

Chemical Analysis Report

SE-DIST-2021-08-11-01

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

Event Description: **SMP - 3135A deploy + Micco**
Request ID: **RQ-2021-08-02-82**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

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Certified by: Colin Wright, Program Administrator

Date Certified: 02-SEP-2021 12:41

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: C-54 confluence with Sebastian near Mockingbird Lane Dock

Collection Date/Time: 08/10/2021 11:45

Field ID: G5SE0106

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2268797	EPA 180.1 Rev. 2.0	Turbidity	3.3	A	NTU	P402346	
	SM 2320 B-2011	Total Alkalinity	135		mg CaCO3/L	P402594	
	SM 2540 D-2011	TSS	3	IA	mg/L	P402757	
	SM 4500 F-C-2011	Fluoride	0.34		mg F/L	P402597	
2268798	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P402705	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P402887	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.061		mg N/L	P402362	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P402462	
	SM 5310 B-2011	Organic Carbon	20		mg C/L	P403057	
2268799	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P402341	

Ref. Method and Comment:

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

Sample Location: Micco Ditch @ Micco Rd.

Collection Date/Time: 08/10/2021 12:20

Field ID: G5SE0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2268800	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P402346	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P402551	
		Sulfate	14		mg SO4/L	P402553	
	SM 2120 B-2011	Color (true)	53		PCU	P402348	
	SM 2320 B-2011	Total Alkalinity	183		mg CaCO3/L	P402594	
	SM 2540 C-2011	TDS	369		mg/L	P402859	
	SM 2540 D-2011	TSS	3	I	mg/L	P402750	
	SM 4500 F-C-2011	Fluoride	0.20		mg F/L	P402597	
2268801	EPA 350.1 Rev. 2.0	Ammonia-N	0.084		mg N/L	P402581	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P402886	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.076		mg N/L	P402502	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P402510	MS
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P402919	
2268802	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P402340	
2268807	EPA 8321B	2,4-D	0.0094		ug/L	P402303	
		Acesulfame K	0.10	U	ug/L	P402297	
		2,4,5-T	0.0040	U	ug/L	P402303	
		AMPA	3.5		ug/L	P402297	
		Acetaminophen	0.011	I	ug/L	P402303	
		Acetamiprid	0.0020	U	ug/L	P402303	
		Endothall	0.25	U	ug/L	P402297	
		Glufosinate	0.10	U	ug/L	P402297	
		Glyphosate	5.5		ug/L	P402297	
		Afidopyropen	0.0020	U	ug/L	P402303	
		Bentazon	0.0091		ug/L	P402303	
		Sucralose	0.52		ug/L	P402297	
		Benzovindiflupyr	0.0020	U	ug/L	P402303	
		Carbamazepine	0.0018	I	ug/L	P402303	
		Clothianidin	0.0020	U	ug/L	P402303	
		Dinotefuran	0.0020	U	ug/L	P402303	
		Diuron	0.0048	I	ug/L	P402303	
		Fenuron	0.016	U	ug/L	P402303	
		Fluridone	0.0022	I	ug/L	P402303	
		Imazapyr	1.8		ug/L	P402303	
		Hydrocodone	0.0020	U	ug/L	P402303	
		Ibuprofen	0.020	U	ug/L	P402303	
		Imidacloprid	0.060		ug/L	P402303	
		Linuron	0.0040	U	ug/L	P402303	
		Mandestrobin	0.0020	U	ug/L	P402303	
		MCP	0.0077	I	ug/L	P402303	
		Naproxen	0.0080	U	ug/L	P402303	
		Primidone	0.0066	I	ug/L	P402303	
		Pyraclostrobin	0.0020	U	ug/L	P402303	

Field ID: G5SE0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2268807	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P402303	
		Tolfenpyrad	0.0020	U	ug/L	P402303	
		Triclopyr	0.0040	U	ug/L	P402303	

Ref. Method and Comment:
SM 2540 C-2011: The reported result is consistent with the conductivity measured in the laboratory, 611 umhos/cm.
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P402346

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402551

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402553

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402705

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402886

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402362

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402502

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402462

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402510

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402340

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P402341

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

Reference Method: EPA 8321B
Batch ID: P402297

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: EPA 8321B
Batch ID: P402303

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P402303

Component	Result	Code	Units
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 2120 B-2011

