

Chemical Analysis Report

CEN-DIST-2019-01-17-01

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

Event Description: **Long X2 / Econ Trib / UnDrain / Roberts**

Request ID: **RQ-2019-01-14-21**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

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Date Certified: 04-FEB-2019 14:37



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: LONG BRANCH @ 0.7MI DS OF CR 13

Collection Date/Time: 01/16/2019 10:14

Field ID: G2CE0036

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2054960	EPA 8321B	2,4-D	0.0020	U	ug/L	P357055	
		Sucralose**	0.28		ug/L	P357428	
		Bentazon	8.4E-04	I	ug/L	P357055	
		MCP	0.0020	U	ug/L	P357055	
		Triclopyr**	0.0040	U	ug/L	P357055	
		Imidacloprid	0.0020	U	ug/L	P357055	MS
		Diuron	0.0020	U	ug/L	P357055	
		Pyraclostrobin**	0.0020	U	ug/L	P357055	
		Primidone**	0.0040	U	ug/L	P357055	
		Linuron	0.0040	U	ug/L	P357055	
		Acetaminophen**	0.0080	U	ug/L	P357055	
		Fenuron	0.016	U	ug/L	P357055	
		Imazapyr**	0.025		ug/L	P357055	
		Carbamazepine**	8.5E-04	I	ug/L	P357055	
		Fluridone**	0.0023	I	ug/L	P357055	
		Hydrocodone**	0.0020	U	ug/L	P357055	
		Naproxen**	0.0080	U	ug/L	P357055	
		Ibuprofen**	0.020	U	ug/L	P357055	
		Glyphosate**	0.10	U	ug/L	P357428	
		AMPA**	0.10	U	ug/L	P357428	
		Endothall**	0.25	U	ug/L	P357428	
		Glufosinate**	0.10	U	ug/L	P357428	
		Acesulfame K**	0.10	U	ug/L	P357428	

Sample Location: LONG BRANCH @

Collection Date/Time: 01/16/2019 10:37

Field ID: G2CE0199

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2054961	EPA 8321B	2,4-D	0.0020	U	ug/L	P357055	
		Sucralose**	0.33		ug/L	P357428	
		Bentazon	8.3E-04	I	ug/L	P357055	
		MCP	0.0020	U	ug/L	P357055	
		Triclopyr**	0.0040	U	ug/L	P357055	
		Imidacloprid	0.0020	I	ug/L	P357055	MS
		Diuron	0.0020	U	ug/L	P357055	
		Pyraclostrobin**	0.0020	U	ug/L	P357055	
		Primidone**	0.0040	U	ug/L	P357055	
		Linuron	0.0040	U	ug/L	P357055	
		Acetaminophen**	0.0080	U	ug/L	P357055	
		Fenuron	0.016	U	ug/L	P357055	
		Imazapyr**	0.028		ug/L	P357055	
		Carbamazepine**	8.6E-04	I	ug/L	P357055	
		Fluridone**	0.0018	I	ug/L	P357055	
		Hydrocodone**	0.0020	U	ug/L	P357055	
		Naproxen**	0.0080	U	ug/L	P357055	
		Ibuprofen**	0.020	U	ug/L	P357055	
		Glyphosate**	0.10	U	ug/L	P357428	
		AMPA**	0.10	U	ug/L	P357428	
		Endothall**	0.25	U	ug/L	P357428	
		Glufosinate**	0.10	U	ug/L	P357428	
		Acesulfame K**	0.13	I	ug/L	P357428	

