

Chemical Analysis Report

CEN-DIST-2018-09-27-01

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

Event Description: **wekiva west / Gee / Soldier / Howell**

Request ID: **RQ-2018-09-24-50**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

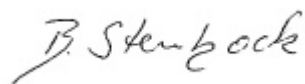
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Date Certified: 22-OCT-2018 13:58



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: LITTLE WEKIVA RIVER (WEST) @ 50M US OF NORTHWESTERN AVE (2978B) **Collection Date/Time: 09/26/2018 10:29**

Field ID: G2CE0099

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2028893	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P352474	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P352728	
		Sulfate	7.2		mg SO4/L	P352729	
	SM 2120 B	Color (true)	49		PCU	P352385	
	SM 2320 B-97	Total Alkalinity	57		mg CaCO3/L	P352908	
	SM 2540 C-97	TDS	120		mg/L	P353178	
	SM 2540 D-97	TSS	3	I	mg/L	P353076	
	SM 4500 F-C-97	Fluoride	0.082	I	mg F/L	P353028	
2028894	EPA 350.1 Rev. 2.0	Ammonia-N	0.057		mg N/L	P353012	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73	J	mg N/L	P352545	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P352699	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P352518	
	SM 5310 B-00	Organic Carbon	9.6		mg C/L	P352976	
2028895	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P352434	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Refer to the narrative for an explanation of QC Codes.

Sample Location: SOLDIER CREEK @ JUST DOWNSTREAM OF SR HWY 419 (2986) **Collection Date/Time: 09/26/2018 11:21**

Field ID: G2CE0162

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2028911	EPA 8321B	2,4-D	0.0020	U	ug/L	P352307	
		Bentazon	0.031		ug/L	P352307	MS
		MCP	0.0020	U	ug/L	P352307	
		Triclopyr**	0.0040	U	ug/L	P352307	
		Imidacloprid	0.050		ug/L	P352307	
		Diuron	0.0020	U	ug/L	P352307	
		Pyraclostrobin**	0.0020	U	ug/L	P352307	
		Primidone**	0.0061	I	ug/L	P352307	
		Linuron	0.0040	U	ug/L	P352307	
		Acetaminophen**	0.0080	U	ug/L	P352307	
		Fenuron	0.016	U	ug/L	P352307	
		Imazapyr**	0.33		ug/L	P352307	
		Carbamazepine**	0.0039		ug/L	P352307	
		Fluridone**	0.014		ug/L	P352307	
		Hydrocodone**	8.0E-04	U	ug/L	P352307	
		Naproxen**	0.0080	U	ug/L	P352307	
		Ibuprofen**	0.020	U	ug/L	P352307	
		Sucralose**	2.2		ug/L	P352431	
		Acesulfame K**	0.10	U	ug/L	P352431	MS

Ref. Method and Comment:

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

Sample Location: SOLDIER CREEK @ 150m UPSTREAM OF SR HWY 419 (2986) **Collection Date/Time: 09/26/2018 11:29**

Field ID: G2CE0071

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2028912	EPA 8321B	2,4-D	0.0022	I	ug/L	P352381	
		Bentazon	0.061		ug/L	P352381	
		MCP	0.0020	U	ug/L	P352381	
		Triclopyr**	0.0040	U	ug/L	P352381	
		Imidacloprid	0.049		ug/L	P352381	MS
		Diuron	0.0020	U	ug/L	P352381	
		Pyraclostrobin**	0.0020	U	ug/L	P352381	
		Primidone**	0.0054	I	ug/L	P352381	
		Linuron	0.0040	U	ug/L	P352381	
		Acetaminophen**	0.0080	U	ug/L	P352381	
		Fenuron	0.016	U	ug/L	P352381	
		Imazapyr**	0.36		ug/L	P352381	
		Carbamazepine**	0.0038		ug/L	P352381	
		Fluridone**	0.013		ug/L	P352381	
		Hydrocodone**	8.0E-04	U	ug/L	P352381	
		Naproxen**	0.0080	U	ug/L	P352381	
		Ibuprofen**	0.020	U	ug/L	P352381	
		Sucralose**	2.3		ug/L	P352431	
		Acesulfame K**	0.10	U	ug/L	P352431	MS

Sample Location: GEE CREEK @ ALTON RD (2994A)

