

Chemical Analysis Report

SW-DIST-2018-10-19-01

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

Event Description: **Spartman, Bellows, Flint, Baker**
Request ID: **RQ-2018-10-08-08**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 07-NOV-2018 12:41

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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 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: FLINT CREEK @ SR301 TP39

Collection Date/Time: 10/18/2018 09:40

Field ID: G2SW0004

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034448	EPA 8321B	2,4-D	0.068		ug/L	P353225	
		Bentazon	0.0055		ug/L	P353225	
		MCP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.034		ug/L	P353225	MS
		Diuron	0.037		ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.0080	U	ug/L	P353225	
		Fenuron	0.017	I	ug/L	P353225	
		Imazapyr**	0.058		ug/L	P353225	MS
		Carbamazepine**	8.0E-04	U	ug/L	P353225	
		Fluridone**	0.0050		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.0080	U	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.35		ug/L	P353322	
		Acesulfame K**	0.14	I	ug/L	P353322	

Sample Location: FLINT CREEK @ KNIGHTS GRIFFIN RD

Collection Date/Time: 10/18/2018 10:30

Field ID: G2SW0066

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034449	EPA 8321B	2,4-D	0.069		ug/L	P353225	
		Bentazon	0.0062		ug/L	P353225	
		MCP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.034		ug/L	P353225	MS
		Diuron	0.036		ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.0080	U	ug/L	P353225	
		Fenuron	0.016	I	ug/L	P353225	
		Imazapyr**	0.067		ug/L	P353225	MS
		Carbamazepine**	8.0E-04	U	ug/L	P353225	
		Fluridone**	0.0048		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.0080	U	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.36		ug/L	P353322	
		Acesulfame K**	0.14	I	ug/L	P353322	

Sample Location: SPARTMAN BRANCH @ US 92

Collection Date/Time: 10/18/2018 11:11

Field ID: G2SW0013

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034450	EPA 8321B	2,4-D	0.013		ug/L	P353225	
		Bentazon	0.016		ug/L	P353225	
		MCP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.011		ug/L	P353225	MS
		Diuron	0.0020	U	ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.0080	U	ug/L	P353225	
		Fenuron	0.016	U	ug/L	P353225	
		Imazapyr**	0.050		ug/L	P353225	MS
		Carbamazepine**	8.0E-04	U	ug/L	P353225	
		Fluridone**	0.0055		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.0080	U	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.24		ug/L	P353322	
		Acesulfame K**	0.16	I	ug/L	P353322	

Sample Location: SPARTMAN BRANCH @ HARVEY TEW RD

Collection Date/Time: 10/18/2018 11:35

Field ID: G2SW0067

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034451	EPA 8321B	2,4-D	0.017		ug/L	P353225	
		Bentazon	0.017		ug/L	P353225	
		MCPP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.030		ug/L	P353225	MS
		Diuron	0.0020	U	ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.0080	U	ug/L	P353225	
		Fenuron	0.016	U	ug/L	P353225	
		Imazapyr**	0.055		ug/L	P353225	MS
		Carbamazepine**	8.0E-04	U	ug/L	P353225	
		Fluridone**	0.0055		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.0080	U	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.21		ug/L	P353322	
		Acesulfame K**	0.15	I	ug/L	P353322	

Sample Location: BAKER CREEK @ THONOTOSASSA RD

Collection Date/Time: 10/18/2018 10:42

Field ID: G2SW0012

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034452	EPA 8321B	2,4-D	0.015		ug/L	P353225	
		Bentazon	0.0058		ug/L	P353225	
		MCP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.039		ug/L	P353225	MS
		Diuron	0.028		ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.0080	U	ug/L	P353225	
		Fenuron	0.016	U	ug/L	P353225	
		Imazapyr**	0.079		ug/L	P353225	MS
		Carbamazepine**	8.1E-04	I	ug/L	P353225	
		Fluridone**	0.0081		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.0080	U	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.38		ug/L	P353322	
		Acesulfame K**	0.15	I	ug/L	P353322	