Sample Location: ECON RIVER TRIB @

Collection Date/Time: 01/16/2019 11:57

Field ID: G2CE0198

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2054923	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P357469	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P357606	
		Sulfate	6.2	A	mg SO4/L	P357608	
		Color (true)	64	A	PCU	P357474	
	SM 2120 B	Total Alkalinity	79		mg CaCO3/L	P357950	
	SM 2540 C-97	TDS	146	A	mg/L	P357674	
	SM 2540 D-97	TSS	2	UA	mg/L	P357694	
	SM 4500 F-C-97	Fluoride	0.056	I	mg F/L	P357953	
2054924	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P357686	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P357529	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P357732	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P357540	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P357592	
2054925	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P357463	
2054962	EPA 200.7 Rev. 4.4	Barium	14.7		ug/L	P357479	
		Calcium	34.5		mg/L	P357479	
		Iron	310		ug/L	P357479	
		Magnesium	2.12		mg/L	P357479	
		Potassium	1.4		mg/L	P357479	
		Sodium	12.8		mg/L	P357479	
		Zinc	5.0	U	ug/L	P357479	
	EPA 200.8 Rev. 5.4	Aluminum	80		ug/L	P357479	
		Antimony	0.11	I	ug/L	P357479	
		Arsenic	0.38		ug/L	P357479	
		Boron**	26.8		ug/L	P357479	
		Cadmium	0.020	U	ug/L	P357479	
		Chromium	0.57	I	ug/L	P357479	
		Copper	0.78	I	ug/L	P357479	
		Lead	0.20	U	ug/L	P357479	
		Nickel	0.50	U	ug/L	P357479	
		Selenium	0.20	U	ug/L	P357479	
		Silver	0.010	U	ug/L	P357479	
		Thallium	0.10	U	ug/L	P357479	

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: P357469

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P357479

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P357479

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357606

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357608

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357686

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: P357529

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P357732

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P357540

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P357463

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

Reference Method: EPA 8321B
 Batch ID: P357055

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	8.0E-04	U	ug/L
Hydrocodone	0.0020	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: P357428

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P357474

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P357950

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

Reference Method: SM 2540 C-97
Batch ID: P357674

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P357694

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P357953

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P357592

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: P357479

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	105		P	85 - 115
Iron	106		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	105		P	85 - 115
Sodium	105		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P357479

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	98.5		P	85 - 115
Arsenic	102		P	85 - 115
Boron	106		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	98.9		P	85 - 115
Copper	99.4		P	85 - 115
Lead	98.4		P	85 - 115
Nickel	97.7		P	85 - 115
Selenium	101		P	85 - 115
Silver	103		P	85 - 115
Thallium	98.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357606

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357608

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357686

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P357529

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P357732

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P357540

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	106		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P357463

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.5		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P357055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	67.7		P	40 - 150
Acetaminophen	104		P	30 - 150
Bentazon	73.2		P	30 - 150
Carbamazepine	92.5		P	40 - 150
Diuron	75.0		P	40 - 150
Fenuron	111		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	101		P	40 - 150
Ibuprofen	73.1		P	40 - 150
Imazapyr	91.3		P	40 - 150
Imidacloprid	107		P	40 - 160
Linuron	77.3		P	40 - 150
MCPP	95.4		P	40 - 150
Naproxen	52.5		P	40 - 150
Primidone	92.6		P	40 - 150
Pyraclostrobin	65.0		P	40 - 150
Triclopyr	45.1		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P357428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	111		P	40 - 150
Endothall	70.5		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	113		P	40 - 140
Sucralose	107		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P357474

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P357950

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

Reference Method: SM 4500 F-C-97
Batch ID: P357953

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P357592

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P357479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054962	Barium	99.3		P	80 - 120
2054962	Calcium	97.6		P	80 - 120
2054962	Iron	103		P	80 - 120
2054962	Magnesium	104		P	80 - 120
2054962	Potassium	102		P	80 - 120
2054962	Sodium	108		P	80 - 120
2054962	Zinc	103		P	80 - 120
2055124	Barium	98.6	98.2	P/P	80 - 120
2055124	Calcium	102	103	P/P	80 - 120
2055124	Iron	103	104	P/P	80 - 120
2055124	Magnesium	106	105	P/P	80 - 120
2055124	Potassium	104	104	P/P	80 - 120
2055124	Sodium	105		P	80 - 120
2055124	Zinc	101	100	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P357479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054962	Aluminum	97.5		P	80 - 120
2054962	Antimony	96.5		P	80 - 120
2054962	Arsenic	101		P	80 - 120
2054962	Boron	99.8		P	80 - 120
2054962	Cadmium	98.7		P	80 - 120
2054962	Chromium	95.2		P	80 - 120
2054962	Copper	95.6		P	80 - 120
2054962	Lead	97.7		P	80 - 120
2054962	Nickel	96.5		P	80 - 120
2054962	Selenium	96.8		P	80 - 120
2054962	Silver	100		P	80 - 120
2054962	Thallium	103		P	80 - 120
2055124	Aluminum	99.1	101	P/P	80 - 120
2055124	Antimony	96.6	97.7	P/P	80 - 120
2055124	Arsenic	103	105	P/P	80 - 120
2055124	Boron	101	103	P/P	80 - 120
2055124	Cadmium	100	101	P/P	80 - 120
2055124	Chromium	98.6	99.5	P/P	80 - 120
2055124	Copper	96.4	98.4	P/P	80 - 120
2055124	Lead	97.0	98.7	P/P	80 - 120
2055124	Nickel	97.4	99.0	P/P	80 - 120
2055124	Selenium	102	103	P/P	80 - 120
2055124	Silver	103	104	P/P	80 - 120
2055124	Thallium	105	107	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P357606

