Chemical Analysis Report

TLH-ROC-2018-08-21-01

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

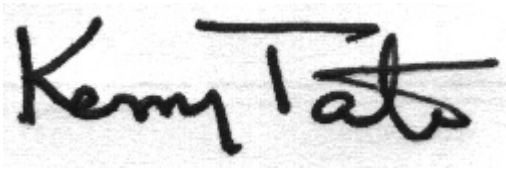
Event Description: **Run 5**
Request ID: **RQ-2018-08-20-58**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 18-SEP-2018 10:58



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: 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: LAKE SEMINOLE 200M FROM BOAT RAMP @ RIVER RD. **Collection Date/Time: 08/21/2018 10:15**

Field ID: G2TLHR0002 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018766	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P350635	
	EPA 300.0 Rev. 2.1	Chloride	6.2		mg Cl/L	P350844	
		Sulfate	12		mg SO4/L	P350847	
	SM 2120 B	Color (true)	15	A	PCU	P350616	
	SM 2320 B-97	Total Alkalinity	37		mg CaCO3/L	P350792	
	SM 2540 C-97	TDS	82		mg/L	P351019	
	SM 2540 D-97	TSS	4	I	mg/L	P351014	
	SM 4500 F-C-97	Fluoride	0.098	I	mg F/L	P350795	
2018767	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P350718	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.46		mg N/L	P350889	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.26		mg N/L	P350669	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P350861	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P350674	
2018768	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350534	

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: MOSQUITO CREEK @ SR269 **Collection Date/Time: 08/21/2018 11:00**

Field ID: G2TLHR0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018769	EPA 180.1 Rev. 2.0	Turbidity	45		NTU	P350635	
	EPA 300.0 Rev. 2.1	Chloride	2.8		mg Cl/L	P350844	
		Sulfate	0.80		mg SO4/L	P350847	
	SM 2120 B	Color (true)	62		PCU	P350620	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P350792	
	SM 2540 C-97	TDS	60		mg/L	P351019	
	SM 2540 D-97	TSS	38		mg/L	P351014	
	SM 4500 F-C-97	Fluoride	0.051	I	mg F/L	P350795	
2018770	EPA 350.1 Rev. 2.0	Ammonia-N	0.090		mg N/L	P350720	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P350889	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.29		mg N/L	P350670	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P350861	
	SM 5310 B-00	Organic Carbon	9.0		mg C/L	P350674	
2018771	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P350534	
2018778	EPA 8321B	2,4-D	0.0020	U	ug/L	P350552	MS
		Bentazon	0.0022	I	ug/L	P350552	
		MCPP	0.0020	U	ug/L	P350552	MS
		Triclopyr**	0.0040	U	ug/L	P350552	MS
		Imidacloprid	0.0065	I	ug/L	P350552	
		Diuron	0.016		ug/L	P350552	
		Pyraclostrobin**	0.0020	U	ug/L	P350552	
		Primidone**	0.0040	U	ug/L	P350552	
		Linuron	0.0040	U	ug/L	P350552	
		Acetaminophen**	0.0080	U	ug/L	P350552	
		Fenuron	0.016	U	ug/L	P350552	
		Imazapyr**	0.038		ug/L	P350552	
		Carbamazepine**	0.0011	I	ug/L	P350552	
		Fluridone**	4.0E-04	U	ug/L	P350552	
		Hydrocodone**	8.0E-04	U	ug/L	P350552	
		Naproxen**	0.0080	U	ug/L	P350552	
		Ibuprofen**	0.020	U	ug/L	P350552	
		Sucralose**	0.043		ug/L	P350504	
2018779	EPA 200.7 Rev. 4.4	Calcium	5.93		mg/L	P350621	
		Iron	2.42E+03		ug/L	P350621	
		Magnesium	2.67		mg/L	P350621	
		Potassium	0.89	I	mg/L	P350621	
		Sodium	1.6	I	mg/L	P350621	
		Zinc	6.6	I	ug/L	P350621	
	EPA 200.8 Rev. 5.4	Arsenic	0.78		ug/L	P350621	
		Cadmium	0.027	I	ug/L	P350621	
		Chromium	2.6		ug/L	P350621	
		Copper	1.28		ug/L	P350621	
		Lead	1.63		ug/L	P350621	

Field ID: G2TLHR0015 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018779	EPA 200.8 Rev. 5.4	Nickel	0.84		ug/L	P350621	
		Silver	0.010	U	ug/L	P350621	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: The lead result was confirmed on 09/10/2018.

