

Chemical Analysis Report

TLH-ROC-2020-09-28-01

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

Event Description: **Run 3**
Request ID: **RQ-2020-09-14-43**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
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Certified by: Colin Wright, Program Administrator

Date Certified: 15-OCT-2020 13:40

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Fenholloway River @ Mouth

Collection Date/Time: 09/28/2020 10:04

Field ID: G1TLHR0042

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2198645	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P387975	
	EPA 300.0 Rev. 2.1	Bromide	8.2		mg Br/L	P388433	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P388087	
	SM 2540 D-2011	TSS	3	U	mg/L	P388472	
	SM 4500 F-C-2011	Fluoride	0.23		mg F/L	P388090	
2198646	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P388177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P388104	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.023		mg N/L	P387946	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P388275	
	SM 5310 B-2011	Organic Carbon	30		mg C/L	P388075	
2198647	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P387986	
2198654	EPA 8321B	2,4-D	0.0020	U	ug/L	P388044	
		Acesulfame K**	0.10	UJ	ug/L	P388001	SUR
		AMPA**	1.0	U	ug/L	P388001	
		Sucralose**	0.010	U	ug/L	P388001	
		Acetaminophen**	0.0080	U	ug/L	P388044	
		Acetamiprid**	0.0020	U	ug/L	P388044	
		Endothall**	0.25	UJ	ug/L	P388001	SUR
		Glufosinate**	1.0	U	ug/L	P388001	
		Glyphosate**	1.0	U	ug/L	P388001	
		Afidopyropen**	0.0020	U	ug/L	P388044	
		Bentazon	8.0E-04	U	ug/L	P388044	
		Benzovindiflupyr**	0.0020	U	ug/L	P388044	
		Carbamazepine**	8.0E-04	U	ug/L	P388044	
		Clothianidin**	0.0020	U	ug/L	P388044	
		Dinotefuran**	0.0020	U	ug/L	P388044	
		Diuron	0.0020	U	ug/L	P388044	
		Fenuron	0.016	U	ug/L	P388044	
		Fluridone**	8.0E-04	U	ug/L	P388044	
		Imazapyr**	0.045		ug/L	P388044	
		Hydrocodone**	0.0020	U	ug/L	P388044	
		Ibuprofen**	0.020	U	ug/L	P388044	
		Imidacloprid	0.0020	U	ug/L	P388044	
		Linuron	0.0040	U	ug/L	P388044	
		Mandestrobin**	0.0020	U	ug/L	P388044	
		MCP	0.0020	U	ug/L	P388044	
		Naproxen**	0.0080	U	ug/L	P388044	
		Primidone**	0.0040	U	ug/L	P388044	
		Pyraclostrobin**	0.0020	U	ug/L	P388044	
		Thiamethoxam**	0.0020	U	ug/L	P388044	
		Tolfenpyrad**	0.0020	U	ug/L	P388044	
		Triclopyr**	0.0040	U	ug/L	P388044	

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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EPA 8321B: MDL for some parameters elevated due to matrix interference. Results confirmed in sample duplicate. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Aucilla River @ Mouth

Collection Date/Time: 09/28/2020 11:45

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2198642	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P387975	
	EPA 300.0 Rev. 2.1	Bromide	20		mg Br/L	P388433	
	SM 2320 B-2011	Total Alkalinity	104		mg CaCO3/L	P388088	
	SM 2540 D-2011	TSS	3	UA	mg/L	P388472	
	SM 4500 F-C-2011	Fluoride	0.43		mg F/L	P388091	
2198643	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P388177	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P388104	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P387946	
	EPA 365.1 Rev. 2.0	Total-P	0.044		mg P/L	P388275	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P388075	
2198644	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P387986	
2198655	EPA 200.7 Rev. 4.4	Barium	7.0	I	ug/L	P388237	
		Calcium	138		mg/L	P388237	
		Chromium	6.2	I	ug/L	P388237	
		Iron	320	I	ug/L	P388237	
		Magnesium	356		mg/L	P388237	
		Potassium	105		mg/L	P388237	
		Sodium	2.90E+03		mg/L	P388237	
		Zinc	15	U	ug/L	P388237	
	EPA 200.8 Rev. 5.4	Aluminum	109		ug/L	P388237	
		Antimony	0.20	U	ug/L	P388237	
		Arsenic	1.12		ug/L	P388237	
		Beryllium	0.040	U	ug/L	P388237	
		Boron**	1.28E+03		ug/L	P388237	
		Cadmium	0.080	U	ug/L	P388237	
		Copper	1.6	U	ug/L	P388237	
		Lead	0.80	U	ug/L	P388237	
		Nickel	2.0	U	ug/L	P388237	
		Selenium	0.80	U	ug/L	P388237	
		Silver	0.040	U	ug/L	P388237	
		Thallium	0.40	U	ug/L	P388237	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Bromide: Batch relative percent difference and matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium, magnesium, potassium and sodium are unavailable because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387975

