

Chemical Analysis Report

TLH-ROC-2018-04-18-02

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

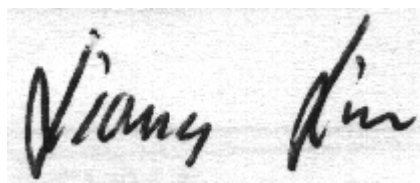
Event Description: **kit C-b/t/m (WBID 376A) Mosquito Creek**
Request ID: **RQ-2018-04-16-30**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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Attn: Michael Eckles

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 23-MAY-2018 14:32

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored background.

Case Narrative

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

Results for the following analytical groups are included in this report: 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: MOSQUITO CREEK @ SR269

Collection Date/Time: 04/18/2018 10:10

Field ID: G2TLHR0015

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985655	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P343683	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P343783	
		Sulfate	1.1		mg SO4/L	P343786	
	SM 2120 B	Color (true)	48	A	PCU	P343752	
	SM 2320 B-97	Total Alkalinity	33		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	56		mg/L	P344257	
	SM 2540 D-97	TSS	8	I	mg/L	P344263	
	SM 4500 F-C-97	Fluoride	0.067	I	mg F/L	P344301	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P344167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P343796	
1985657	EPA 353.2 Rev. 2.0	NO2NO3-N	0.72		mg N/L	P343905	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P343975	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P343980	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.022		mg P/L	P343678	
	dissolved						
1985667	EPA 8321B	2,4-D	0.0020	U	ug/L	P343642	
		Bentazon	0.0032		ug/L	P343642	
		MCP	0.0020	U	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.0092		ug/L	P343642	
		Diuron	0.0020	U	ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0040	U	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.0075	I	ug/L	P343642	
		Carbamazepine**	0.0069		ug/L	P343642	
		Fluridone**	8.0E-04	U	ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.20	I	ug/L	P343665	
	EPA 200.7 Rev. 4.4	Iron	580		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	0.33		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.79	I	ug/L	P343922	
		Copper	0.45	I	ug/L	P343922	
		Lead	0.19	I	ug/L	P343922	
		Nickel	0.29	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

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 @ Jinks Crossing Rd

Collection Date/Time: 04/18/2018 11:10

Field ID: G2TLHR0092

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985656	EPA 180.1 Rev. 2.0	Turbidity	5.9		NTU	P343683	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P343783	
		Sulfate	0.79		mg SO4/L	P343786	
	SM 2120 B	Color (true)	60		PCU	P343752	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P344297	
	SM 2540 C-97	TDS	48		mg/L	P344257	
	SM 2540 D-97	TSS	2	I	mg/L	P344263	
	SM 4500 F-C-97	Fluoride	0.061	I	mg F/L	P344301	
1985658	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P344167	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.55		mg N/L	P343796	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.98		mg N/L	P343905	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P343975	
	SM 5310 B-00	Organic Carbon	4.8		mg C/L	P343980	
1985660	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P343678	
1985668	EPA 8321B	2,4-D	0.0020	U	ug/L	P343718	
		Bentazon	0.0055		ug/L	P343718	
		MCP	0.0020	U	ug/L	P343718	
		Triclopyr**	0.0040	U	ug/L	P343718	
		Imidacloprid	0.017		ug/L	P343718	MS
		Diuron	0.0020	U	ug/L	P343718	
		Pyraclostrobin**	0.0020	U	ug/L	P343718	
		Primidone**	0.0040	U	ug/L	P343718	
		Linuron	0.0040	U	ug/L	P343718	
		Acetaminophen**	0.0080	U	ug/L	P343718	
		Fenuron	0.0080	U	ug/L	P343718	
		Imazapyr**	0.013	I	ug/L	P343718	
		Carbamazepine**	7.0E-04	I	ug/L	P343718	
		Fluridone**	4.0E-04	U	ug/L	P343718	
		Hydrocodone**	8.0E-04	U	ug/L	P343718	
		Sucralose**	0.10	U	ug/L	P343665	
1985670	EPA 200.7 Rev. 4.4	Iron	600		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	0.35		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.53	I	ug/L	P343922	
		Copper	0.64	I	ug/L	P343922	
		Lead	0.23		ug/L	P343922	
		Nickel	0.25	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Ref. Method and Comment:

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

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

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343683

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Component	Result	Code	Units
Iron	30	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

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: P343783

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343786

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344167

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343796

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343975

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343678

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

Reference Method: EPA 8321B
Batch ID: P343642

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	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343665