Sample Location: UNNAMED BRANCH @ HARDAWAY RD 2 **Collection Date/Time: 08/21/2018 12:15**

Field ID: G2TLHR0041 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2018763	EPA 180.1 Rev. 2.0	Turbidity	110		NTU	P350635	
	EPA 300.0 Rev. 2.1	Chloride	3.0		mg Cl/L	P350844	
		Sulfate	0.59	I	mg SO4/L	P350847	
	SM 2120 B	Color (true)	48	A	PCU	P350620	
	SM 2320 B-97	Total Alkalinity	3.2		mg CaCO3/L	P350792	
	SM 2540 C-97	TDS	30		mg/L	P351019	
	SM 2540 D-97	TSS	176		mg/L	P351014	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P350795	
2018764	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P350718	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.4		mg N/L	P350889	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P350669	
	EPA 365.1 Rev. 2.0	Total-P	0.48		mg P/L	P350861	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P350674	
2018765	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P350534	

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350635

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

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: P350621

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: P350844

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350847

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350718

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350720

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: P350889

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350669

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350670

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350861

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350534

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

Reference Method: EPA 8321B
Batch ID: P350504

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350552

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350552

Component	Result	Code	Units
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P350616

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P350620

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P350792

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

Reference Method: SM 2540 C-97
Batch ID: P351019

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351014

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P350795

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P350674

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: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	104		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	100		P	85 - 115
Sodium	97.7		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	98.0		P	85 - 115
Copper	99.3		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	101		P	85 - 115
Silver	98.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350844

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350847

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350718

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350720

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350889

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350669

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350670

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350861

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350534

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

Reference Method: EPA 8321B
Batch ID: P350504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	89.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350552

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	86.0		P	40 - 150
Acetaminophen	113		P	30 - 150
Bentazon	124		P	30 - 150
Carbamazepine	73.5		P	40 - 150
Diuron	79.4		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	70.9		P	40 - 150
Hydrocodone	95.7		P	40 - 150
Ibuprofen	99.1		P	40 - 150
Imazapyr	89.1		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	58.1		P	40 - 150
MCPP	99.3		P	40 - 150
Naproxen	82.8		P	40 - 150
Primidone	102		P	40 - 150
Pyraclostrobin	61.7		P	40 - 150
Triclopyr	104		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P350616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P350616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P350620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.5		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P350792

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

Reference Method: SM 4500 F-C-97
Batch ID: P350795

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350674

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Calcium	108		P	80 - 120
2018787	Iron	107		P	80 - 120
2018787	Magnesium	110		P	80 - 120
2018787	Potassium	103		P	80 - 120
2018787	Sodium	104		P	80 - 120
2018787	Zinc	106		P	80 - 120
2019049	Calcium	100		P	80 - 120
2019049	Iron	104	101	P/P	80 - 120
2019049	Magnesium	101		P	80 - 120
2019049	Potassium	101	97.6	P/P	80 - 120
2019049	Sodium	99.1		P	80 - 120
2019049	Zinc	105	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018787	Arsenic	102		P	80 - 120
2018787	Cadmium	105		P	80 - 120
2018787	Chromium	99.4		P	80 - 120
2018787	Copper	99.5		P	80 - 120
2018787	Lead	101		P	80 - 120
2018787	Nickel	101		P	80 - 120
2018787	Silver	100		P	80 - 120
2019049	Arsenic	102	106	P/P	80 - 120
2019049	Cadmium	100	105	P/P	80 - 120
2019049	Chromium	92.5	94.9	P/P	80 - 120
2019049	Copper	94.6	97.7	P/P	80 - 120
2019049	Lead	99.3	103	P/P	80 - 120
2019049	Nickel	97.1	101	P/P	80 - 120
2019049	Silver	96.9	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018525	Chloride	92.1		P	90 - 110
2018769	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018525	Sulfate	94.3		P	90 - 110
2018769	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018767	Ammonia-N	102	101	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350720

