

Chemical Analysis Report

SE-DIST-2018-10-24-02

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

Event Description: **SMP- Loxah**
Request ID: **RQ-2018-10-22-17**
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: Matthew Sewell

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 19-NOV-2018 10:24



NON-CONFORMANCE REPORT INCLUDED

Case Narrative

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

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

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

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

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: ROEBUCK CREEK @ LOCKS RD.

Collection Date/Time: 10/23/2018 14:00

Field ID: G2SE0029

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035332	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P353757	
	SM 2320 B-97	Total Alkalinity	247		mg CaCO3/L	P353897	
	SM 2540 D-97	TSS	3	I	mg/L	P354022	
	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P353902	
2035334	EPA 350.1 Rev. 2.0	Ammonia-N	0.056		mg N/L	P353949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P354012	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P353774	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P353663	
	SM 5310 B-00	Organic Carbon	7.8		mg C/L	P353794	
2035336	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.32		mg P/L	P353641	
2035369	EPA 8321B	2,4-D	0.0020	U	ug/L	P353529	
		Bentazon	0.033		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.0020	U	ug/L	P353529	MS
		Diuron	0.0020	U	ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.16		ug/L	P353529	
		Carbamazepine**	9.4E-04	I	ug/L	P353529	
		Fluridone**	7.8E-04	I	ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.70		ug/L	P353544	
		Acesulfame K**	1.4		ug/L	P353544	
2035394	EPA 200.7 Rev. 4.4	Iron	400		ug/L	P353655	
		Zinc	5.0	U	ug/L	P353655	
	EPA 200.8 Rev. 5.4	Arsenic	0.76		ug/L	P353655	
		Cadmium	0.020	U	ug/L	P353655	
		Chromium	0.40	U	ug/L	P353655	
		Copper	0.20	U	ug/L	P353655	
		Lead	0.050	U	ug/L	P353655	
		Nickel	0.20	U	ug/L	P353655	
		Silver	0.010	U	ug/L	P353655	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: ROEBUCK CREEK @ MOUTH

Collection Date/Time: 10/23/2018 14:15

Field ID: G2SE0005

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035333	EPA 180.1 Rev. 2.0	Turbidity	9.1	A	NTU	P353757	
	SM 2320 B-97	Total Alkalinity	148		mg CaCO3/L	P353897	
	SM 2540 D-97	TSS	9	I	mg/L	P354022	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P353902	
2035335	EPA 350.1 Rev. 2.0	Ammonia-N	0.038		mg N/L	P353949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P354012	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P353774	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P353663	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P353794	
2035337	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P353641	
2035370	EPA 8321B	2,4-D	0.024		ug/L	P353529	
		Bentazon	0.014		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.0034	I	ug/L	P353529	MS
		Diuron	0.0020	U	ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.045		ug/L	P353529	
		Carbamazepine**	8.0E-04	U	ug/L	P353529	
		Fluridone**	0.0071		ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.13		ug/L	P353544	
		Acesulfame K**	0.10	U	ug/L	P353544	
2035395	EPA 200.7 Rev. 4.4	Iron	340		ug/L	P353655	
		Zinc	5.0	U	ug/L	P353655	
	EPA 200.8 Rev. 5.4	Arsenic	1.89		ug/L	P353655	
		Cadmium	0.020	U	ug/L	P353655	
		Chromium	0.52	I	ug/L	P353655	
		Copper	1.88		ug/L	P353655	
		Lead	0.26		ug/L	P353655	
		Nickel	0.41	I	ug/L	P353655	
		Silver	0.010	U	ug/L	P353655	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: C-17 @ 45TH