Sample Location: BELLOWS LAKE OUTLET

Collection Date/Time: 10/18/2018 12:05

Field ID: G1SW0060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034453	EPA 8321B	2,4-D	0.28		ug/L	P353225	
		Bentazon	8.0E-04	U	ug/L	P353225	
		MCP	0.0020	U	ug/L	P353225	
		Triclopyr**	0.0040	U	ug/L	P353225	
		Imidacloprid	0.010		ug/L	P353225	MS
		Diuron	0.0058	I	ug/L	P353225	
		Pyraclostrobin**	0.0020	U	ug/L	P353225	
		Primidone**	0.0040	U	ug/L	P353225	
		Linuron	0.0040	U	ug/L	P353225	
		Acetaminophen**	0.16		ug/L	P353225	
		Fenuron	0.016	U	ug/L	P353225	
		Imazapyr**	0.037		ug/L	P353225	MS
		Carbamazepine**	8.0E-04	U	ug/L	P353225	
		Fluridone**	0.044		ug/L	P353225	
		Hydrocodone**	8.0E-04	U	ug/L	P353225	
		Naproxen**	0.014	I	ug/L	P353225	
		Ibuprofen**	0.020	U	ug/L	P353225	
		Sucralose**	0.095		ug/L	P353322	
		Acesulfame K**	0.23	I	ug/L	P353322	

Sample Location: BELLOWS LAKE OUTLET

Collection Date/Time: 10/18/2018 12:05

Field ID: G1SW0060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2034431	EPA 180.1 Rev. 2.0	Turbidity	8.0		NTU	P353464	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P353878	
		Sulfate	9.9		mg SO4/L	P353880	
	SM 2120 B	Color (true)	42	A	PCU	P353390	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P353813	
	SM 2540 C-97	TDS	152		mg/L	P353889	
	SM 2540 D-97	TSS	14		mg/L	P353843	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P353817	
2034432	EPA 350.1 Rev. 2.0	Ammonia-N	0.87		mg N/L	P353865	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.6		mg N/L	P353737	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P353769	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P353469	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P353942	
2034433	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P353399	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353464

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Component	Result	Code	Units
Sulfate	0.20	U	mg SO ₄ /L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353865

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353737

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353769

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

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

Reference Method: EPA 8321B
Batch ID: P353225

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P353225

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P353322

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P353390

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P353813

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

Reference Method: SM 2540 C-97
Batch ID: P353889

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P353843

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P353942

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: P353878

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353865

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353737

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353769

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

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

Reference Method: EPA 8321B
Batch ID: P353225

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	92.7		P	40 - 150
Acetaminophen	148		P	30 - 150
Bentazon	94.1		P	30 - 150
Carbamazepine	98.8		P	40 - 150
Diuron	101		P	40 - 150
Fenuron	139		P	40 - 150
Fluridone	115		P	40 - 150
Hydrocodone	131		P	40 - 150
Ibuprofen	57.2		P	40 - 150
Imazapyr	108		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P353225

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	123		P	40 - 160
Linuron	86.5		P	40 - 150
MCPP	88.0		P	40 - 150
Naproxen	57.6		P	40 - 150
Primidone	129		P	40 - 150
Pyraclostrobin	78.1		P	40 - 150
Triclopyr	85.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353322

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	70.3		P	40 - 150
Sucralose	73.1		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P353390

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P353813

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353942

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034415	Chloride	97.8		P	90 - 110
2034688	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034415	Sulfate	97.2		P	90 - 110
2034688	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034416	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034470	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034403	NO2NO3-N	96.5	97.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034471	Total-P	99.8	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034433	O-Phosphate-P	96.8	97.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P353225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033801	2,4-D	126	139	P/P	40 - 150
2033801	Acetaminophen	131	140	P/P	30 - 150
2033801	Bentazon	52.6	60.3	P/P	30 - 150
2033801	Carbamazepine	80.7	81.8	P/P	40 - 150
2033801	Diuron	72.7	71.9	P/P	40 - 150
2033801	Fenuron	110	113	P/P	40 - 150
2033801	Fluridone	106	110	P/P	40 - 150
2033801	Hydrocodone	108	116	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P353225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2033801	Ibuprofen	52.2	65.2	P/P	40 - 150
2033801	Imazapyr	148	161	P/F	40 - 150
2033801	Imidacloprid	189	182	F/F	40 - 160
2033801	Linuron	73.3	76.8	P/P	40 - 150
2033801	MCPP	132	137	P/P	40 - 150
2033801	Naproxen	60.2	71.8	P/P	40 - 150
2033801	Primidone	111	110	P/P	40 - 150
2033801	Pyraclostrobin	88.8	86.8	P/P	40 - 150
2033801	Triclopyr	124	140	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353322