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018798	Ammonia-N	102	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018767	Kjeldahl Nitrogen	95.6	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350669

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018621	NO2NO3-N	98.0	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018784	NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350861

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018672	Total-P	100	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018547	O-Phosphate-P	98.8	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P350504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019172	Sucralose	103	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019699	2,4-D	180	141	F/P	40 - 150
2019699	Acetaminophen	135	138	P/P	30 - 150
2019699	Bentazon	99.7	87.8	P/P	30 - 150
2019699	Carbamazepine	56.2	56.9	P/P	40 - 150
2019699	Diuron	64.4	64.8	P/P	40 - 150
2019699	Fenuron	75.4	76.2	P/P	40 - 150
2019699	Fluridone	58.9	57.5	P/P	40 - 150
2019699	Hydrocodone	84.2	80.4	P/P	40 - 150
2019699	Ibuprofen	96.9	92.2	P/P	40 - 150
2019699	Imazapyr	100	91.1	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350552

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019699	Imidacloprid	158	156	P/P	40 - 160
2019699	Linuron	54.8	57.3	P/P	40 - 150
2019699	MCPP	162	170	F/F	40 - 150
2019699	Naproxen	109	104	P/P	40 - 150
2019699	Primidone	91.9	91.1	P/P	40 - 150
2019699	Pyraclostrobin	71.0	68.6	P/P	40 - 150
2019699	Triclopyr	182	182	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P350795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018523	Fluoride	99.1	98.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350674

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018620	Organic Carbon	95.8	96.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350635

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018655	Turbidity	5.05	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Calcium	2.52	Spike	P	0 - 20
2019049	Iron	2.40	Spike	P	0 - 20
2019049	Magnesium	1.39	Spike	P	0 - 20
2019049	Potassium	1.90	Spike	P	0 - 20
2019049	Sodium	1.39	Spike	P	0 - 20
2019049	Zinc	3.76	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019049	Arsenic	3.07	Spike	P	0 - 20
2019049	Cadmium	4.07	Spike	P	0 - 20
2019049	Chromium	2.52	Spike	P	0 - 20
2019049	Copper	3.14	Spike	P	0 - 20
2019049	Lead	3.87	Spike	P	0 - 20
2019049	Nickel	3.50	Spike	P	0 - 20
2019049	Silver	2.35	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018525	Chloride	1.04	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018525	Sulfate	1.50	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018767	Ammonia-N	0.625	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P350720

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018798	Ammonia-N	1.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018767	Kjeldahl Nitrogen	4.83	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350669

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018621	NO2NO3-N	1.57	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018784	NO2NO3-N	0.985	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350861

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018672	Total-P	1.75	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018547	O-Phosphate-P	0.505	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P350504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019172	Sucralose	2.64	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019699	2,4-D	16.2	Spike	P	0 - 30
2019699	Acetaminophen	2.32	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P350552

