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A96583
Included Lab Sample IDs: 2144507

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

Reference Method: EPA 8321B
Run ID: A96588
Included Lab Sample IDs: 2144515, 2144516, 2144517, 2144518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.5	91.8	P/P	50 - 150
Acetaminophen	121	124	P/P	60 - 160
Acetamiprid	110	116	P/P	50 - 150
Afidopyropen	109	115	P/P	50 - 150
Bentazon	92.9	87.1	P/P	50 - 160
Benzovindiflupyr	112	104	P/P	50 - 150
Carbamazepine	113	110	P/P	60 - 150
Clothianidin	112	107	P/P	60 - 150
Dinotefuran	117	117	P/P	50 - 150
Diuron	127	108	P/P	60 - 150
Fenuron	121	124	P/P	60 - 150
Fluridone	121	114	P/P	60 - 160
Hydrocodone	115	110	P/P	60 - 150
Ibuprofen	123	121	P/P	50 - 160
Imazapyr	92.0	119	P/P	50 - 150
Imidacloprid	117	115	P/P	60 - 150
Linuron	106	104	P/P	60 - 150
Mandestrobin	116	113	P/P	50 - 150
MCPP	98.2	88.7	P/P	50 - 150
Naproxen	83.6	94.8	P/P	50 - 160
Primidone	127	105	P/P	60 - 150
Pyraclostrobin	116	116	P/P	60 - 150
Thiamethoxam	115	107	P/P	50 - 150
Tolfenpyrad	112	102	P/P	60 - 150
Triclopyr	106	75.3	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A96650
Included Lab Sample IDs: 2144515, 2144516, 2144517, 2144518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.9	95.6	P/P	60 - 160
AMPA	93.4	92.9	P/P	60 - 160
AMPA	93.6	79.9	P/P	60 - 160
Glufosinate	91.4	98.7	P/P	60 - 160
Glufosinate	92.8	95.4	P/P	60 - 160
Glufosinate	98.7	90.4	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96650

Included Lab Sample IDs: 2144515, 2144516, 2144517, 2144518

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	101	102	P/P	60 - 160
Glyphosate	117	95.6	P/P	60 - 160
Glyphosate	95.6	113	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A96656

Included Lab Sample IDs: 2144508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	99.9	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A96678

Included Lab Sample IDs: 2144507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	110	109	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					6.49	
EPA 300.0	Bromide	102	101	101			0.513
EPA 350.1 Rev. 2.0	Ammonia-N	99.9	99.8	102			2.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	97.2	101			2.75
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	98.5	98.0			0.509
EPA 365.1 Rev. 2.0	Total-P	106	106	102			2.14
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	95.0	96.1			1.15
EPA 8321B	2,4-D	129	160	149			5.47
	Acesulfame K	116	57.7	60.7			5.03
	Acetaminophen	103	117	119			1.61
	Acetamiprid	95.8	111	112			0.488
	Afidopyropen	92.1	108	104			3.76
	AMPA	89.4	97.8	96.0			1.66
	Bentazon	69.7					12.0
	Benzovindiflupyr	93.1	103	105			2.00
	Carbamazepine	92.6	70.2	92.9			27.8
	Clothianidin	94.2	117	104			11.6
	Dinotefuran	98.4	123	127			3.15
	Diuron	79.0	80.2	81.4			1.39
	Endothall	90.3	89.2	90.2			1.07
	Fenuron	99.2	94.0	97.9			4.07
	Fluridone	90.1					1.88
	Glufosinate	86.6	85.3	90.8			6.30
	Glyphosate	123	110	95.3			14.5
	Hydrocodone	106	97.0	91.9			5.37
	Ibuprofen	69.7	73.1	75.9			3.88
	Imazapyr	97.6					15.9
	Imidacloprid	104	183	167			7.44
	Linuron	56.6	71.5	72.9			1.93
	Mandestrobin	91.5	90.3	95.6			5.76
	MCPP	144	149	165			10.0
	Naproxen	43.0	99.8	98.7			1.10
	Primidone	92.8	101	101			0.124
	Pyraclostrobin	90.6	92.7	97.4			4.94
	Sucralose	91.6	87.4	90.4			1.81
	Thiamethoxam	89.5	152	152			0.145
	Tolfenpyrad	52.8	55.9	58.4			4.30
	Triclopyr	89.6	101	121			17.7
SM 2320 B-97	Total Alkalinity	103				0.364	
SM 4500 F-C-97	Fluoride	96.5	95.6	97.0			0.953
SM 5310 B-00	Organic Carbon	99.8	102	102			0.0328

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2144507
EPA 300.0 / E31780	Bromide in aqueous matrices	2144507
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2144508
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2144508
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2144508

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2144508
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2144509
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2144515, 2144516, 2144517, 2144518
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2144515, 2144516, 2144517, 2144518
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2144507
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2144507
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2144507
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2144508

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	12/17/2019			12/17/2019 17:24	Blanca Fach	2144507
EPA 300.0	12/17/2019			01/03/2020 17:58	Jhamieka S. Greenwood	2144507
EPA 350.1 Rev. 2.0	12/17/2019			12/23/2019 15:10	Ping Hua	2144508
EPA 351.2 Rev. 2.0	12/17/2019	12/30/2019 11:45	Sima Feizi	01/02/2020 17:23	Virginia P. Brown	2144508
EPA 353.2 Rev. 2.0	12/17/2019			12/20/2019 11:36	Beverly Y. Sanders	2144508
EPA 365.1 Rev. 2.0	12/17/2019	12/18/2019 14:20	Lipi Saha	12/19/2019 16:27	Benjamin T. Nordmann	2144508
EPA 365.1 Rev. 2.0 dissolved	12/17/2019			12/17/2019 15:57	Samantha Davila	2144509
EPA 8321B	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/19/2019 14:10	Rebecca Ware	2144515
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/19/2019 14:24	Rebecca Ware	2144516
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/19/2019 14:38	Rebecca Ware	2144517
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/19/2019 14:52	Rebecca Ware	2144518
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/20/2019 13:37	Rebecca Ware	2144517
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/20/2019 13:48	Rebecca Ware	2144518
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/20/2019 15:23	Rebecca Ware	2144516
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/20/2019 20:20	Rebecca Ware	2144515
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/24/2019 02:08	Mohammad Ghaffari	2144515
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/24/2019 02:22	Mohammad Ghaffari	2144516
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/24/2019 02:36	Mohammad Ghaffari	2144517
	12/17/2019	12/18/2019 16:30	Rebecca Ware	12/24/2019 02:50	Mohammad Ghaffari	2144518
	12/17/2019	12/22/2019 09:00	Hoor Shaik	12/25/2019 09:39	Juyoung Kim	2144517
	12/17/2019	12/22/2019 09:00	Hoor Shaik	12/25/2019 10:13	Juyoung Kim	2144515
	12/17/2019	12/22/2019 09:00	Hoor Shaik	12/25/2019 10:48	Juyoung Kim	2144516
	12/17/2019	12/22/2019 09:00	Hoor Shaik	12/25/2019 11:22	Juyoung Kim	2144518
SM 2320 B-97	12/17/2019			12/24/2019 10:26	Dale L. Simmons	2144507
SM 2540 D-97	12/17/2019			12/19/2019 14:11	Yijie Li	2144507
SM 4500 F-C-97	12/17/2019			12/26/2019 23:35	Dale L. Simmons	2144507
SM 5310 B-00	12/17/2019			12/18/2019 20:08	Madeline Funaro	2144508