Collection Date/Time: 09/26/2018 11:52

Field ID: G2CE0161

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2028909	EPA 8321B	2,4-D	0.020		ug/L	P352307	
		Bentazon	0.035		ug/L	P352307	MS
		MCP	0.0024	I	ug/L	P352307	
		Triclopyr**	0.0040	U	ug/L	P352307	
		Imidacloprid	0.046		ug/L	P352307	
		Diuron	0.0022	I	ug/L	P352307	
		Pyraclostrobin**	0.0020	U	ug/L	P352307	
		Primidone**	0.0040	U	ug/L	P352307	
		Linuron	0.0040	U	ug/L	P352307	
		Acetaminophen**	0.0080	U	ug/L	P352307	
		Fenuron	0.016	U	ug/L	P352307	
		Imazapyr**	0.069		ug/L	P352307	
		Carbamazepine**	0.0015	I	ug/L	P352307	
		Fluridone**	0.12		ug/L	P352307	
		Hydrocodone**	8.0E-04	U	ug/L	P352307	
		Naproxen**	0.0080	U	ug/L	P352307	
		Ibuprofen**	0.020	U	ug/L	P352307	
		Sucralose**	1.1		ug/L	P352201	
		Acesulfame K**	0.10	U	ug/L	P352201	

Ref. Method and Comment:

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

Sample Location: GEE CREEK @ SR HWY 419 (2994A)

Collection Date/Time: 09/26/2018 12:04

Field ID: G2CE0075

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2028910	EPA 8321B	2,4-D	0.012		ug/L	P352307	
		Bentazon	0.037		ug/L	P352307	MS
		MCP	0.0020	U	ug/L	P352307	
		Triclopyr**	0.0040	U	ug/L	P352307	
		Imidacloprid	0.046		ug/L	P352307	
		Diuron	0.0020	U	ug/L	P352307	
		Pyraclostrobin**	0.0020	U	ug/L	P352307	
		Primidone**	0.0044	I	ug/L	P352307	
		Linuron	0.0040	U	ug/L	P352307	
		Acetaminophen**	0.0080	U	ug/L	P352307	
		Fenuron	0.016	U	ug/L	P352307	
		Imazapyr**	0.073		ug/L	P352307	
		Carbamazepine**	0.0015	I	ug/L	P352307	
		Fluridone**	0.086		ug/L	P352307	
		Hydrocodone**	8.0E-04	U	ug/L	P352307	
		Naproxen**	0.0080	U	ug/L	P352307	
		Ibuprofen**	0.020	U	ug/L	P352307	
		Sucralose**	1.7		ug/L	P352431	
		Acesulfame K**	0.10	U	ug/L	P352431	MS

Ref. Method and Comment:

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352474

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352728

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352729

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353012

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352545

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352699

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352434

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

Reference Method: EPA 8321B
Batch ID: P352201

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P352307

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
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: P352381

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
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: P352431

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

Reference Method: SM 2120 B
Batch ID: P352385

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P352908

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

Reference Method: SM 2540 C-97
Batch ID: P353178

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P353076

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353028

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P352976

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: P352728

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P352729

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P353012

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P352545

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P352699

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: P352518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P352434

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.8		P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P352201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	76.8		P	40 - 150
Sucralose	107		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P352307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.7		P	40 - 150
Acetaminophen	87.4		P	30 - 150
Bentazon	86.5		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P352307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	79.3		P	40 - 150
Diuron	69.4		P	40 - 150
Fenuron	98.8		P	40 - 150
Fluridone	98.5		P	40 - 150
Hydrocodone	105		P	40 - 150
Ibuprofen	99.6		P	40 - 150
Imazapyr	69.5		P	40 - 150
Imidacloprid	86.1		P	40 - 160
Linuron	68.1		P	40 - 150
MCPP	95.8		P	40 - 150
Naproxen	86.1		P	40 - 150
Primidone	84.9		P	40 - 150
Pyraclostrobin	85.1		P	40 - 150
Triclopyr	93.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P352381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	109		P	40 - 150
Acetaminophen	91.8		P	30 - 150
Bentazon	112		P	30 - 150
Carbamazepine	78.4		P	40 - 150
Diuron	73.2		P	40 - 150
Fenuron	107		P	40 - 150
Fluridone	103		P	40 - 150
Hydrocodone	98.8		P	40 - 150
Ibuprofen	98.0		P	40 - 150
Imazapyr	79.7		P	40 - 150
Imidacloprid	96.5		P	40 - 160
Linuron	70.3		P	40 - 150
MCPP	92.9		P	40 - 150
Naproxen	79.5		P	40 - 150
Primidone	85.7		P	40 - 150
Pyraclostrobin	69.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P352431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	66.3		P	40 - 150
Sucralose	110		P	40 - 150