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034382	Acesulfame K	105	102	P/P	40 - 150
2034382	Sucralose	98.6	84.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034385	Fluoride	102	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034057	Organic Carbon	95.5	94.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034469	Turbidity	6.56	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034415	Chloride	2.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353880

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034415	Sulfate	2.76	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034416	Ammonia-N	0.516	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034470	Kjeldahl Nitrogen	1.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034403	NO2NO3-N	0.517	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034471	Total-P	0.380	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034433	O-Phosphate-P	0.721	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P353225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2033801	2,4-D	9.52	Spike	P	0 - 30
2033801	Acetaminophen	6.29	Spike	P	0 - 30
2033801	Bentazon	9.84	Spike	P	0 - 30
2033801	Carbamazepine	1.38	Spike	P	0 - 30
2033801	Diuron	0.794	Spike	P	0 - 30
2033801	Fenuron	2.64	Spike	P	0 - 30
2033801	Fluridone	4.07	Spike	P	0 - 30
2033801	Hydrocodone	6.88	Spike	P	0 - 30
2033801	Ibuprofen	22.2	Spike	P	0 - 30
2033801	Imazapyr	3.26	Spike	P	0 - 30
2033801	Imidacloprid	4.05	Spike	P	0 - 30
2033801	Linuron	4.71	Spike	P	0 - 30
2033801	MCP	3.58	Spike	P	0 - 30
2033801	Naproxen	17.6	Spike	P	0 - 30
2033801	Primidone	0.709	Spike	P	0 - 30
2033801	Pyraclostrobin	2.36	Spike	P	0 - 30
2033801	Triclopyr	12.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353322

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034382	Acesulfame K	2.99	Spike	P	0 - 30
2034382	Sucralose	14.6	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P353390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034431	Color (true)	3.24	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P353813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034385	Total Alkalinity	0.195	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P353889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034500	TDS	2.27	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P353843

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034500	TSS	3.64	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P353817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034385	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P353942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034057	Organic Carbon	1.32	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2034448
Field Sample ID: G2SW0004

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	131	P	30 - 160
EPA 8321B	Acetaminophen-d4	128	P	30 - 160
EPA 8321B	Carbamazepine-d10	63.7	P	30 - 160
EPA 8321B	Diuron-d6	64.3	P	30 - 160
EPA 8321B	Endothall-d6	82.8	P	40 - 160
EPA 8321B	Ibuprofen-d3	65.6	P	30 - 160
EPA 8321B	Primidone-d5	118	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	40 - 160

Lab Sample ID: 2034449
Field Sample ID: G2SW0066

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	137	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.2	P	30 - 160
EPA 8321B	Diuron-d6	67.5	P	30 - 160
EPA 8321B	Endothall-d6	82.3	P	40 - 160
EPA 8321B	Ibuprofen-d3	67.9	P	30 - 160
EPA 8321B	Primidone-d5	96.0	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	40 - 160

Lab Sample ID: 2034450
Field Sample ID: G2SW0013

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.0	P	30 - 160
EPA 8321B	Diuron-d6	60.3	P	30 - 160
EPA 8321B	Endothall-d6	80.5	P	40 - 160
EPA 8321B	Ibuprofen-d3	74.3	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	130	P	40 - 160

Lab Sample ID: 2034451
Field Sample ID: G2SW0067

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	125	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.8	P	30 - 160
EPA 8321B	Diuron-d6	70.3	P	30 - 160
EPA 8321B	Endothall-d6	78.8	P	40 - 160
EPA 8321B	Ibuprofen-d3	66.4	P	30 - 160
EPA 8321B	Primidone-d5	128	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	40 - 160