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054923	Chloride	98.5		P	90 - 110
2054993	Chloride	100		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054923	Sulfate	99.8		P	90 - 110
2054993	Sulfate	99.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P357686

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054950	Ammonia-N	98.7	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P357529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054912	Kjeldahl Nitrogen	103	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P357732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054704	NO2NO3-N	97.9	97.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P357540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054924	Total-P	102	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P357463

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054910	O-Phosphate-P	98.8	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P357055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2053633	2,4-D	82.2	74.7	P/P	40 - 150
2053633	Acetaminophen	113	109	P/P	30 - 150
2053633	Bentazon	37.5	35.0	P/P	30 - 150
2053633	Carbamazepine	81.6	78.5	P/P	40 - 150
2053633	Diuron	65.5	62.7	P/P	40 - 150
2053633	Fenuron	88.3	85.3	P/P	40 - 150
2053633	Fluridone	89.1	91.5	P/P	40 - 150
2053633	Hydrocodone	109	105	P/P	40 - 150
2053633	Ibuprofen	67.1	62.3	P/P	40 - 150
2053633	Imazapyr	114	107	P/P	40 - 150
2053633	Imidacloprid	196	192	F/F	40 - 160
2053633	Linuron	66.0	67.3	P/P	40 - 150
2053633	MCP	111	102	P/P	40 - 150
2053633	Naproxen	51.3	53.8	P/P	40 - 150
2053633	Primidone	96.9	91.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P357055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2053633	Pyraclostrobin	65.1	64.4	P/P	40 - 150
2053633	Triclopyr	61.6	56.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P357428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054960	Acesulfame K	94.3	93.8	P/P	40 - 150
2054960	AMPA	106	108	P/P	40 - 150
2054960	Endothall	85.7	92.5	P/P	40 - 150
2054960	Glufosinate	91.2	88.1	P/P	40 - 150
2054960	Glyphosate	94.6	95.7	P/P	40 - 140
2054960	Sucralose	111	110	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P357953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054944	Fluoride	95.2	96.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P357592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2054865	Organic Carbon	97.6	97.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P357469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054908	Turbidity	5.81	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P357479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2055124	Barium	0.448	Spike	P	0 - 20
2055124	Calcium	0.603	Spike	P	0 - 20
2055124	Iron	0.902	Spike	P	0 - 20
2055124	Magnesium	0.116	Spike	P	0 - 20
2055124	Potassium	0.145	Spike	P	0 - 20
2055124	Sodium	0.847	Spike	P	0 - 20
2055124	Zinc	0.442	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P357479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2055124	Aluminum	1.43	Spike	P	0 - 20
2055124	Antimony	1.15	Spike	P	0 - 20
2055124	Arsenic	1.88	Spike	P	0 - 20
2055124	Boron	1.96	Spike	P	0 - 20
2055124	Cadmium	0.790	Spike	P	0 - 20
2055124	Chromium	0.943	Spike	P	0 - 20
2055124	Copper	1.95	Spike	P	0 - 20
2055124	Lead	1.72	Spike	P	0 - 20
2055124	Nickel	1.57	Spike	P	0 - 20
2055124	Selenium	1.01	Spike	P	0 - 20
2055124	Silver	1.13	Spike	P	0 - 20
2055124	Thallium	1.52	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357606