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019699	Bentazon	12.0	Spike	P	0 - 30
2019699	Carbamazepine	1.29	Spike	P	0 - 30
2019699	Diuron	0.587	Spike	P	0 - 30
2019699	Fenuron	1.09	Spike	P	0 - 30
2019699	Fluridone	1.59	Spike	P	0 - 30
2019699	Hydrocodone	4.54	Spike	P	0 - 30
2019699	Ibuprofen	4.93	Spike	P	0 - 30
2019699	Imazapyr	5.71	Spike	P	0 - 30
2019699	Imidacloprid	1.75	Spike	P	0 - 30
2019699	Linuron	4.50	Spike	P	0 - 30
2019699	MCPP	5.31	Spike	P	0 - 30
2019699	Naproxen	4.41	Spike	P	0 - 30
2019699	Primidone	0.918	Spike	P	0 - 30
2019699	Pyraclostrobin	3.38	Spike	P	0 - 30
2019699	Triclopyr	0.0605	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P350616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018766	Color (true)	0.402	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P350620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018763	Color (true)	0.775	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P350792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018523	Total Alkalinity	0.207	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018794	TDS	2.82	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P350795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018523	Fluoride	0.484	Spike	P	0 - 3.5

Quality Assurance Report
Precision

Reference Method: SM 5310 B-00
Batch ID: P350674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018620	Organic Carbon	0.356	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: 2018778
Field Sample ID: G2TLHR0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	139	P	30 - 160
EPA 8321B	Acetaminophen-d4	126	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.3	P	30 - 160
EPA 8321B	Diuron-d6	74.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	75.6	P	30 - 160
EPA 8321B	Primidone-d5	97.4	P	30 - 160
EPA 8321B	Sucralose-d6	98.1	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86033
Included Lab Sample IDs: 2018765, 2018768, 2018771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A86035
Included Lab Sample IDs: 2018763, 2018766, 2018769

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A86049
Included Lab Sample IDs: 2018763, 2018766, 2018769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	103	P/P	90 - 110
Chloride	102	100	P/P	90 - 110
Sulfate	102	99.7	P/P	90 - 110
Sulfate	99.7	103	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A86065
Included Lab Sample IDs: 2018763, 2018766, 2018769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	100	P/P	90 - 115
Color (true)	97.5	99.4	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86085
Included Lab Sample IDs: 2018764, 2018767, 2018770

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

Reference Method: SM 5310 B-00
Run ID: A86088
Included Lab Sample IDs: 2018764, 2018767, 2018770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.1	95.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A86093
Included Lab Sample IDs: 2018779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	105	P/P	90 - 110
Iron	103	106	P/P	90 - 110
Magnesium	103	106	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A86093
Included Lab Sample IDs: 2018779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	100	104	P/P	90 - 110
Sodium	98.1	102	P/P	90 - 110
Zinc	104	107	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86110
Included Lab Sample IDs: 2018778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	77.3	86.8	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86114
Included Lab Sample IDs: 2018764, 2018767, 2018770

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

Reference Method: SM 2320 B-97
Run ID: A86129
Included Lab Sample IDs: 2018763, 2018766, 2018769

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

Reference Method: SM 4500 F-C-97
Run ID: A86129
Included Lab Sample IDs: 2018763, 2018766, 2018769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.0	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86134
Included Lab Sample IDs: 2018778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.4	83.4	P/P	50 - 150
Bentazon	78.1	85.1	P/P	50 - 160
Ibuprofen	99.1	108	P/P	50 - 160
MCPP	94.1	94.4	P/P	50 - 150
Naproxen	81.0	74.5	P/P	50 - 160
Triclopyr	81.1	96.4	P/P	50 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A86159
Included Lab Sample IDs: 2018779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.2	96.4	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A86159
Included Lab Sample IDs: 2018779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	95.4	96.2	P/P	90 - 110
Chromium	95.1	96.3	P/P	90 - 110
Copper	97.5	96.1	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Nickel	96.8	95.5	P/P	90 - 110
Silver	96.4	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86163
Included Lab Sample IDs: 2018764, 2018770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86173
Included Lab Sample IDs: 2018767

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

Reference Method: EPA 8321B
Run ID: A86195
Included Lab Sample IDs: 2018778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	113	124	P/P	60 - 150
Carbamazepine	99.5	100	P/P	60 - 150
Diuron	122	120	P/P	60 - 150
Fenuron	109	105	P/P	60 - 150
Fluridone	112	107	P/P	60 - 160
Hydrocodone	110	111	P/P	60 - 150
Imazapyr	92.9	100	P/P	50 - 150
Imidacloprid	112	109	P/P	60 - 150
Linuron	111	102	P/P	60 - 150
Primidone	109	113	P/P	60 - 150
Pyraclostrobin	96.5	95.4	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A86206
Included Lab Sample IDs: 2018764, 2018767, 2018770