Reference Method: SM 2120 B

Batch ID: P352385

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P352908

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

Reference Method: SM 4500 F-C-97
Batch ID: P353028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P352976

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028746	Chloride	98.7		P	90 - 110
2028861	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028746	Sulfate	95.8		P	90 - 110
2028861	Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028862	Ammonia-N	99.5	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352545

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028894	Kjeldahl Nitrogen	98.4	112	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028841	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028894	Total-P	99.8	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028895	O-Phosphate-P	98.6	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P352201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028139	Acesulfame K	78.4	74.1	P/P	40 - 150
2028139	Sucralose	105	103	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P352307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028285	2,4-D	110	98.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P352307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028285	Acetaminophen	82.1	86.8	P/P	30 - 150
2028285	Bentazon	15.1	15.3	F/F	30 - 150
2028285	Carbamazepine	64.3	67.4	P/P	40 - 150
2028285	Diuron	57.1	56.7	P/P	40 - 150
2028285	Fenuron	88.0	80.5	P/P	40 - 150
2028285	Fluridone	101	108	P/P	40 - 150
2028285	Hydrocodone	112	112	P/P	40 - 150
2028285	Ibuprofen	77.7	74.8	P/P	40 - 150
2028285	Linuron	56.4	61.6	P/P	40 - 150
2028285	MCP	116	111	P/P	40 - 150
2028285	Naproxen	74.9	76.6	P/P	40 - 150
2028285	Primidone	97.6	92.3	P/P	40 - 150
2028285	Pyraclostrobin	87.1	81.0	P/P	40 - 150
2028285	Triclopyr	118	109	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P352381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2029419	2,4-D	118	129	P/P	40 - 150
2029419	Acetaminophen	91.2	84.5	P/P	30 - 150
2029419	Bentazon	54.6	61.3	P/P	30 - 150
2029419	Carbamazepine	66.8	60.6	P/P	40 - 150
2029419	Diuron	56.3	55.2	P/P	40 - 150
2029419	Fenuron	86.6	86.9	P/P	40 - 150
2029419	Fluridone	97.3	93.0	P/P	40 - 150
2029419	Hydrocodone	79.5	84.7	P/P	40 - 150
2029419	Ibuprofen	70.3	72.4	P/P	40 - 150
2029419	Imazapyr	110	101	P/P	40 - 150
2029419	Imidacloprid	166	155	F/P	40 - 160
2029419	Linuron	62.9	58.6	P/P	40 - 150
2029419	MCP	123	138	P/P	40 - 150
2029419	Naproxen	99.0	110	P/P	40 - 150
2029419	Primidone	90.1	81.1	P/P	40 - 150
2029419	Pyraclostrobin	75.8	67.3	P/P	40 - 150
2029419	Triclopyr	134	150	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P352431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2029419	Acesulfame K	37.8	38.5	F/F	40 - 150
2029419	Sucralose	113	117	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028976	Fluoride	98.3	98.3	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P352976

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2028840	Organic Carbon	98.0	97.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2029319	Turbidity	5.14	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028746	Chloride	0.204	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028746	Sulfate	1.54	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028862	Ammonia-N	0.792	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352545