Batch ID: P402348

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P402594

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

Reference Method: SM 2540 C-2011

Batch ID: P402859

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P402750

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P402757

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P402597

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P402919

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P403057

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: P402551

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402553

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

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: P402705

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402886

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402362

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402502

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402462

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402510

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402340

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402341

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

Reference Method: EPA 8321B

Batch ID: P402297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	88.6		P	40 - 150
Endothall	87.2		P	40 - 150
Glufosinate	92.7		P	40 - 150
Glyphosate	98.0		P	40 - 150
Sucralose	99.0		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P402303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	135		P	40 - 150
2,4,5-T	111		P	40 - 150
Acetaminophen	100		P	30 - 150
Acetamiprid	93.7		P	40 - 150
Afidopyropen	75.0		P	40 - 150
Bentazon	113		P	30 - 150
Benzovindiflupyr	94.7		P	40 - 150
Carbamazepine	103		P	40 - 150
Clothianidin	107		P	40 - 150
Dinotefuran	104		P	40 - 150
Diuron	94.0		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	95.3		P	40 - 150
Hydrocodone	98.6		P	40 - 150
Ibuprofen	84.8		P	40 - 150
Imazapyr	108		P	40 - 150
Imidacloprid	100		P	40 - 150
Linuron	83.4		P	40 - 150
Mandestrobin	100		P	40 - 150
MCPP	117		P	40 - 150
Naproxen	89.9		P	40 - 150
Primidone	103		P	40 - 150
Pyraclostrobin	92.6		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P402303

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	105		P	40 - 150
Tolfenpyrad	60.2		P	30 - 150
Triclopyr	114		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P402348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P402594

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P402597

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P402919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.5		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P403057

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402551

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268465	Chloride	101		P	90 - 110
2268944	Chloride	99.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268465	Sulfate	101		P	90 - 110
2268944	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2269167	Ammonia-N	95.6	97.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402705

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268798	Ammonia-N	97.4	91.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402886

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2267962	Kjeldahl Nitrogen	89.0	95.8	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268693	Kjeldahl Nitrogen	107	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402362

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268660	NO2NO3-N	101	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402502

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268801	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P402462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2266313	Total-P	104	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402510

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268869	Total-P	112	109	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268885	O-Phosphate-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268877	O-Phosphate-P	95.8	95.9	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P402297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268337	Acesulfame K	123	133	P/P	40 - 150
2268337	AMPA	76.0	77.6	P/P	40 - 150
2268337	Endothall	105	106	P/P	40 - 150
2268337	Glufosinate	80.0	77.7	P/P	40 - 150
2268337	Glyphosate	82.0	77.0	P/P	40 - 150
2268337	Sucralose	102	102	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P402303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268133	2,4-D	114	104	P/P	40 - 150
2268133	2,4,5-T	99.4	107	P/P	40 - 150
2268133	Acetaminophen	88.2	82.1	P/P	30 - 150
2268133	Acetamiprid	81.9	68.5	P/P	40 - 150
2268133	Afidopyropen	63.4	55.2	P/P	40 - 150
2268133	Bentazon	91.2	94.7	P/P	30 - 150
2268133	Benzovindiflupyr	86.6	87.0	P/P	40 - 150
2268133	Carbamazepine	89.0	91.5	P/P	40 - 150
2268133	Clothianidin	98.6	93.2	P/P	40 - 150
2268133	Dinotefuran	94.9	91.2	P/P	40 - 150
2268133	Diuron	81.0	84.9	P/P	40 - 150
2268133	Fenuron	92.9	86.6	P/P	40 - 150
2268133	Fluridone	84.9	91.7	P/P	40 - 150
2268133	Hydrocodone	86.0	89.8	P/P	40 - 150
2268133	Ibuprofen	77.5	82.1	P/P	40 - 150
2268133	Imazapyr	104	99.5	P/P	40 - 150
2268133	Imidacloprid	99.4	97.8	P/P	40 - 150
2268133	Linuron	75.9	80.5	P/P	40 - 150
2268133	Mandestrobin	87.2	82.5	P/P	40 - 150
2268133	MCPP	110	117	P/P	40 - 150
2268133	Naproxen	84.1	85.6	P/P	40 - 150
2268133	Primidone	89.5	93.5	P/P	40 - 150
2268133	Pyraclostrobin	83.6	82.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P402303