Lab Sample ID: 2034452
Field Sample ID: G2SW0012

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
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Quality Assurance Report Surrogates

Lab Sample ID: 2034452
Field Sample ID: G2SW0012

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	160	P	30 - 160
EPA 8321B	Acetaminophen-d4	107	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.3	P	30 - 160
EPA 8321B	Diuron-d6	72.7	P	30 - 160
EPA 8321B	Endothall-d6	80.2	P	40 - 160
EPA 8321B	Ibuprofen-d3	73.1	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	123	P	40 - 160

Lab Sample ID: 2034453
Field Sample ID: G1SW0060

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.2	P	30 - 160
EPA 8321B	Diuron-d6	61.0	P	30 - 160
EPA 8321B	Endothall-d6	82.9	P	40 - 160
EPA 8321B	Ibuprofen-d3	50.0	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A87166

Included Lab Sample IDs: 2034431

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A87171

Included Lab Sample IDs: 2034433

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

Reference Method: EPA 8321B

Run ID: A87174

Included Lab Sample IDs: 2034448, 2034449, 2034450, 2034451, 2034452, 2034453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	87.1	83.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A87176

Included Lab Sample IDs: 2034448, 2034449, 2034450, 2034451, 2034452, 2034453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	70.0	69.8	P/P	60 - 160
Acesulfame K	75.3	70.0	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A87201

Included Lab Sample IDs: 2034431

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87213

Included Lab Sample IDs: 2034432

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87323

Included Lab Sample IDs: 2034432

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

Reference Method: SM 2320 B-97

Run ID: A87344

Included Lab Sample IDs: 2034431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.8	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A87344

Included Lab Sample IDs: 2034431

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87357

Included Lab Sample IDs: 2034432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87366

Included Lab Sample IDs: 2034432

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87375

Included Lab Sample IDs: 2034431

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	102	P/P	90 - 110
Sulfate	101	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A87403

Included Lab Sample IDs: 2034432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.5	94.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2034448, 2034449, 2034450, 2034451, 2034452, 2034453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	103	P/P	50 - 150
Acetaminophen	115	130	P/P	60 - 160
Bentazon	117	122	P/P	50 - 160
Carbamazepine	134	139	P/P	60 - 160
Diuron	143	136	P/P	60 - 150
Fenuron	135	133	P/P	60 - 150
Fluridone	124	128	P/P	60 - 160
Hydrocodone	128	142	P/P	60 - 150
Ibuprofen	63.1	64.9	P/P	50 - 160
Imazapyr	113	121	P/P	50 - 150
Imidacloprid	138	121	P/P	60 - 150
Linuron	137	135	P/P	60 - 150
MCPP	108	106	P/P	50 - 150
Naproxen	98.6	121	P/P	50 - 160
Primidone	130	140	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2034448, 2034449, 2034450, 2034451, 2034452, 2034453

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	130	128	P/P	60 - 150
Triclopyr	103	109	P/P	50 - 160

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				6.56	
EPA 300.0 Rev. 2.1	Chloride	103	97.8	101	2.21	
	Sulfate	103	97.2	103	2.76	
EPA 350.1 Rev. 2.0	Ammonia-N	103	101	100		0.516
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	109	101	103		1.13
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	96.5	97.0		0.517
EPA 365.1 Rev. 2.0	Total-P	102	99.8	99.3		0.380
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	96.8	97.5		0.721
EPA 8321B	2,4-D	92.7	126	139		9.52
	Acesulfame K	70.3	105	102		2.99
	Acetaminophen	148	131	140		6.29
	Bentazon	94.1	52.6	60.3		9.84
	Carbamazepine	98.8	80.7	81.8		1.38
	Diuron	101	72.7	71.9		0.794
	Fenuron	139	110	113		2.64
	Fluridone	115	106	110		4.07
	Hydrocodone	131	108	116		6.88
	Ibuprofen	57.2	52.2	65.2		22.2
	Imazapyr	108	148	161		3.26
	Imidacloprid	123	189	182		4.05
	Linuron	86.5	73.3	76.8		4.71
	MCP	88.0	132	137		3.58
	Naproxen	57.6	60.2	71.8		17.6
	Primidone	129	111	110		0.709
	Pyraclostrobin	78.1	88.8	86.8		2.36
	Sucralose	73.1	98.6	84.9		14.6
	Triclopyr	85.3	124	140		12.2
SM 2120 B	Color (true)	102			3.24	
SM 2320 B-97	Total Alkalinity	103			0.195	
SM 2540 C-97	TDS				2.27	
SM 2540 D-97	TSS				3.64	
SM 4500 F-C-97	Fluoride	96.8	102	102		0.0
SM 5310 B-00	Organic Carbon	93.2	95.5	94.0		1.32