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343718

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	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P343718

Component	Result	Code	Units
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P343752

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P344297

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

Reference Method: SM 2540 C-97
Batch ID: P344257

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P344263

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343980

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: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115
Zinc	101		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.0		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	100		P	85 - 115
Copper	103		P	85 - 115
Lead	92.3		P	85 - 115
Nickel	106		P	85 - 115
Silver	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344167

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: P343796

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

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: P343975

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343678

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
 Batch ID: P343642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
Acetaminophen	122		P	30 - 150
Bentazon	134		P	30 - 150
Carbamazepine	116		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	134		P	40 - 150
Fluridone	58.8		P	40 - 150
Hydrocodone	115		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	129		P	40 - 160
Linuron	81.4		P	40 - 150
MCP	105		P	40 - 150
Primidone	139		P	40 - 150
Pyraclostrobin	59.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P343665

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	105		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P343718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.8		P	40 - 150
Acetaminophen	94.1		P	30 - 150
Bentazon	105		P	30 - 150
Carbamazepine	104		P	40 - 150
Diuron	83.2		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	90.0		P	40 - 150
Hydrocodone	107		P	40 - 150
Imazapyr	120		P	40 - 150
Imidacloprid	114		P	40 - 160
Linuron	98.9		P	40 - 150
MCP	98.6		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	84.1		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P344297

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

Reference Method: SM 4500 F-C-97
 Batch ID: P344301

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.3		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343980