Collection Date/Time: 10/23/2018 10:45

Field ID: G3SE0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035347	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P353757	
	EPA 300.0 Rev. 2.1	Chloride	43		mg Cl/L	P353866	
		Sulfate	13		mg SO4/L	P353868	
		Color (true)	38		PCU	P353617	
	SM 2320 B-97	Total Alkalinity	143		mg CaCO3/L	P353897	
	SM 2540 C-97	TDS	248		mg/L	P354123	
	SM 2540 D-97	TSS	7	I	mg/L	P354019	
	SM 4500 F-C-97	Fluoride	0.091	I	mg F/L	P353902	
2035348	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P353949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P354012	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P353774	
	EPA 365.1 Rev. 2.0	Total-P	0.082		mg P/L	P353663	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P353794	
2035349	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P353641	
2035396	EPA 200.7 Rev. 4.4	Calcium	61.7		mg/L	P353655	
		Iron	330		ug/L	P353655	
		Magnesium	4.32		mg/L	P353655	
		Potassium	3.6		mg/L	P353655	
		Sodium	28.5		mg/L	P353655	
		Zinc	5.0	U	ug/L	P353655	
	EPA 200.8 Rev. 5.4	Arsenic	2.35		ug/L	P353655	
		Cadmium	0.020	U	ug/L	P353655	
		Chromium	0.57	I	ug/L	P353655	
		Copper	1.40		ug/L	P353655	
		Lead	0.40		ug/L	P353655	
		Nickel	0.34	I	ug/L	P353655	
		Silver	0.010	U	ug/L	P353655	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: TIDAL CREEK TO LOX

Collection Date/Time: 10/23/2018 11:25

Field ID: G2SE0027

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035344	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P353757	
	SM 2320 B-97	Total Alkalinity	133		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	12		mg/L	P354026	
	SM 4500 F-C-97	Fluoride	1.0		mg F/L	P354100	
2035345	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P353912	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P353828	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P353755	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P353996	
2035346	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P353649	
2035371	EPA 8321B	2,4-D	0.0034	I	ug/L	P353529	
		Bentazon	0.011		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.0020	U	ug/L	P353529	MS
		Diuron	0.0020	U	ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.048		ug/L	P353529	
		Carbamazepine**	8.0E-04	U	ug/L	P353529	
		Fluridone**	0.0034		ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.021	I	ug/L	P353544	
		Acesulfame K**	0.10	U	ug/L	P353544	

Ref. Method and Comment:

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

Sample Location: NF LOX @ COUNTY LINE

Collection Date/Time: 10/23/2018 12:30

Field ID: G2SE0021

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035338	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P353757	
	SM 2320 B-97	Total Alkalinity	133		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	10		mg/L	P354026	
	SM 4500 F-C-97	Fluoride	0.90		mg F/L	P354100	
2035340	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P353911	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P353831	
	EPA 365.1 Rev. 2.0	Total-P	0.042		mg P/L	P353667	
	SM 5310 B-00	Organic Carbon	7.0		mg C/L	P353996	
2035342	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P353648	

Ref. Method and Comment:

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

Sample Location: NF LOX @ GIRL SCOUT BOAT RAMP

Collection Date/Time: 10/23/2018 13:00

Field ID: G2SE0036

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035339	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P353757	
	SM 2320 B-97	Total Alkalinity	135		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	11		mg/L	P354026	
	SM 4500 F-C-97	Fluoride	0.80		mg F/L	P354100	
2035341	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	IY	mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63	Y	mg N/L	P353912	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	UY	mg N/L	P353831	
	EPA 365.1 Rev. 2.0	Total-P	0.042	Y	mg P/L	P353667	
	SM 5310 B-00	Organic Carbon	8.2	Y	mg C/L	P353996	
2035343	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P353649	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-00: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Non-Conformance Report

NCR ID: 7266

Event(s)

SE-DIST-2018-10-24-02

Job(s)

TLH-2018-10-24-37

Sample(s)

2035341

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with sulfuric acid on 10-24-18 at 12:20

H2SO4:SA8085170 | EXP:03/26/2019

Authorized by/Date: Joshua Ayres 11/1/2018

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353757

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353655

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353655

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353866

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353868

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353912

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354012

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353831

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353755

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353649

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

Reference Method: EPA 8321B
Batch ID: P353529

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: P353544

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

Reference Method: SM 2120 B
Batch ID: P353617

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P353897

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

Reference Method: SM 2320 B-97
Batch ID: P354097

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

Reference Method: SM 2540 C-97
Batch ID: P354123

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354019

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354022

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354026

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P353794

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P353996

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	105		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	99.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.9		P	85 - 115
Cadmium	96.3		P	85 - 115
Chromium	97.3		P	85 - 115
Copper	99.0		P	85 - 115
Lead	93.1		P	85 - 115
Nickel	99.5		P	85 - 115
Silver	96.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353866

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353912

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354012

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

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: P353831

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353755

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.3		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353649