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2034431
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2034431
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2034431
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2034432
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2034432
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2034432
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2034432
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2034433
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2034448, 2034449, 2034450, 2034451, 2034452, 2034453

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
SM 2120 B / E31780	True Color measured at 450 nm	2034431
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2034431
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2034431
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2034431
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2034431
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2034432

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	10/19/2018			10/19/2018 15:13	Megan Treadwell	2034431
EPA 300.0 Rev. 2.1	10/19/2018			10/27/2018 07:21	Lipi Saha	2034431
EPA 350.1 Rev. 2.0	10/19/2018			10/29/2018 15:16	Ping Hua	2034432
EPA 351.2 Rev. 2.0	10/19/2018	10/26/2018 10:25	Adrian Shelby	10/29/2018 12:30	Virginia P. Brown	2034432
EPA 353.2 Rev. 2.0	10/19/2018			10/26/2018 12:24	Lauren Bottorf	2034432
EPA 365.1 Rev. 2.0	10/19/2018	10/22/2018 13:00	Sima Feizi	10/23/2018 09:18	Beverly Y. Sanders	2034432
EPA 365.1 Rev. 2.0 dissolved	10/19/2018			10/19/2018 16:54	Julia Storbeck	2034433
EPA 8321B	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 01:33	Mohammad Ghaffari	2034448
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 01:48	Mohammad Ghaffari	2034449
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 02:03	Mohammad Ghaffari	2034450
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 02:17	Mohammad Ghaffari	2034451
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 02:32	Mohammad Ghaffari	2034452
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 02:47	Mohammad Ghaffari	2034453
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 16:15	Mohammad Ghaffari	2034448
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 16:44	Mohammad Ghaffari	2034449
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 16:59	Mohammad Ghaffari	2034450
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 17:14	Mohammad Ghaffari	2034451
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 17:28	Mohammad Ghaffari	2034452
	10/19/2018	10/19/2018 10:27	Rebecca Ware	10/20/2018 17:43	Mohammad Ghaffari	2034453
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 02:33	Juyoung Kim	2034448
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 03:08	Juyoung Kim	2034449
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 03:42	Juyoung Kim	2034450
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 04:17	Juyoung Kim	2034451
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 04:52	Juyoung Kim	2034452
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/24/2018 05:26	Juyoung Kim	2034453
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 19:39	Juyoung Kim	2034448
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 20:14	Juyoung Kim	2034449
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 20:48	Juyoung Kim	2034450
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 21:23	Juyoung Kim	2034451
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 21:57	Juyoung Kim	2034452
	10/19/2018	10/22/2018 10:00	Hoor Shaik	10/25/2018 22:32	Juyoung Kim	2034453
SM 2120 B	10/19/2018			10/19/2018 15:50	Chelsea Hernandez	2034431
SM 2320 B-97	10/19/2018			10/26/2018 06:14	Dale L. Simmons	2034431
SM 2540 C-97	10/19/2018			10/23/2018 15:01	Yijie Li	2034431
SM 2540 D-97	10/19/2018			10/23/2018 15:01	Yijie Li	2034431
SM 4500 F-C-97	10/19/2018			10/26/2018 06:14	Dale L. Simmons	2034431
SM 5310 B-00	10/19/2018			10/30/2018 06:47	Megan Treadwell	2034432