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Iron	101		P	80 - 120
1985437	Zinc	99.4		P	80 - 120
1986543	Iron	97.9	97.0	P/P	80 - 120
1986543	Zinc	98.2	98.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Arsenic	105		P	80 - 120
1985437	Cadmium	104		P	80 - 120
1985437	Chromium	99.3		P	80 - 120
1985437	Copper	99.0		P	80 - 120
1985437	Lead	99.2		P	80 - 120
1985437	Nickel	102		P	80 - 120
1985437	Silver	101		P	80 - 120
1986543	Arsenic	96.5	95.5	P/P	80 - 120
1986543	Cadmium	105	104	P/P	80 - 120
1986543	Chromium	98.6	97.9	P/P	80 - 120
1986543	Copper	98.9	99.4	P/P	80 - 120
1986543	Lead	94.2	93.8	P/P	80 - 120
1986543	Nickel	103	103	P/P	80 - 120
1986543	Silver	103	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985649	Chloride	100	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985649	Sulfate	97.9	98.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985639	Ammonia-N	98.0	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985657	Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985650	NO2NO3-N	96.0	96.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985681	Total-P	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985659	O-Phosphate-P	97.0	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985615	2,4-D	68.9	71.4	P/P	40 - 150
1985615	Acetaminophen	116	120	P/P	30 - 150
1985615	Bentazon	70.5	89.7	P/P	30 - 150
1985615	Carbamazepine	106	110	P/P	40 - 150
1985615	Diuron	73.3	71.4	P/P	40 - 150
1985615	Fenuron	116	125	P/P	40 - 150
1985615	Fluridone	47.0	47.4	P/P	40 - 150
1985615	Hydrocodone	118	115	P/P	40 - 150
1985615	Imazapyr	78.0	82.2	P/P	40 - 150
1985615	Imidacloprid	128	136	P/P	40 - 160
1985615	Linuron	67.8	71.1	P/P	40 - 150
1985615	MCP	74.6	66.9	P/P	40 - 150
1985615	Primidone	112	122	P/P	40 - 150
1985615	Pyraclostrobin	60.3	53.3	P/P	40 - 150
1985615	Triclopyr	70.9	70.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985613	Sucralose	71.3	65.1	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P343718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985800	2,4-D	73.2	69.0	P/P	40 - 150
1985800	Acetaminophen	105	110	P/P	30 - 150
1985800	Bentazon	43.0	42.4	P/P	30 - 150
1985800	Carbamazepine	77.0	80.9	P/P	40 - 150
1985800	Diuron	69.8	69.4	P/P	40 - 150
1985800	Fenuron	75.8	78.8	P/P	40 - 150
1985800	Fluridone	74.5	76.3	P/P	40 - 150
1985800	Hydrocodone	108	114	P/P	40 - 150
1985800	Imidacloprid	193	201	F/F	40 - 160
1985800	Linuron	88.0	101	P/P	40 - 150
1985800	MCP	70.2	65.1	P/P	40 - 150
1985800	Primidone	91.2	101	P/P	40 - 150
1985800	Pyraclostrobin	80.2	81.6	P/P	40 - 150
1985800	Triclopyr	78.2	78.0	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985583	Fluoride	95.7	97.0	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985460	Organic Carbon	94.6	93.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985581	Turbidity	4.29	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Iron	0.921	Spike	P	0 - 20
1986543	Zinc	0.224	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Arsenic	1.02	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Cadmium	0.835	Spike	P	0 - 20
1986543	Chromium	0.662	Spike	P	0 - 20
1986543	Copper	0.470	Spike	P	0 - 20
1986543	Lead	0.493	Spike	P	0 - 20
1986543	Nickel	0.571	Spike	P	0 - 20
1986543	Silver	1.03	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985649	Chloride	0.187	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P343786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985649	Sulfate	0.526	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985639	Ammonia-N	1.59	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985657	Kjeldahl Nitrogen	2.53	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985650	NO2NO3-N	0.519	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985681	Total-P	2.19	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985659	O-Phosphate-P	1.34	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P343642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985615	2,4-D	3.61	Spike	P	0 - 30
1985615	Acetaminophen	3.23	Spike	P	0 - 30
1985615	Bentazon	24.0	Spike	P	0 - 30
1985615	Carbamazepine	3.79	Spike	P	0 - 30
1985615	Diuron	2.69	Spike	P	0 - 30
1985615	Fenuron	7.51	Spike	P	0 - 30
1985615	Fluridone	0.994	Spike	P	0 - 30
1985615	Hydrocodone	2.47	Spike	P	0 - 30
1985615	Imazapyr	5.21	Spike	P	0 - 30
1985615	Imidacloprid	5.51	Spike	P	0 - 30
1985615	Linuron	4.75	Spike	P	0 - 30
1985615	MCP	10.8	Spike	P	0 - 30
1985615	Primidone	9.12	Spike	P	0 - 30
1985615	Pyraclostrobin	12.3	Spike	P	0 - 30
1985615	Triclopyr	0.844	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985613	Sucralose	7.89	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985800	2,4-D	4.35	Spike	P	0 - 30
1985800	Acetaminophen	4.74	Spike	P	0 - 30
1985800	Bentazon	0.982	Spike	P	0 - 30
1985800	Carbamazepine	4.92	Spike	P	0 - 30
1985800	Diuron	0.635	Spike	P	0 - 30
1985800	Fenuron	3.77	Spike	P	0 - 30
1985800	Fluridone	2.34	Spike	P	0 - 30
1985800	Hydrocodone	5.46	Spike	P	0 - 30
1985800	Imazapyr	1.13	Spike	P	0 - 30
1985800	Imidacloprid	3.76	Spike	P	0 - 30
1985800	Linuron	13.8	Spike	P	0 - 30
1985800	MCP	7.45	Spike	P	0 - 30
1985800	Primidone	9.71	Spike	P	0 - 30
1985800	Pyraclostrobin	1.74	Spike	P	0 - 30
1985800	Triclopyr	0.270	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P343752

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985655	Color (true)	0.436	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P344297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985583	Total Alkalinity	0.144	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
 Batch ID: P344257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985637	TDS	3.53	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P344301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985583	Fluoride	0.960	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
 Batch ID: P343980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985460	Organic Carbon	0.578	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: 1985667
 Field Sample ID: G2TLHR0015

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	86.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	123	P	30 - 160
EPA 8321B	Diuron-d6	85.5	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	76.2	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1985668
Field Sample ID: G2TLHR0092

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	98.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	117	P	30 - 160
EPA 8321B	Diuron-d6	85.0	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	75.5	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A83267
Included Lab Sample IDs: 1985655, 1985656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	99.8	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83323
Included Lab Sample IDs: 1985659, 1985660

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83324
Included Lab Sample IDs: 1985655, 1985656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	99.0	P/P	95 - 105

Reference Method: SM 2120 B
Run ID: A83349
Included Lab Sample IDs: 1985655, 1985656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.3	99.1	P/P	90 - 115

Reference Method: EPA 8321B
Run ID: A83370
Included Lab Sample IDs: 1985667, 1985668

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	94.1	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83402

Included Lab Sample IDs: 1985657, 1985658

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83410

Included Lab Sample IDs: 1985657, 1985658

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

Reference Method: SM 5310 B-00

Run ID: A83430

Included Lab Sample IDs: 1985657, 1985658

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	97.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83434