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	99.9	P/P	90 - 110
Kjeldahl Nitrogen	99.9	101	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			Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					5.05	
EPA 200.7 Rev. 4.4	Calcium	101	108	100			2.52
	Iron	104	107	104	101		2.40
	Magnesium	101	110	101			1.39
	Potassium	100	103	101	97.6		1.90
	Sodium	97.7	104	99.1			1.39
	Zinc	102	106	105	101		3.76
EPA 200.8 Rev. 5.4	Arsenic	102	102	102	106		3.07
	Cadmium	100	105	100	105		4.07
	Chromium	98.0	99.4	92.5	94.9		2.52
	Copper	99.3	99.5	94.6	97.7		3.14
	Lead	99.6	101	99.3	103		3.87
	Nickel	101	101	97.1	101		3.50
	Silver	98.3	100	96.9	99.2		2.35
EPA 300.0 Rev. 2.1	Chloride	102	92.1	102		1.04	
	Sulfate	101	94.3	103		1.50	
EPA 350.1 Rev. 2.0	Ammonia-N	100	102	101			0.625
	Ammonia-N	101	102	100			1.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	95.6	102			4.83
EPA 353.2 Rev. 2.0	NO2NO3-N	101	98.0	100			1.57
	NO2NO3-N	102	101	102			0.985
EPA 365.1 Rev. 2.0	Total-P	99.9	100	97.4			1.75
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.4	98.8	99.3			0.505
EPA 8321B	2,4-D	86.0	180	141			16.2
	Acetaminophen	113	135	138			2.32
	Bentazon	124	99.7	87.8			12.0
	Carbamazepine	73.5	56.2	56.9			1.29
	Diuron	79.4	64.4	64.8			0.587
	Fenuron	104	75.4	76.2			1.09
	Fluridone	70.9	58.9	57.5			1.59
	Hydrocodone	95.7	84.2	80.4			4.54
	Ibuprofen	99.1	96.9	92.2			4.93
	Imazapyr	89.1	100	91.1			5.71
	Imidacloprid	104	158	156			1.75
	Linuron	58.1	54.8	57.3			4.50
	MCPP	99.3	162	170			5.31
	Naproxen	82.8	109	104			4.41
	Primidone	102	91.9	91.1			0.918
	Pyraclostrobin	61.7	71.0	68.6			3.38
	Sucralose	89.4	103	106			2.64
	Triclopyr	104	182	182			0.0605
SM 2120 B	Color (true)	98.2				0.402	
	Color (true)	99.5				0.775	
SM 2320 B-97	Total Alkalinity	103				0.207	
SM 2540 C-97	TDS					2.82	
SM 4500 F-C-97	Fluoride	99.6	99.1	98.6			0.484
SM 5310 B-00	Organic Carbon	98.0	95.8	96.4			0.356

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2018763, 2018766, 2018769

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2018779
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2018779
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2018763, 2018766, 2018769
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2018763, 2018766, 2018769
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2018764, 2018767, 2018770
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2018764, 2018767, 2018770
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2018764, 2018767, 2018770
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2018764, 2018767, 2018770
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2018765, 2018768, 2018771
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2018778
SM 2120 B / E31780	True Color measured at 450 nm	2018763, 2018766, 2018769
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2018763, 2018766, 2018769
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2018763, 2018766, 2018769
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2018763, 2018766, 2018769
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2018763, 2018766, 2018769
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2018764, 2018767, 2018770