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028894	Kjeldahl Nitrogen	8.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028841	NO2NO3-N	0.442	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028894	Total-P	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P352434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028895	O-Phosphate-P	0.719	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P352201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028139	Acesulfame K	5.58	Spike	P	0 - 30
2028139	Sucralose	1.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P352307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028285	2,4-D	9.06	Spike	P	0 - 30
2028285	Acetaminophen	5.53	Spike	P	0 - 30
2028285	Bentazon	6.07	Spike	P	0 - 30
2028285	Carbamazepine	4.48	Spike	P	0 - 30
2028285	Diuron	0.802	Spike	P	0 - 30
2028285	Fenuron	8.83	Spike	P	0 - 30
2028285	Fluridone	6.68	Spike	P	0 - 30
2028285	Hydrocodone	0.739	Spike	P	0 - 30
2028285	Ibuprofen	3.82	Spike	P	0 - 30
2028285	Imazapyr	3.58	Spike	P	0 - 30
2028285	Imidacloprid	5.21	Spike	P	0 - 30
2028285	Linuron	8.86	Spike	P	0 - 30
2028285	MCP	4.36	Spike	P	0 - 30
2028285	Naproxen	2.35	Spike	P	0 - 30
2028285	Primidone	5.08	Spike	P	0 - 30
2028285	Pyraclostrobin	7.29	Spike	P	0 - 30
2028285	Triclopyr	7.62	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P352381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2029419	2,4-D	8.91	Spike	P	0 - 30
2029419	Acetaminophen	7.58	Spike	P	0 - 30
2029419	Bentazon	11.7	Spike	P	0 - 30
2029419	Carbamazepine	9.65	Spike	P	0 - 30
2029419	Diuron	1.86	Spike	P	0 - 30
2029419	Fenuron	0.438	Spike	P	0 - 30
2029419	Fluridone	4.49	Spike	P	0 - 30
2029419	Hydrocodone	6.30	Spike	P	0 - 30
2029419	Ibuprofen	3.00	Spike	P	0 - 30
2029419	Imazapyr	8.68	Spike	P	0 - 30
2029419	Imidacloprid	6.59	Spike	P	0 - 30
2029419	Linuron	7.18	Spike	P	0 - 30
2029419	MCP	11.6	Spike	P	0 - 30
2029419	Naproxen	10.8	Spike	P	0 - 30
2029419	Primidone	10.5	Spike	P	0 - 30
2029419	Pyraclostrobin	11.9	Spike	P	0 - 30
2029419	Triclopyr	11.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P352431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2029419	Acesulfame K	1.96	Spike	P	0 - 30
2029419	Sucralose	3.68	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P352385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028871	Color (true)	2.77	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P352908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028976	Total Alkalinity	1.36	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P353178

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028976	TDS	1.92	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P353028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028976	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P352976

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2028840	Organic Carbon	0.160	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: 2028909
Field Sample ID: G2CE0161

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	93.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.0	P	30 - 160
EPA 8321B	Diuron-d6	59.8	P	30 - 160
EPA 8321B	Endothall-d6	103	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.4	P	30 - 160
EPA 8321B	Primidone-d5	92.1	P	30 - 160
EPA 8321B	Sucralose-d6	120	P	40 - 160

Lab Sample ID: 2028910
Field Sample ID: G2CE0075

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	87.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.3	P	30 - 160
EPA 8321B	Diuron-d6	52.6	P	30 - 160
EPA 8321B	Endothall-d6	119	P	40 - 160
EPA 8321B	Ibuprofen-d3	60.1	P	30 - 160
EPA 8321B	Primidone-d5	79.3	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2028911
Field Sample ID: G2CE0162

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.9	P	30 - 160
EPA 8321B	Diuron-d6	58.1	P	30 - 160
EPA 8321B	Endothall-d6	119	P	40 - 160
EPA 8321B	Ibuprofen-d3	84.1	P	30 - 160
EPA 8321B	Primidone-d5	87.5	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160

Lab Sample ID: 2028912
Field Sample ID: G2CE0071

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	107	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.2	P	30 - 160
EPA 8321B	Diuron-d6	57.6	P	30 - 160
EPA 8321B	Endothall-d6	123	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.7	P	30 - 160
EPA 8321B	Primidone-d5	86.5	P	30 - 160
EPA 8321B	Sucralose-d6	130	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A86754

Included Lab Sample IDs: 2028893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	99.2	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86767

Included Lab Sample IDs: 2028895

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86787

Included Lab Sample IDs: 2028893

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

Reference Method: EPA 8321B

Run ID: A86795

Included Lab Sample IDs: 2028909, 2028910, 2028911, 2028912

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	111	P/P	60 - 160
Sucralose	110	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86798

Included Lab Sample IDs: 2028909, 2028910, 2028911, 2028912

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	69.9	70.6	P/P	60 - 160
Acesulfame K	70.6	67.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86818