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054923	Chloride	0.252	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P357608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054923	Sulfate	0.265	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P357686

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054950	Ammonia-N	1.56	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P357529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054912	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P357732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054704	NO2NO3-N	0.350	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P357540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054924	Total-P	3.40	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P357463

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054910	O-Phosphate-P	2.50	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P357055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2053633	2,4-D	9.54	Spike	P	0 - 30
2053633	Acetaminophen	4.04	Spike	P	0 - 30
2053633	Bentazon	6.81	Spike	P	0 - 30
2053633	Carbamazepine	3.85	Spike	P	0 - 30
2053633	Diuron	4.38	Spike	P	0 - 30
2053633	Fenuron	3.48	Spike	P	0 - 30
2053633	Fluridone	2.63	Spike	P	0 - 30
2053633	Hydrocodone	3.30	Spike	P	0 - 30
2053633	Ibuprofen	7.35	Spike	P	0 - 30
2053633	Imazapyr	5.97	Spike	P	0 - 30
2053633	Imidacloprid	2.04	Spike	P	0 - 30
2053633	Linuron	1.96	Spike	P	0 - 30
2053633	MCP	9.02	Spike	P	0 - 30
2053633	Naproxen	4.75	Spike	P	0 - 30
2053633	Primidone	6.28	Spike	P	0 - 30
2053633	Pyraclostrobin	1.04	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P357055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2053633	Triclopyr	9.09	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P357428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054960	Acesulfame K	0.531	Spike	P	0 - 30
2054960	AMPA	1.57	Spike	P	0 - 30
2054960	Endothall	7.62	Spike	P	0 - 30
2054960	Glufosinate	3.53	Spike	P	0 - 30
2054960	Glyphosate	1.02	Spike	P	0 - 30
2054960	Sucralose	0.787	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P357474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054923	Color (true)	1.15	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P357950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054944	Total Alkalinity	0.961	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P357674

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054923	TDS	6.19	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P357953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054944	Fluoride	0.986	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P357592

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2054865	Organic Carbon	0.0469	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: 2054960
Field Sample ID: G2CE0036

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.7	P	30 - 160
EPA 8321B	Diuron-d6	69.0	P	30 - 160
EPA 8321B	Endothall-d6	92.8	P	40 - 160
EPA 8321B	Endothall-d6	92.8	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	52.6	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	52.6	P	40 - 160
EPA 8321B	Ibuprofen-d3	71.3	P	30 - 160
EPA 8321B	Primidone-d5	93.0	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2054961
Field Sample ID: G2CE0199

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	84.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.9	P	30 - 160
EPA 8321B	Diuron-d6	64.0	P	30 - 160
EPA 8321B	Endothall-d6	91.0	P	40 - 160
EPA 8321B	Endothall-d6	91.0	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	54.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	54.9	P	40 - 160
EPA 8321B	Ibuprofen-d3	70.1	P	30 - 160
EPA 8321B	Primidone-d5	87.9	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A88882

Included Lab Sample IDs: 2054925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A88883

Included Lab Sample IDs: 2054923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A88884

Included Lab Sample IDs: 2054923

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

Reference Method: SM 5310 B-00

Run ID: A88923

Included Lab Sample IDs: 2054924

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A88925

Included Lab Sample IDs: 2054962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.7	96.9	P/P	90 - 110
Calcium	97.5	95.9	P/P	90 - 110
Iron	99.5	97.6	P/P	90 - 110
Magnesium	98.9	97.0	P/P	90 - 110
Potassium	95.0	93.7	P/P	90 - 110
Zinc	100	98.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A88926

Included Lab Sample IDs: 2054960, 2054961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	79.7	81.2	P/P	50 - 150
Acetaminophen	113	110	P/P	60 - 160
Bentazon	101	103	P/P	50 - 160
Carbamazepine	106	103	P/P	60 - 150
Diuron	106	105	P/P	60 - 150
Fenuron	107	106	P/P	60 - 150
Fluridone	106	109	P/P	60 - 160
Hydrocodone	99.4	102	P/P	60 - 150
Ibuprofen	89.4	110	P/P	50 - 160
Imazapyr	94.1	95.2	P/P	50 - 150
Imidacloprid	104	101	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A88926