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268133	Thiamethoxam	99.6	95.0	P/P	40 - 150
2268133	Tolfenpyrad	54.7	57.3	P/P	30 - 150
2268133	Triclopyr	101	106	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P402597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268420	Fluoride	104	104	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P402919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2268467	Organic Carbon	98.6	96.6	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P403057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2270528	Organic Carbon	95.8	94.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P402346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268797	Turbidity	1.20	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402551

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268944	Chloride	1.97	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268944	Sulfate	1.98	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402581

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2269167	Ammonia-N	1.67	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402705

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268798	Ammonia-N	4.82	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2267962	Kjeldahl Nitrogen	4.94	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268693	Kjeldahl Nitrogen	3.63	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P402362

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268660	NO2NO3-N	0.975	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P402502

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268801	NO2NO3-N	0.358	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2266313	Total-P	0.320	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P402510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268869	Total-P	2.52	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268885	O-Phosphate-P	0.806	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P402341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268877	O-Phosphate-P	0.104	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P402297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268337	Acesulfame K	7.71	Spike	P	0 - 30
2268337	AMPA	1.94	Spike	P	0 - 30
2268337	Endothall	1.56	Spike	P	0 - 30
2268337	Glufosinate	2.85	Spike	P	0 - 30
2268337	Glyphosate	5.95	Spike	P	0 - 30
2268337	Sucralose	0.147	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P402303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268133	2,4-D	8.89	Spike	P	0 - 30
2268133	2,4,5-T	7.50	Spike	P	0 - 30
2268133	Acetaminophen	7.25	Spike	P	0 - 30
2268133	Acetamidrid	17.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P402303

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268133	Afidopyropen	13.9	Spike	P	0 - 30
2268133	Bentazon	3.76	Spike	P	0 - 30
2268133	Benzovindiflupyr	0.421	Spike	P	0 - 30
2268133	Carbamazepine	2.79	Spike	P	0 - 30
2268133	Clothianidin	5.57	Spike	P	0 - 30
2268133	Dinotefuran	4.03	Spike	P	0 - 30
2268133	Diuron	4.75	Spike	P	0 - 30
2268133	Fenuron	7.02	Spike	P	0 - 30
2268133	Fluridone	7.75	Spike	P	0 - 30
2268133	Hydrocodone	4.39	Spike	P	0 - 30
2268133	Ibuprofen	5.73	Spike	P	0 - 30
2268133	Imazapyr	4.86	Spike	P	0 - 30
2268133	Imidacloprid	1.64	Spike	P	0 - 30
2268133	Linuron	5.91	Spike	P	0 - 30
2268133	Mandestrobin	5.57	Spike	P	0 - 30
2268133	MCPP	6.04	Spike	P	0 - 30
2268133	Naproxen	1.76	Spike	P	0 - 30
2268133	Primidone	4.37	Spike	P	0 - 30
2268133	Pyraclostrobin	1.48	Spike	P	0 - 30
2268133	Thiamethoxam	4.70	Spike	P	0 - 30
2268133	Tolfenpyrad	4.62	Spike	P	0 - 30
2268133	Triclopyr	4.93	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P402348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268510	Color (true)	0.841	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P402594

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268420	Total Alkalinity	1.27	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P402859

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268626	TDS	2.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P402597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268420	Fluoride	0.495	Spike	P	0 - 2.1

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P402919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2268467	Organic Carbon	1.46	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P403057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2270528	Organic Carbon	1.07	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2268807

Field Sample ID: G5SE0048

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	136	P	30 - 160
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.6	P	30 - 160
EPA 8321B	Diuron-d6	77.5	P	30 - 160
EPA 8321B	Endothall-d6	122	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	62.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	82.8	P	30 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A107186

Included Lab Sample IDs: 2268799, 2268802

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.7	97.0	P/P	90 - 110
O-Phosphate-P	99.0	97.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A107187

Included Lab Sample IDs: 2268797, 2268800

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

Reference Method: SM 2120 B-2011

Run ID: A107189

Included Lab Sample IDs: 2268800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107200

Included Lab Sample IDs: 2268798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A107239

Included Lab Sample IDs: 2268807

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.5	86.8	P/P	60 - 160
Glufosinate	91.9	93.6	P/P	60 - 160
Glyphosate	104	104	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A107242