Included Lab Sample IDs: 1985669, 1985670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	95.7	94.6	P/P	90 - 110
Zinc	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83473

Included Lab Sample IDs: 1985657, 1985658

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83491

Included Lab Sample IDs: 1985657, 1985658

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	101	P/P	90 - 110
Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83523

Included Lab Sample IDs: 1985669, 1985670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	102	103	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Copper	104	105	P/P	90 - 110
Nickel	104	104	P/P	90 - 110
Silver	103	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A83541

Included Lab Sample IDs: 1985655, 1985656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	98.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83541

Included Lab Sample IDs: 1985655, 1985656

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83552

Included Lab Sample IDs: 1985669, 1985670

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	103	97.9	P/P	90 - 110
Lead	104	99.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83600

Included Lab Sample IDs: 1985667

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	119	128	P/P	50 - 150
Acetaminophen	137	121	P/P	60 - 150
Bentazon	141	135	P/P	50 - 150
Carbamazepine	127	137	P/P	60 - 150
Diuron	127	135	P/P	60 - 150
Fenuron	126	132	P/P	60 - 150
Fluridone	112	108	P/P	60 - 160
Hydrocodone	120	116	P/P	60 - 150
Imazapyr	109	126	P/P	50 - 150
Imidacloprid	122	120	P/P	60 - 150
Linuron	129	126	P/P	60 - 150
MCPP	124	123	P/P	50 - 150
Primidone	135	116	P/P	60 - 150
Pyraclostrobin	106	101	P/P	60 - 150
Triclopyr	127	120	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A83753

Included Lab Sample IDs: 1985668

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	102	P/P	50 - 150
Acetaminophen	109	107	P/P	60 - 150
Bentazon	132	136	P/P	50 - 150
Carbamazepine	100	117	P/P	60 - 150
Diuron	86.2	106	P/P	60 - 150
Fenuron	117	116	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Hydrocodone	112	112	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A83753
Included Lab Sample IDs: 1985668

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	122	116	P/P	50 - 150
Imidacloprid	108	108	P/P	60 - 150
Linuron	112	109	P/P	60 - 150
MCPP	111	106	P/P	50 - 150
Primidone	95.4	98.3	P/P	60 - 150
Pyraclostrobin	101	102	P/P	60 - 150
Triclopyr	114	115	P/P	50 - 160

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				4.29	
EPA 200.7 Rev. 4.4	Iron	103	101 97.9 97.0			0.921
	Zinc	101	99.4 98.2 98.0			0.224
EPA 200.8 Rev. 5.4	Arsenic	96.0	105 96.5 95.5			1.02
	Cadmium	103	104 105 104			0.835
	Chromium	100	99.3 98.6 97.9			0.662
	Copper	103	99.0 98.9 99.4			0.470
	Lead	92.3	99.2 94.2 93.8			0.493
	Nickel	106	102 103 103			0.571
	Silver	102	101 103 102			1.03
EPA 300.0 Rev. 2.1	Chloride	97.3	100 100			0.187
	Sulfate	96.7	97.9 98.4			0.526
EPA 350.1 Rev. 2.0	Ammonia-N	102	98.0 100			1.59
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	106 103			2.53
EPA 353.2 Rev. 2.0	NO2NO3-N	102	96.0 96.5			0.519
EPA 365.1 Rev. 2.0	Total-P	105	100 102			2.19
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.0 98.6			1.34
EPA 8321B	2,4-D	111	68.9 71.4			3.61
	2,4-D	95.8	73.2 69.0			4.35
	Acetaminophen	122	116 120			3.23
	Acetaminophen	94.1	105 110			4.74
	Bentazon	134	70.5 89.7			24.0
	Bentazon	105	43.0 42.4			0.982
	Carbamazepine	116	106 110			3.79
	Carbamazepine	104	77.0 80.9			4.92
	Diuron	80.7	73.3 71.4			2.69
	Diuron	83.2	69.8 69.4			0.635
	Fenuron	134	116 125			7.51
	Fenuron	112	75.8 78.8			3.77
	Fluridone	58.8	47.0 47.4			0.994
	Fluridone	90.0	74.5 76.3			2.34
	Hydrocodone	115	118 115			2.47
	Hydrocodone	107	108 114			5.46