Included Lab Sample IDs: 2054960, 2054961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	111	110	P/P	60 - 150
MCP	80.4	93.4	P/P	50 - 150
Naproxen	96.6	94.2	P/P	50 - 160
Primidone	105	107	P/P	60 - 150
Pyraclorobin	109	101	P/P	60 - 150
Triclopyr	91.7	88.6	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A88931

Included Lab Sample IDs: 2054923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	105	P/P	90 - 110
Sulfate	103	104	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A88934

Included Lab Sample IDs: 2054962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	95.0	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A88935

Included Lab Sample IDs: 2054960, 2054961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	123	159	P/P	60 - 160
AMPA	159	123	P/P	60 - 160
Glufosinate	115	100	P/P	60 - 160
Glufosinate	94.7	115	P/P	60 - 160
Glyphosate	117	108	P/P	60 - 160
Glyphosate	92.8	117	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88936

Included Lab Sample IDs: 2054924

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.3	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A88945

Included Lab Sample IDs: 2054960, 2054961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	111	96.7	P/P	60 - 160
Acesulfame K	96.6	111	P/P	60 - 160
Endothall	76.1	79.4	P/P	60 - 160
Endothall	79.4	80.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A88950

Included Lab Sample IDs: 2054924

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

Reference Method: EPA 8321B

Run ID: A88955

Included Lab Sample IDs: 2054960, 2054961

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	110	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88964

Included Lab Sample IDs: 2054924

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88976

Included Lab Sample IDs: 2054924

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A88979

Included Lab Sample IDs: 2054962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	100	98.9	P/P	90 - 110
Arsenic	102	105	P/P	90 - 110
Boron	102	105	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	102	102	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Selenium	102	105	P/P	90 - 110
Silver	105	104	P/P	90 - 110
Thallium	96.8	96.1	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A89058

Included Lab Sample IDs: 2054923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A89058

Included Lab Sample IDs: 2054923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	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								5.81	
EPA 200.7 Rev. 4.4	Barium	102			99.3	98.6	98.2			0.448
	Calcium	105			97.6	102	103			0.603
	Iron	106			103	103	104			0.902
	Magnesium	109			104	106	105			0.116
	Potassium	105			102	104	104			0.145
	Sodium	105			108	105				0.847
	Zinc	102			103	101	100			0.442
EPA 200.8 Rev. 5.4	Aluminum	101			97.5	99.1	101			1.43
	Antimony	98.5			96.5	96.6	97.7			1.15
	Arsenic	102			101	103	105			1.88
	Boron	106			99.8	101	103			1.96
	Cadmium	101			98.7	100	101			0.790
	Chromium	98.9			95.2	98.6	99.5			0.943
	Copper	99.4			95.6	96.4	98.4			1.95
	Lead	98.4			97.7	97.0	98.7			1.72
	Nickel	97.7			96.5	97.4	99.0			1.57
	Selenium	101			96.8	102	103			1.01
	Silver	103			100	103	104			1.13
	Thallium	98.7			103	105	107			1.52
EPA 300.0 Rev. 2.1	Chloride	100			98.5	100			0.252	
	Sulfate	102			99.8	99.0			0.265	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2			98.7	96.8				1.56
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107			103	99.2				2.54
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100			97.9	97.4				0.350
EPA 365.1 Rev. 2.0	Total-P	106			102	98.4				3.40
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.5			98.8	101				2.50
EPA 8321B	2,4-D	67.7			82.2	74.7				9.54
	Acesulfame K	104			94.3	93.8				0.531
	Acetaminophen	104			113	109				4.04
	AMPA	111			106	108				1.57
	Bentazon	73.2			37.5	35.0				6.81
	Carbamazepine	92.5			81.6	78.5				3.85
	Diuron	75.0			65.5	62.7				4.38
	Endothall	70.5			85.7	92.5				7.62
	Fenuron	111			88.3	85.3				3.48
	Fluridone	102			89.1	91.5				2.63
	Glufosinate	104			91.2	88.1				3.53
	Glyphosate	113			94.6	95.7				1.02
	Hydrocodone	101			109	105				3.30
	Ibuprofen	73.1			67.1	62.3				7.35
	Imazapyr	91.3			114	107				5.97
	Imidacloprid	107			196	192				2.04
	Linuron	77.3			66.0	67.3				1.96
	MCPP	95.4			111	102				9.02
	Naproxen	52.5			51.3	53.8				4.75
	Primidone	92.6			96.9	91.0				6.28
	Pyraclostrobin	65.0			65.1	64.4				1.04
	Sucralose	107			111	110				0.787
	Triclopyr	45.1			61.6	56.3				9.09
SM 2120 B	Color (true)	101							1.15	
SM 2320 B-97	Total Alkalinity	102							0.961	
SM 2540 C-97	TDS								6.19	
SM 4500 F-C-97	Fluoride	97.9			95.2	96.5				0.986