Included Lab Sample IDs: 2268807

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	129	79.0	P/P	60 - 160
Endothall	83.5	77.6	P/P	60 - 160
Sucralose	96.9	98.8	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A107268

Included Lab Sample IDs: 2268801

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A107269
Included Lab Sample IDs: 2268807

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.1	97.8	P/P	50 - 150
2,4,5-T	96.9	91.6	P/P	50 - 150
Acetaminophen	97.3	90.4	P/P	60 - 160
Acetamiprid	98.5	96.1	P/P	50 - 150
Afidopyropen	92.7	85.6	P/P	50 - 150
Bentazon	109	106	P/P	50 - 160
Benzovindiflupyr	95.5	96.3	P/P	50 - 150
Carbamazepine	101	102	P/P	60 - 150
Clothianidin	101	93.3	P/P	60 - 150
Dinotefuran	98.2	95.1	P/P	50 - 150
Diuron	109	106	P/P	60 - 160
Fenuron	96.8	92.3	P/P	60 - 150
Fluridone	103	92.0	P/P	60 - 160
Hydrocodone	106	103	P/P	60 - 150
Ibuprofen	91.7	91.4	P/P	50 - 160
Imazapyr	94.3	92.3	P/P	50 - 150
Imidacloprid	94.6	93.5	P/P	60 - 150
Linuron	95.4	91.4	P/P	60 - 150
Mandestrobin	95.0	94.6	P/P	50 - 150
MCPP	99.8	92.4	P/P	50 - 150
Naproxen	85.0	92.0	P/P	50 - 160
Primidone	104	99.3	P/P	60 - 150
Pyraclostrobin	96.5	97.0	P/P	60 - 150
Thiamethoxam	102	99.0	P/P	50 - 150
Tolfenpyrad	93.3	93.8	P/P	60 - 150
Triclopyr	94.6	91.5	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A107271
Included Lab Sample IDs: 2268798

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A107288
Included Lab Sample IDs: 2268800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Sulfate	99.6	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A107292
Included Lab Sample IDs: 2268801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.7	99.1	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A107300

Included Lab Sample IDs: 2268797, 2268800

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A107300

Included Lab Sample IDs: 2268797, 2268800

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107342

Included Lab Sample IDs: 2268798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A107384

Included Lab Sample IDs: 2268801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	108	110	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107443

Included Lab Sample IDs: 2268801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107458

Included Lab Sample IDs: 2268798, 2268801

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	99.4	P/P	90 - 110
Kjeldahl Nitrogen	106	101	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A107501

Included Lab Sample IDs: 2268798

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	96.2	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					1.20	
EPA 300.0 Rev. 2.1	Chloride	99.1	99.8	101		1.97	
	Sulfate	101	98.9	101		1.98	
EPA 350.1 Rev. 2.0	Ammonia-N	101	95.6	97.4			1.67
	Ammonia-N	98.4	97.4	91.0			4.82
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	89.0	95.8			4.94
	Kjeldahl Nitrogen	101	103	107			3.63
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	99.6			0.975
	NO2NO3-N	102	102	101			0.358
EPA 365.1 Rev. 2.0	Total-P	109	104	104			0.320
	Total-P	107	112	109			2.52
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	103	102			0.806
	O-Phosphate-P	98.4	95.8	95.9			0.104
EPA 8321B	2,4-D	135	104	114			8.89
	2,4,5-T	111	107	99.4			7.50
	Acesulfame K	106	123	133			7.71
	Acetaminophen	100	82.1	88.2			7.25
	Acetamiprid	93.7	68.5	81.9			17.8
	Afidopyropen	75.0	55.2	63.4			13.9
	AMPA	88.6	76.0	77.6			1.94
	Bentazon	113	94.7	91.2			3.76
	Benzovindiflupyr	94.7	87.0	86.6			0.421
	Carbamazepine	103	91.5	89.0			2.79
	Clothianidin	107	93.2	98.6			5.57
	Dinotefuran	104	91.2	94.9			4.03
	Diuron	94.0	84.9	81.0			4.75
	Endothall	87.2	105	106			1.56
	Fenuron	104	86.6	92.9			7.02
	Fluridone	95.3	91.7	84.9			7.75
	Glufosinate	92.7	80.0	77.7			2.85
	Glyphosate	98.0	82.0	77.0			5.95
	Hydrocodone	98.6	89.8	86.0			4.39
	Ibuprofen	84.8	82.1	77.5			5.73
	Imazapyr	108	99.5	104			4.86
	Imidacloprid	100	97.8	99.4			1.64
	Linuron	83.4	80.5	75.9			5.91
	Mandestrobin	100	82.5	87.2			5.57
	MCPP	117	117	110			6.04
	Naproxen	89.9	85.6	84.1			1.76
	Primidone	103	93.5	89.5			4.37
	Pyraclostrobin	92.6	82.3	83.6			1.48
	Sucralose	99.0	102	102			0.147
	Thiamethoxam	105	95.0	99.6			4.70
	Tolfenpyrad	60.2	57.3	54.7			4.62
	Triclopyr	114	106	101			4.93
SM 2120 B-2011	Color (true)	101				0.841	
SM 2320 B-2011	Total Alkalinity	102				1.27	
SM 2540 C-2011	TDS					2.87	
SM 4500 F-C-2011	Fluoride	98.6	104	104			0.495
SM 5310 B-2011	Organic Carbon	95.5	98.6	96.6			1.46
	Organic Carbon	95.0	95.8	94.6			1.07