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

Reference Method: EPA 8321B
Batch ID: P353529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.6		P	40 - 150
Acetaminophen	143		P	30 - 150
Bentazon	73.3		P	30 - 150
Carbamazepine	97.0		P	40 - 150
Diuron	93.3		P	40 - 150
Fenuron	133		P	40 - 150
Fluridone	116		P	40 - 150
Hydrocodone	130		P	40 - 150
Ibuprofen	41.3		P	40 - 150
Imazapyr	110		P	40 - 150
Imidacloprid	137		P	40 - 160
Linuron	87.2		P	40 - 150
MCPP	97.5		P	40 - 150
Naproxen	92.8		P	40 - 150
Primidone	130		P	40 - 150
Pyraclostrobin	93.1		P	40 - 150
Triclopyr	99.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	84.0		P	40 - 150
Sucralose	83.5		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P353617

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

Reference Method: SM 2320 B-97
Batch ID: P353897

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P354097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P353996

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034830	Calcium	104		P	80 - 120
2034830	Iron	106	104	P/P	80 - 120
2034830	Magnesium	107	104	P/P	80 - 120
2034830	Potassium	105	103	P/P	80 - 120
2034830	Sodium	105		P	80 - 120
2034830	Zinc	102	100	P/P	80 - 120
2035504	Calcium	102		P	80 - 120
2035504	Iron	105		P	80 - 120
2035504	Magnesium	107		P	80 - 120
2035504	Potassium	105		P	80 - 120
2035504	Sodium	109		P	80 - 120
2035504	Zinc	101		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034830	Arsenic	102	100	P/P	80 - 120
2034830	Cadmium	99.2	97.9	P/P	80 - 120
2034830	Chromium	98.6	96.6	P/P	80 - 120
2034830	Copper	99.6	98.3	P/P	80 - 120
2034830	Lead	95.7	94.8	P/P	80 - 120
2034830	Nickel	99.0	97.0	P/P	80 - 120
2034830	Silver	96.3	96.0	P/P	80 - 120
2035504	Arsenic	101		P	80 - 120
2035504	Cadmium	101		P	80 - 120
2035504	Chromium	99.5		P	80 - 120
2035504	Copper	102		P	80 - 120
2035504	Lead	97.2		P	80 - 120
2035504	Nickel	99.5		P	80 - 120
2035504	Silver	97.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353866

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034762	Chloride	104	103	P/P	90 - 110
2035091	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034762	Sulfate	102	102	P/P	90 - 110
2035091	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035092	Ammonia-N	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035303	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035305	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353912

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035413	Kjeldahl Nitrogen	98.9	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035411	Kjeldahl Nitrogen	103	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035334	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035261	NO2NO3-N	99.0	98.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353831

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2036144	NO2NO3-N	95.7	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035340	Total-P	92.2	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353755

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035345	Total-P	94.0	92.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035093	O-Phosphate-P	96.7	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035069	O-Phosphate-P	97.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353649

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035343	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P353529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035512	2,4-D	139	120	P/P	40 - 150
2035512	Acetaminophen	126	135	P/P	30 - 150
2035512	Bentazon	95.7	68.5	P/P	30 - 150
2035512	Carbamazepine	74.4	74.6	P/P	40 - 150
2035512	Diuron	65.9	65.5	P/P	40 - 150
2035512	Fenuron	114	115	P/P	40 - 150
2035512	Fluridone	105	107	P/P	40 - 150
2035512	Hydrocodone	119	123	P/P	40 - 150
2035512	Ibuprofen	44.5	41.7	P/P	40 - 150
2035512	Imazapyr	101	110	P/P	40 - 150
2035512	Imidacloprid	200	187	F/F	40 - 160
2035512	Linuron	68.7	67.9	P/P	40 - 150
2035512	MCPP	136	134	P/P	40 - 150
2035512	Naproxen	103	102	P/P	40 - 150
2035512	Primidone	121	118	P/P	40 - 150
2035512	Pyraclostrobin	85.2	81.1	P/P	40 - 150
2035512	Triclopyr	165	132	F/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034746	Acesulfame K	104	99.7	P/P	40 - 150
2034746	Sucralose	81.8	78.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034796	Fluoride	101	100	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035932	Fluoride	97.5	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035305	Organic Carbon	95.2	95.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P353996