Included Lab Sample IDs: 2028909, 2028910, 2028911

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	82.7	P/P	50 - 150
Bentazon	98.8	86.0	P/P	50 - 160
Ibuprofen	109	111	P/P	50 - 160
MCP	97.0	77.4	P/P	50 - 150
Naproxen	93.6	73.7	P/P	50 - 160
Triclopyr	96.5	69.1	P/P	50 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86839

Included Lab Sample IDs: 2028893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	101	P/P	90 - 110
Sulfate	101	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86852

Included Lab Sample IDs: 2028894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86890

Included Lab Sample IDs: 2028894

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

Reference Method: EPA 8321B

Run ID: A86931

Included Lab Sample IDs: 2028909, 2028910, 2028911, 2028912

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	85.5	P/P	50 - 150
Acetaminophen	88.7	93.5	P/P	60 - 160
Acetaminophen	97.6	96.3	P/P	60 - 160
Bentazon	134	139	P/P	50 - 160
Carbamazepine	101	104	P/P	60 - 160
Carbamazepine	99.6	103	P/P	60 - 160
Diuron	109	109	P/P	60 - 150
Diuron	112	107	P/P	60 - 150
Fenuron	101	110	P/P	60 - 150
Fenuron	114	118	P/P	60 - 150
Fluridone	112	119	P/P	60 - 160
Fluridone	118	119	P/P	60 - 160
Hydrocodone	103	107	P/P	60 - 150
Hydrocodone	114	118	P/P	60 - 150
Ibuprofen	146	113	P/P	50 - 160
Imazapyr	74.6	106	P/P	50 - 150
Imazapyr	95.0	91.7	P/P	50 - 150
Imidacloprid	95.9	93.6	P/P	60 - 150
Imidacloprid	96.3	106	P/P	60 - 150
Linuron	106	96.5	P/P	60 - 150
Linuron	107	105	P/P	60 - 150
MCPP	90.0	86.4	P/P	50 - 150
Naproxen	75.2	83.7	P/P	50 - 160
Primidone	101	94.1	P/P	60 - 150
Primidone	118	81.7	P/P	60 - 150
Pyraclostrobin	102	103	P/P	60 - 150
Pyraclostrobin	108	106	P/P	60 - 150
Triclopyr	103	108	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86944

Included Lab Sample IDs: 2028894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	99.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A86962
Included Lab Sample IDs: 2028893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A86991
Included Lab Sample IDs: 2028894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.4	95.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A87010
Included Lab Sample IDs: 2028894

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A87013
Included Lab Sample IDs: 2028893

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	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					5.14	
EPA 300.0 Rev. 2.1	Chloride	102	98.7	102		0.204	
	Sulfate	98.2	95.8	97.5		1.54	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	99.5	98.6			0.792
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	98.4	112			8.48
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.0	101	102			0.442
EPA 365.1 Rev. 2.0	Total-P	103	99.8	102			1.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	98.6	99.5			0.719
EPA 8321B	2,4-D	96.7	98.3	110			9.06
	2,4-D	109	118	129			8.91
	Acesulfame K	76.8	78.4	74.1			5.58
	Acesulfame K	66.3	37.8	38.5			1.96
	Acetaminophen	87.4	82.1	86.8			5.53
	Acetaminophen	91.8	91.2	84.5			7.58
	Bentazon	86.5	15.1	15.3			6.07
	Bentazon	112	54.6	61.3			11.7
	Carbamazepine	79.3	64.3	67.4			4.48
	Carbamazepine	78.4	66.8	60.6			9.65
	Diuron	69.4	57.1	56.7			0.802
	Diuron	73.2	56.3	55.2			1.86
	Fenuron	98.8	88.0	80.5			8.83
	Fenuron	107	86.6	86.9			0.438
	Fluridone	98.5	101	108			6.68
	Fluridone	103	97.3	93.0			4.49
	Hydrocodone	105	112	112			0.739
	Hydrocodone	98.8	79.5	84.7			6.30
	Ibuprofen	99.6	74.8	77.7			3.82
	Ibuprofen	98.0	70.3	72.4			3.00
	Imazapyr	69.5					3.58
	Imazapyr	79.7	110	101			8.68
	Imidacloprid	86.1					5.21
	Imidacloprid	96.5	166	155			6.59
	Linuron	68.1	56.4	61.6			8.86
	Linuron	70.3	62.9	58.6			7.18
	MCPP	95.8	111	116			4.36
	MCPP	92.9	123	138			11.6
	Naproxen	86.1	76.6	74.9			2.35
	Naproxen	79.5	99.0	110			10.8
	Primidone	84.9	97.6	92.3			5.08
	Primidone	85.7	90.1	81.1			10.5
	Pyraclostrobin	85.1	87.1	81.0			7.29
	Pyraclostrobin	69.7	75.8	67.3			11.9
	Sucralose	107	105	103			1.19
	Sucralose	110	113	117			3.68
	Triclopyr	93.6	109	118			7.62
	Triclopyr	105	134	150			11.0
SM 2120 B	Color (true)	100				2.77	
SM 2320 B-97	Total Alkalinity	103				1.36	
SM 2540 C-97	TDS					1.92	
SM 4500 F-C-97	Fluoride	99.4	98.3	98.3			0.0
SM 5310 B-00	Organic Carbon	97.9	98.0	97.8			0.160