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2268797, 2268800
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2268800
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2268800
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2268798, 2268801
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2268798, 2268801
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2268798, 2268801
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2268798, 2268801
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2268799, 2268802
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2268807
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2268800
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2268797, 2268800
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2268800
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2268797, 2268800
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2268797, 2268800
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2268798, 2268801

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	08/11/2021			08/11/2021 15:39	Sarah A Nixon	2268797, 2268800
EPA 300.0 Rev. 2.1	08/11/2021			08/17/2021 09:36	Lipi Saha	2268800
EPA 350.1 Rev. 2.0	08/11/2021			08/17/2021 13:55	Roberta Tatti	2268801
	08/11/2021			08/19/2021 12:27	Roberta Tatti	2268798
EPA 351.2 Rev. 2.0	08/11/2021	08/24/2021 13:34	Benjamin T. Nordmann	08/25/2021 10:06	Virginia P. Brown	2268801
	08/11/2021	08/24/2021 13:34	Benjamin T. Nordmann	08/25/2021 11:22	Virginia P. Brown	2268798
EPA 353.2 Rev. 2.0	08/11/2021			08/12/2021 10:08	Beverly Y. Sanders	2268798
	08/11/2021			08/16/2021 09:51	Beverly Y. Sanders	2268801
EPA 365.1 Rev. 2.0	08/11/2021	08/13/2021 15:00	Simonne.V. Calhoun	08/16/2021 13:58	Shengyu Ding	2268798
	08/11/2021	08/16/2021 13:39	Simonne.V. Calhoun	08/23/2021 10:22	Shengyu Ding	2268801
EPA 365.1 Rev. 2.0 dissolved	08/11/2021			08/11/2021 15:46	Patrick M. Roche	2268802
	08/11/2021			08/11/2021 16:35	Patrick M. Roche	2268799
EPA 8321B	08/11/2021	08/13/2021 09:00	Hoor Shaik	08/14/2021 13:08	Juyoung Kim	2268807
	08/11/2021	08/13/2021 09:00	Juyoung Kim	08/13/2021 11:35	Juyoung Kim	2268807
	08/11/2021	08/13/2021 09:00	Juyoung Kim	08/13/2021 12:54	Pramila Ghimire	2268807
SM 2120 B-2011	08/11/2021			08/11/2021 16:31	Sarah A Nixon	2268800
SM 2320 B-2011	08/11/2021			08/12/2021 22:42	Dale L. Simmons	2268800
	08/11/2021			08/12/2021 23:30	Dale L. Simmons	2268797
SM 2540 C-2011	08/11/2021			08/16/2021 15:36	Yijie Li	2268800
SM 2540 D-2011	08/11/2021			08/16/2021 15:36	Yijie Li	2268797, 2268800
SM 4500 F-C-2011	08/11/2021			08/12/2021 22:42	Dale L. Simmons	2268800
	08/11/2021			08/12/2021 23:30	Dale L. Simmons	2268797
SM 5310 B-2011	08/11/2021			08/23/2021 20:13	Madeline Gruver	2268801
	08/11/2021			08/26/2021 15:27	Madeline Gruver	2268798