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035340	Organic Carbon	97.8	97.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035333	Turbidity	0.220	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P353655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034830	Calcium	2.34	Spike	P	0 - 20
2034830	Iron	2.41	Spike	P	0 - 20
2034830	Magnesium	2.09	Spike	P	0 - 20
2034830	Potassium	1.74	Spike	P	0 - 20
2034830	Sodium	1.76	Spike	P	0 - 20
2034830	Zinc	2.39	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P353655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034830	Arsenic	1.63	Spike	P	0 - 20
2034830	Cadmium	1.34	Spike	P	0 - 20
2034830	Chromium	2.01	Spike	P	0 - 20
2034830	Copper	1.23	Spike	P	0 - 20
2034830	Lead	0.874	Spike	P	0 - 20
2034830	Nickel	2.12	Spike	P	0 - 20
2034830	Silver	0.283	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353866

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034762	Chloride	0.529	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P353868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034762	Sulfate	0.0954	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035092	Ammonia-N	0.820	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035303	Ammonia-N	0.320	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035305	Kjeldahl Nitrogen	0.854	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353912

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035413	Kjeldahl Nitrogen	1.12	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P354012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035411	Kjeldahl Nitrogen	1.09	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035334	NO2NO3-N	0.325	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035261	NO2NO3-N	0.448	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353831

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2036144	NO2NO3-N	0.521	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035334	Total-P	0.665	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035340	Total-P	2.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353755

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035345	Total-P	2.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035093	O-Phosphate-P	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035069	O-Phosphate-P	2.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353649

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035343	O-Phosphate-P	0.691	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P353529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035512	2,4-D	10.4	Spike	P	0 - 30
2035512	Acetaminophen	7.33	Spike	P	0 - 30
2035512	Bentazon	19.9	Spike	P	0 - 30
2035512	Carbamazepine	0.268	Spike	P	0 - 30
2035512	Diuron	0.333	Spike	P	0 - 30
2035512	Fenuron	0.665	Spike	P	0 - 30
2035512	Fluridone	2.37	Spike	P	0 - 30
2035512	Hydrocodone	3.02	Spike	P	0 - 30
2035512	Ibuprofen	6.51	Spike	P	0 - 30
2035512	Imazapyr	5.27	Spike	P	0 - 30
2035512	Imidacloprid	5.73	Spike	P	0 - 30
2035512	Linuron	1.21	Spike	P	0 - 30
2035512	MCP	1.79	Spike	P	0 - 30
2035512	Naproxen	0.735	Spike	P	0 - 30
2035512	Primidone	2.34	Spike	P	0 - 30
2035512	Pyraclostrobin	4.90	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P353529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035512	Triclopyr	22.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034746	Acesulfame K	3.97	Spike	P	0 - 30
2034746	Sucralose	3.21	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P353617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035187	Color (true)	1.21	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P353897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034796	Total Alkalinity	0.312	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P354097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035932	Total Alkalinity	0.133	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P354123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034796	TDS	4.00	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034796	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035932	Fluoride	0.470	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P353794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035305	Organic Carbon	0.231	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P353996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035340	Organic Carbon	0.174	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: 2035369
Field Sample ID: G2SE0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	127	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.1	P	30 - 160
EPA 8321B	Diuron-d6	69.9	P	30 - 160
EPA 8321B	Endothall-d6	104	P	40 - 160
EPA 8321B	Ibuprofen-d3	95.9	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	40 - 160

Lab Sample ID: 2035370
Field Sample ID: G2SE0005

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	128	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.4	P	30 - 160
EPA 8321B	Diuron-d6	66.8	P	30 - 160
EPA 8321B	Endothall-d6	93.4	P	40 - 160
EPA 8321B	Ibuprofen-d3	102	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	40 - 160

Lab Sample ID: 2035371
Field Sample ID: G2SE0027

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.3	P	30 - 160
EPA 8321B	Diuron-d6	73.3	P	30 - 160
EPA 8321B	Endothall-d6	68.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	82.6	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A87259
Included Lab Sample IDs: 2035347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	102	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A87273
Included Lab Sample IDs: 2035336, 2035337, 2035342, 2035343, 2035346, 2035349

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.8	P/P	90 - 110
O-Phosphate-P	99.4	99.0	P/P	90 - 110
O-Phosphate-P	99.4	99.4	P/P	90 - 110
O-Phosphate-P	99.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87310
Included Lab Sample IDs: 2035334, 2035335, 2035348

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A87319
Included Lab Sample IDs: 2035340, 2035341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A87320
Included Lab Sample IDs: 2035332, 2035333, 2035338, 2035339, 2035344, 2035347