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2028893
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2028893
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2028893
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2028894
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2028894
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2028894
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2028894
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2028895
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2028909, 2028910, 2028911, 2028912
SM 2120 B / E31780	True Color measured at 450 nm	2028893
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2028893
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2028893
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2028893
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2028893
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2028894

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/27/2018			09/27/2018 15:54	Megan Treadwell	2028893
EPA 300.0 Rev. 2.1	09/27/2018			10/03/2018 20:15	Lipi Saha	2028893
EPA 350.1 Rev. 2.0	09/27/2018			10/03/2018 12:27	Ping Hua	2028894
EPA 351.2 Rev. 2.0	09/27/2018	10/01/2018 11:45	Adrian Shelby	10/05/2018 12:34	Joseph Suarez	2028894
EPA 353.2 Rev. 2.0	09/27/2018			10/03/2018 12:14	Lauren Bottorf	2028894
EPA 365.1 Rev. 2.0	09/27/2018	10/01/2018 12:40	Sima Feizi	10/02/2018 09:16	Beverly Y. Sanders	2028894
EPA 365.1 Rev. 2.0 dissolved	09/27/2018			09/27/2018 15:21	Julia Storbeck	2028895
EPA 8321B	09/27/2018	09/28/2018 08:30	Mohammad Ghaffari	09/28/2018 20:24	Mohammad Ghaffari	2028909
	09/27/2018	09/28/2018 08:30	Mohammad Ghaffari	09/29/2018 21:52	Mohammad Ghaffari	2028909
	09/27/2018	09/28/2018 09:00	Hoor Shaik	09/30/2018 00:02	Juyoung Kim	2028909
	09/27/2018	09/28/2018 09:00	Hoor Shaik	09/30/2018 00:37	Juyoung Kim	2028910
	09/27/2018	09/28/2018 09:00	Hoor Shaik	09/30/2018 01:12	Juyoung Kim	2028911
	09/27/2018	09/28/2018 09:00	Hoor Shaik	10/04/2018 03:02	Juyoung Kim	2028909
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	09/27/2018	09/28/2018 16:00	Mohammad Ghaffari	09/28/2018 22:07	Mohammad Ghaffari	2028910
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	09/27/2018	09/28/2018 16:00	Mohammad Ghaffari	09/29/2018 23:35	Mohammad Ghaffari	2028910
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	09/27/2018	09/28/2018 16:00	Mohammad Ghaffari	09/30/2018 00:04	Mohammad Ghaffari	2028912
	09/27/2018	10/03/2018 08:30	Hoor Shaik	10/04/2018 14:00	Juyoung Kim	2028912
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SM 2120 B	09/27/2018			09/27/2018 14:32	DeAsia Armster	2028893
SM 2320 B-97	09/27/2018			10/08/2018 04:12	Dale L. Simmons	2028893
SM 2540 C-97	09/27/2018			10/01/2018 11:35	DeAsia Armster	2028893
SM 2540 D-97	09/27/2018			10/01/2018 11:35	DeAsia Armster	2028893
SM 4500 F-C-97	09/27/2018			10/09/2018 15:47	Dale L. Simmons	2028893
SM 5310 B-00	09/27/2018			10/04/2018 08:25	Megan Treadwell	2028894