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/21/2018			08/21/2018 16:11	Megan Treadwell	2018763, 2018766, 2018769
EPA 200.7 Rev. 4.4	08/21/2018	08/22/2018 18:00	Elliott D. Healy	08/23/2018 17:26	Betina Topolski	2018779
EPA 200.8 Rev. 5.4	08/21/2018	08/22/2018 18:00	Elliott D. Healy	08/28/2018 22:23	Allison Taylor	2018779
EPA 300.0 Rev. 2.1	08/21/2018			08/23/2018 21:34	Lipi Saha	2018769
	08/21/2018			08/23/2018 23:46	Lipi Saha	2018763
	08/21/2018			08/23/2018 23:58	Lipi Saha	2018766
EPA 350.1 Rev. 2.0	08/21/2018			08/24/2018 11:10	Ping Hua	2018764
	08/21/2018			08/24/2018 11:11	Ping Hua	2018767
	08/21/2018			08/24/2018 11:52	Ping Hua	2018770
EPA 351.2 Rev. 2.0	08/21/2018	08/29/2018 15:30	Adrian Shelby	08/30/2018 11:14	Joseph Suarez	2018764
	08/21/2018	08/29/2018 15:30	Adrian Shelby	08/30/2018 11:15	Joseph Suarez	2018767
	08/21/2018	08/29/2018 15:30	Adrian Shelby	08/30/2018 11:23	Joseph Suarez	2018770
EPA 353.2 Rev. 2.0	08/21/2018			08/23/2018 14:00	Lauren Bottorf	2018764
	08/21/2018			08/23/2018 14:01	Lauren Bottorf	2018767
	08/21/2018			08/23/2018 14:15	Lauren Bottorf	2018770
EPA 365.1 Rev. 2.0	08/21/2018	08/28/2018 15:06	Sima Feizi	08/29/2018 08:05	Beverly Y. Sanders	2018764
	08/21/2018	08/28/2018 15:06	Sima Feizi	08/29/2018 08:07	Beverly Y. Sanders	2018770
	08/21/2018	08/28/2018 15:06	Sima Feizi	08/29/2018 12:11	Beverly Y. Sanders	2018767
EPA 365.1 Rev. 2.0 dissolved	08/21/2018			08/21/2018 15:27	Virginia P. Brown	2018765
	08/21/2018			08/21/2018 15:28	Virginia P. Brown	2018768
	08/21/2018			08/21/2018 15:29	Virginia P. Brown	2018771
EPA 8321B	08/21/2018	08/23/2018 12:45	Mohammad Ghaffari	08/24/2018 11:22	Mohammad Ghaffari	2018778
	08/21/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 03:19	Juyoung Kim	2018778
	08/21/2018	08/23/2018 13:00	Hoor Shaik	08/26/2018 09:32	Juyoung Kim	2018778
SM 2120 B	08/21/2018			08/22/2018 15:51	William L. Brown IV	2018766
	08/21/2018			08/22/2018 16:31	William L. Brown IV	2018763
	08/21/2018			08/22/2018 16:32	William L. Brown IV	2018769
SM 2320 B-97	08/21/2018			08/25/2018 05:26	Dale L. Simmons	2018763
	08/21/2018			08/25/2018 05:36	Dale L. Simmons	2018766
	08/21/2018			08/25/2018 05:47	Dale L. Simmons	2018769
SM 2540 C-97	08/21/2018			08/24/2018 16:01	Yijie Li	2018763, 2018766, 2018769
SM 2540 D-97	08/21/2018			08/24/2018 16:01	Yijie Li	2018763, 2018766, 2018769
SM 4500 F-C-97	08/21/2018			08/25/2018 05:26	Dale L. Simmons	2018763
	08/21/2018			08/25/2018 05:36	Dale L. Simmons	2018766
	08/21/2018			08/25/2018 05:47	Dale L. Simmons	2018769
SM 5310 B-00	08/21/2018			08/23/2018 07:56	Megan Treadwell	2018764
	08/21/2018			08/23/2018 08:09	Megan Treadwell	2018767
	08/21/2018			08/23/2018 08:23	Megan Treadwell	2018770