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A87323
Included Lab Sample IDs: 2035334, 2035335, 2035348

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

Reference Method: EPA 8321B
Run ID: A87330
Included Lab Sample IDs: 2035369, 2035370, 2035371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	72.1	75.4	P/P	60 - 160
Sucralose	75.4	77.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A87335

Included Lab Sample IDs: 2035334, 2035335, 2035348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87354

Included Lab Sample IDs: 2035340, 2035341, 2035345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.0	P/P	90 - 110
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87361

Included Lab Sample IDs: 2035345

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A87368

Included Lab Sample IDs: 2035347

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

Reference Method: EPA 8321B

Run ID: A87369

Included Lab Sample IDs: 2035369, 2035370, 2035371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	61.7	60.8	P/P	60 - 160
Acesulfame K	88.1	61.7	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A87382

Included Lab Sample IDs: 2035332, 2035333, 2035347

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

Reference Method: SM 4500 F-C-97

Run ID: A87382

Included Lab Sample IDs: 2035332, 2035333, 2035347

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A87399

Included Lab Sample IDs: 2035394, 2035395, 2035396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	104	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Magnesium	100	102	P/P	90 - 110
Potassium	102	105	P/P	90 - 110
Sodium	105	107	P/P	90 - 110
Zinc	98.5	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A87400

Included Lab Sample IDs: 2035394, 2035395, 2035396

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.5	98.3	P/P	90 - 110
Cadmium	97.6	98.1	P/P	90 - 110
Chromium	99.1	100	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	95.8	96.4	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Silver	95.2	95.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87407

Included Lab Sample IDs: 2035334, 2035335, 2035348

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87414

Included Lab Sample IDs: 2035340, 2035341, 2035345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	108	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A87420

Included Lab Sample IDs: 2035340, 2035341, 2035345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2035369, 2035370, 2035371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	108	P/P	50 - 150
Acetaminophen	112	130	P/P	60 - 160
Bentazon	106	105	P/P	50 - 160
Carbamazepine	132	127	P/P	60 - 160
Diuron	139	111	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2035369, 2035370, 2035371

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	104	109	P/P	60 - 150
Fluridone	116	126	P/P	60 - 160
Hydrocodone	131	127	P/P	60 - 150
Ibuprofen	75.9	79.5	P/P	50 - 160
Imazapyr	94.0	100	P/P	50 - 150
Imidacloprid	133	129	P/P	60 - 160
Linuron	130	112	P/P	60 - 150
MCPP	103	100	P/P	50 - 150
Naproxen	110	112	P/P	50 - 160
Primidone	114	111	P/P	60 - 160
Pyraclostrobin	126	124	P/P	60 - 150
Triclopyr	98.9	108	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87446

Included Lab Sample IDs: 2035334, 2035335, 2035348

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	103	96.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87465