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	107	78.0	82.2		5.21
	Imazapyr	120				1.13
	Imidacloprid	129	128	136		5.51
	Imidacloprid	114	193	201		3.76
	Linuron	81.4	67.8	71.1		4.75
	Linuron	98.9	88.0	101		13.8
	MCPP	105	74.6	66.9		10.8
	MCPP	98.6	70.2	65.1		7.45
	Primidone	139	112	122		9.12
	Primidone	105	91.2	101		9.71
	Pyraclostrobin	59.7	60.3	53.3		12.3
	Pyraclostrobin	84.1	80.2	81.6		1.74
	Sucralose	105	71.3	65.1		7.89
	Triclopyr	105	70.9	70.3		0.844
	Triclopyr	105	78.2	78.0		0.270
SM 2120 B	Color (true)				0.436	
SM 2320 B-97	Total Alkalinity	102			0.144	
SM 2540 C-97	TDS				3.53	
SM 4500 F-C-97	Fluoride	96.3	95.7	97.0		0.960
SM 5310 B-00	Organic Carbon	95.0	94.6	93.6		0.578

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1985655, 1985656
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1985669, 1985670
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1985669, 1985670
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1985655, 1985656
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1985655, 1985656
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1985657, 1985658
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1985657, 1985658
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1985657, 1985658
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1985657, 1985658
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1985659, 1985660
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1985667, 1985668
SM 2120 B / E31780	True Color measured at 450 nm	1985655, 1985656
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1985655, 1985656
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1985655, 1985656
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1985655, 1985656
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1985655, 1985656
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1985657, 1985658

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	04/18/2018			04/18/2018 16:38	William L. Brown IV	1985655, 1985656
EPA 200.7 Rev. 4.4	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 18:56	Martin Acosta	1985669
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 19:03	Martin Acosta	1985670
EPA 200.8 Rev. 5.4	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 04:04	Robert K Palmer	1985669
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 04:14	Robert K Palmer	1985670
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 13:38	Robert K Palmer	1985669
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 13:42	Robert K Palmer	1985670
EPA 300.0 Rev. 2.1	04/18/2018			04/20/2018 02:32	Lipi Saha	1985655
	04/18/2018			04/20/2018 02:44	Lipi Saha	1985656
EPA 350.1 Rev. 2.0	04/18/2018			04/24/2018 12:59	Ping Hua	1985657
	04/18/2018			04/24/2018 13:07	Ping Hua	1985658
EPA 351.2 Rev. 2.0	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:12	Joseph Suarez	1985657
	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/24/2018 09:16	Joseph Suarez	1985658
EPA 353.2 Rev. 2.0	04/18/2018			04/23/2018 13:31	Lauren Bottorf	1985657
	04/18/2018			04/23/2018 14:51	Lauren Bottorf	1985658
EPA 365.1 Rev. 2.0	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 12:48	Beverly Y. Sanders	1985657
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 12:56	Beverly Y. Sanders	1985658
EPA 365.1 Rev. 2.0 dissolved	04/18/2018			04/18/2018 16:11	Megan Treadwell	1985659
	04/18/2018			04/18/2018 16:18	Megan Treadwell	1985660
EPA 8321B	04/18/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 19:30	S. M. Reddy	1985667
	04/18/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 19:46	S. M. Reddy	1985668
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 18:21	Julie Michelle Frank	1985667
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/23/2018 09:21	Julie Michelle Frank	1985667
	04/18/2018	04/24/2018 10:00	Hoor Shaik	05/04/2018 00:28	Juyoung Kim	1985668
	04/18/2018	04/24/2018 10:00	Hoor Shaik	05/06/2018 07:14	Juyoung Kim	1985668
SM 2120 B	04/18/2018			04/19/2018 14:05	Tanya Welborn	1985655
	04/18/2018			04/19/2018 14:06	Tanya Welborn	1985656
SM 2320 B-97	04/18/2018			04/28/2018 02:51	Dale L. Simmons	1985655
	04/18/2018			04/28/2018 03:01	Dale L. Simmons	1985656
SM 2540 C-97	04/18/2018			04/24/2018 15:21	Yijie Li	1985655, 1985656
SM 2540 D-97	04/18/2018			04/24/2018 15:21	Yijie Li	1985655, 1985656
SM 4500 F-C-97	04/18/2018			04/28/2018 02:51	Dale L. Simmons	1985655
	04/18/2018			04/28/2018 03:01	Dale L. Simmons	1985656
SM 5310 B-00	04/18/2018			04/23/2018 23:46	Megan Treadwell	1985657
	04/18/2018			04/24/2018 00:03	Megan Treadwell	1985658