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 5310 B-00	Organic Carbon	97.8	97.6 97.5			0.0469

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2054923
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2054962
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2054962
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2054923
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2054923
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2054924
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2054924
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2054924
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2054924
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2054925
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2054960, 2054961
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2054960, 2054961
SM 2120 B / E31780	True Color measured at 450 nm	2054923
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2054923
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2054923
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2054923
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2054923
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2054924

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	01/17/2019			01/17/2019 16:08	Sima Feizi	2054923
EPA 200.7 Rev. 4.4	01/17/2019	01/17/2019 18:40	Elliott D. Healy	01/18/2019 16:18	Betina Topolski	2054962
	01/17/2019	01/17/2019 18:40	Elliott D. Healy	01/22/2019 11:54	Betina Topolski	2054962
EPA 200.8 Rev. 5.4	01/17/2019	01/17/2019 18:40	Elliott D. Healy	01/23/2019 19:26	Robert K Palmer	2054962
EPA 300.0 Rev. 2.1	01/17/2019			01/19/2019 07:11	Lipi Saha	2054923
EPA 350.1 Rev. 2.0	01/17/2019			01/22/2019 11:36	Ping Hua	2054924
EPA 351.2 Rev. 2.0	01/17/2019	01/18/2019 11:15	Adrian Shelby	01/22/2019 12:05	Joseph Suarez	2054924
EPA 353.2 Rev. 2.0	01/17/2019			01/23/2019 10:17	Beverly Y. Sanders	2054924
EPA 365.1 Rev. 2.0	01/17/2019	01/18/2019 12:35	Sima Feizi	01/22/2019 18:14	Rosalyn Ballman	2054924
EPA 365.1 Rev. 2.0 dissolved	01/17/2019			01/17/2019 14:04	Jhamieka S. Greenwood	2054925
EPA 8321B	01/17/2019	01/17/2019 13:00	Hoor Shaik	01/18/2019 02:28	Juyoung Kim	2054960
	01/17/2019	01/17/2019 13:00	Hoor Shaik	01/18/2019 03:03	Juyoung Kim	2054961
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/22/2019 10:46	Mohammad Ghaffari	2054960
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/22/2019 11:26	Mohammad Ghaffari	2054961
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/22/2019 15:08	Mohammad Ghaffari	2054960
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/22/2019 15:36	Mohammad Ghaffari	2054961
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/23/2019 01:39	Mohammad Ghaffari	2054960
	01/17/2019	01/22/2019 10:15	Mohammad Ghaffari	01/23/2019 01:52	Mohammad Ghaffari	2054961
SM 2120 B	01/17/2019			01/17/2019 15:30	Chelsea Hernandez	2054923
SM 2320 B-97	01/17/2019			01/24/2019 05:34	Dale L. Simmons	2054923
SM 2540 C-97	01/17/2019			01/18/2019 20:10	Mariam Hanna	2054923
SM 2540 D-97	01/17/2019			01/18/2019 20:10	Mariam Hanna	2054923
SM 4500 F-C-97	01/17/2019			01/24/2019 05:34	Dale L. Simmons	2054923
SM 5310 B-00	01/17/2019			01/18/2019 19:01	Megan Treadwell	2054924