Included Lab Sample IDs: 2035340, 2035341, 2035345

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A87470

Included Lab Sample IDs: 2035338, 2035339, 2035344

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

Reference Method: SM 4500 F-C-97

Run ID: A87470

Included Lab Sample IDs: 2035338, 2035339, 2035344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	99.5	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.220	
EPA 200.7 Rev. 4.4	Calcium	103	104	102				2.34
	Iron	105	106	104	105			2.41
	Magnesium	107	107	104	107			2.09
	Potassium	102	105	103	105			1.74
	Sodium	103	105	109				1.76
	Zinc	99.2	102	100	101			2.39
EPA 200.8 Rev. 5.4	Arsenic	99.9	102	100	101			1.63
	Cadmium	96.3	99.2	97.9	101			1.34
	Chromium	97.3	98.6	96.6	99.5			2.01
	Copper	99.0	99.6	98.3	102			1.23
	Lead	93.1	95.7	94.8	97.2			0.874
	Nickel	99.5	99.0	97.0	99.5			2.12
	Silver	96.0	96.3	96.0	97.6			0.283
EPA 300.0 Rev. 2.1	Chloride	100	104	103	98.7			0.529
	Sulfate	99.4	102	102	98.9			0.0954
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	102				0.820
	Ammonia-N	102	102	101				0.320
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.8	101	102				0.854
	Kjeldahl Nitrogen	103	98.9	100				1.12
	Kjeldahl Nitrogen	98.2	103	102				1.09
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	100				0.325
	NO2NO3-N	102	99.0	98.4				0.448
	NO2NO3-N	101	95.7	96.2				0.521
EPA 365.1 Rev. 2.0	Total-P	103						0.665
	Total-P	102	92.2	94.3				2.10
	Total-P	99.3	94.0	92.0				2.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.3	96.7	97.8				1.13
	O-Phosphate-P	103	97.7	100				2.43
	O-Phosphate-P	100	101	102				0.691
EPA 8321B	2,4-D	90.6	139	120				10.4
	Acesulfame K	84.0	104	99.7				3.97
	Acetaminophen	143	126	135				7.33
	Bentazon	73.3	95.7	68.5				19.9
	Carbamazepine	97.0	74.4	74.6				0.268
	Diuron	93.3	65.9	65.5				0.333
	Fenuron	133	114	115				0.665
	Fluridone	116	105	107				2.37
	Hydrocodone	130	119	123				3.02
	Ibuprofen	41.3	44.5	41.7				6.51
	Imazapyr	110	101	110				5.27
	Imidacloprid	137	200	187				5.73
	Linuron	87.2	68.7	67.9				1.21
	MCPP	97.5	136	134				1.79
	Naproxen	92.8	103	102				0.735
	Primidone	130	121	118				2.34
	Pyraclostrobin	93.1	85.2	81.1				4.90
	Sucralose	83.5	81.8	78.5				3.21
	Triclopyr	99.9	165	132				22.1
SM 2120 B	Color (true)	101					1.21	
SM 2320 B-97	Total Alkalinity	103					0.312	
	Total Alkalinity	102					0.133	
SM 2540 C-97	TDS						4.00	
SM 4500 F-C-97	Fluoride	99.1	101	100				0.470

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	98.5	97.5	98.2		0.470
SM 5310 B-00	Organic Carbon	96.1	95.2	95.6		0.231
	Organic Carbon	98.8	97.8	97.6		0.174

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2035394, 2035395, 2035396
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2035394, 2035395, 2035396
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2035347
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2035347
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2035334, 2035335, 2035340, 2035341, 2035345, 2035348
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2035334, 2035335, 2035340, 2035341, 2035345, 2035348
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2035334, 2035335, 2035340, 2035341, 2035345, 2035348
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2035334, 2035335, 2035340, 2035341, 2035345, 2035348
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2035336, 2035337, 2035342, 2035343, 2035346, 2035349
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2035369, 2035370, 2035371
SM 2120 B / E31780	True Color measured at 450 nm	2035347
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2035347
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2035334, 2035335, 2035340, 2035341, 2035345, 2035348

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	10/24/2018			10/24/2018 17:02	Megan Treadwell	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
EPA 200.7 Rev. 4.4	10/24/2018	10/25/2018 15:04	Devin Thornton	10/30/2018 21:10	Betina Topolski	2035394
	10/24/2018	10/25/2018 15:04	Devin Thornton	10/30/2018 21:18	Betina Topolski	2035395
	10/24/2018	10/25/2018 15:04	Devin Thornton	10/30/2018 21:25	Betina Topolski	2035396
EPA 200.8 Rev. 5.4	10/24/2018	10/25/2018 15:04	Devin Thornton	10/31/2018 02:15	Robert K Palmer	2035394
	10/24/2018	10/25/2018 15:04	Devin Thornton	10/31/2018 02:24	Robert K Palmer	2035395
	10/24/2018	10/25/2018 15:04	Devin Thornton	10/31/2018 02:34	Robert K Palmer	2035396
EPA 300.0 Rev. 2.1	10/24/2018			10/29/2018 21:21	Irina Carbone	2035347
EPA 350.1 Rev. 2.0	10/24/2018			10/30/2018 13:04	Ping Hua	2035334
	10/24/2018			10/30/2018 13:05	Ping Hua	2035335
	10/24/2018			10/30/2018 13:07	Ping Hua	2035348
	10/24/2018			11/01/2018 11:50	Ping Hua	2035340
	10/24/2018			11/01/2018 11:51	Ping Hua	2035341
	10/24/2018			11/01/2018 11:53	Ping Hua	2035345
EPA 351.2 Rev. 2.0	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:35	Virginia P. Brown	2035340
	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:43	Virginia P. Brown	2035341
	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:45	Virginia P. Brown	2035345
	10/24/2018	10/31/2018 12:15	Adrian Shelby	11/01/2018 10:38	Virginia P. Brown	2035334
	10/24/2018	10/31/2018 12:15	Adrian Shelby	11/01/2018 10:39	Virginia P. Brown	2035335
	10/24/2018	10/31/2018 12:15	Adrian Shelby	11/01/2018 10:41	Virginia P. Brown	2035348
EPA 353.2 Rev. 2.0	10/24/2018			10/26/2018 14:01	Lauren Bottorf	2035334
	10/24/2018			10/26/2018 14:10	Lauren Bottorf	2035335
	10/24/2018			10/26/2018 14:11	Lauren Bottorf	2035348
	10/24/2018			10/29/2018 11:02	Beverly Y. Sanders	2035345
	10/24/2018			10/29/2018 12:09	Beverly Y. Sanders	2035340
	10/24/2018			10/29/2018 12:10	Beverly Y. Sanders	2035341
EPA 365.1 Rev. 2.0	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 09:14	Beverly Y. Sanders	2035334
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 09:26	Beverly Y. Sanders	2035335
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 09:27	Beverly Y. Sanders	2035348
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 14:30	Beverly Y. Sanders	2035340
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 14:31	Beverly Y. Sanders	2035341
	10/24/2018	10/26/2018 12:55	Sima Feizi	10/29/2018 13:32	Lipi Saha	2035345
EPA 365.1 Rev. 2.0 dissolved	10/24/2018			10/24/2018 16:32	Julia Storbeck	2035343
	10/24/2018			10/24/2018 18:13	Julia Storbeck	2035349
	10/24/2018			10/24/2018 18:32	Julia Storbeck	2035342
	10/24/2018			10/24/2018 18:38	Julia Storbeck	2035346
	10/24/2018			10/24/2018 18:43	Julia Storbeck	2035336, 2035337
EPA 8321B	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 12:39	Juyoung Kim	2035369
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 13:14	Juyoung Kim	2035370

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 13:48	Juyoung Kim	2035371
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 04:48	Juyoung Kim	2035369
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 05:22	Juyoung Kim	2035370
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 05:57	Juyoung Kim	2035371
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 16:32	Mohammad Ghaffari	2035369
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 16:46	Mohammad Ghaffari	2035370
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 17:16	Mohammad Ghaffari	2035371
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 17:46	Rebecca Ware	2035369
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 18:01	Rebecca Ware	2035370
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 18:30	Rebecca Ware	2035371
SM 2120 B	10/24/2018			10/24/2018 16:22	Chelsea Hernandez	2035347
SM 2320 B-97	10/24/2018			10/29/2018 01:34	Dale L. Simmons	2035332
	10/24/2018			10/29/2018 01:45	Dale L. Simmons	2035347
	10/24/2018			10/29/2018 02:16	Dale L. Simmons	2035333
	10/24/2018			10/31/2018 01:54	Dale L. Simmons	2035338
	10/24/2018			10/31/2018 02:05	Dale L. Simmons	2035339
	10/24/2018			10/31/2018 02:15	Dale L. Simmons	2035344
SM 2540 C-97	10/24/2018			10/25/2018 15:41	Yijie Li	2035347
SM 2540 D-97	10/24/2018			10/25/2018 15:41	Yijie Li	2035332, 2035333, 2035338, 2035339, 2035344, 2035347
SM 4500 F-C-97	10/24/2018			10/29/2018 01:34	Dale L. Simmons	2035332
	10/24/2018			10/29/2018 01:45	Dale L. Simmons	2035347
	10/24/2018			10/29/2018 02:16	Dale L. Simmons	2035333
	10/24/2018			10/30/2018 22:06	Dale L. Simmons	2035338
	10/24/2018			10/30/2018 22:10	Dale L. Simmons	2035339
	10/24/2018			10/30/2018 22:14	Dale L. Simmons	2035344
SM 5310 B-00	10/24/2018			10/26/2018 10:21	Megan Treadwell	2035334
	10/24/2018			10/26/2018 10:33	Megan Treadwell	2035335
	10/24/2018			10/26/2018 10:46	Megan Treadwell	2035348
	10/24/2018			10/31/2018 07:32	Megan Treadwell	2035340
	10/24/2018			10/31/2018 08:09	Megan Treadwell	2035341
	10/24/2018			10/31/2018 08:21	Megan Treadwell	2035345