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P388237

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/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: P388237

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	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: P388433

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388104

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387946

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388275

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387986

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

Reference Method: EPA 8321B
Batch ID: P388001

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

Reference Method: EPA 8321B
Batch ID: P388044

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	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
Mandestrobin	0.0020	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
Thiamethoxam	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P388044

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011
Batch ID: P388087

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

Reference Method: SM 2320 B-2011
Batch ID: P388088

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

Reference Method: SM 2540 D-2011
Batch ID: P388472

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P388091

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P388075

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: P388237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	95.7		P	85 - 115
Calcium	101		P	85 - 115
Chromium	91.2		P	85 - 115
Iron	101		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	96.4		P	85 - 115
Sodium	97.9		P	85 - 115
Zinc	92.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P388237

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	103		P	85 - 115
Beryllium	93.6		P	85 - 115
Boron	97.2		P	85 - 115
Cadmium	99.6		P	85 - 115
Copper	101		P	85 - 115
Lead	97.7		P	85 - 115
Nickel	103		P	85 - 115
Selenium	100		P	85 - 115
Silver	96.2		P	85 - 115
Thallium	101		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388433

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388177

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388104

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387946

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P388275

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387986

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

Reference Method: EPA 8321B
 Batch ID: P388001

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	133		P	40 - 150
AMPA	47.8		P	40 - 150
Endothall	95.3		P	40 - 150
Glufosinate	85.4		P	40 - 150
Glyphosate	96.9		P	40 - 140
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P388044

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	87.0		P	30 - 160
Acetaminophen	66.2		P	30 - 160
Acetamiprid	82.1		P	30 - 160
Afidopyropen	40.5		P	30 - 160
Bentazon	46.0		P	30 - 160
Benzovindiflupyr	71.4		P	30 - 160
Carbamazepine	59.0		P	30 - 160
Clothianidin	80.4		P	30 - 160
Dinotefuran	88.0		P	30 - 160
Diuron	56.8		P	30 - 160
Fenuron	84.3		P	30 - 160
Fluridone	71.9		P	30 - 160
Hydrocodone	87.7		P	30 - 160
Ibuprofen	44.7		P	30 - 160
Imazapyr	84.4		P	30 - 160
Imidacloprid	116		P	30 - 160
Linuron	61.8		P	30 - 160
Mandestrobin	72.7		P	30 - 160
MCPP	74.3		P	30 - 160
Naproxen	63.3		P	30 - 160
Primidone	60.0		P	30 - 160
Pyraclostrobin	60.5		P	30 - 160
Thiamethoxam	79.2		P	30 - 160
Tolfenpyrad	51.8		P	30 - 160
Triclopyr	61.3		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P388087

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	93 - 104

Reference Method: SM 2320 B-2011
Batch ID: P388088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.7		P	93 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P388090

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	90 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P388091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.8		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P388075

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P388237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198982	Barium	96.8	97.1	P/P	70 - 130
2198982	Chromium	92.7	93.7	P/P	70 - 130
2198982	Iron	104	101	P/P	70 - 130
2198982	Zinc	95.5	95.6	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P388237

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198982	Aluminum	114	111	P/P	70 - 130
2198982	Antimony	106	105	P/P	70 - 130
2198982	Arsenic	114	113	P/P	70 - 130
2198982	Beryllium	114	110	P/P	70 - 130
2198982	Cadmium	103	101	P/P	70 - 130
2198982	Copper	115	111	P/P	70 - 130
2198982	Lead	99.5	99.0	P/P	70 - 130
2198982	Nickel	116	113	P/P	70 - 130
2198982	Selenium	115	112	P/P	70 - 130
2198982	Silver	91.1	89.0	P/P	70 - 130
2198982	Thallium	101	104	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P388433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198159	Bromide	94.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198661	Ammonia-N	96.9	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198140	Kjeldahl Nitrogen	102	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198643	NO2NO3-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198140	Total-P	105	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P387986

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198662	O-Phosphate-P	103	102	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P388001

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198705	Acesulfame K	137	133	P/P	40 - 150
2198705	AMPA	112	119	P/P	40 - 150
2198705	Endothall	88.3	85.8	P/P	40 - 150
2198705	Glufosinate	93.9	95.7	P/P	40 - 150
2198705	Glyphosate	79.7	79.7	P/P	40 - 140
2198705	Sucralose	103	103	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P388044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198240	2,4-D	87.4	76.4	P/P	30 - 160
2198240	Acetaminophen	57.0	61.7	P/P	30 - 160
2198240	Acetamiprid	80.2	84.3	P/P	30 - 160
2198240	Afidopyropen	43.7	45.4	P/P	30 - 160
2198240	Bentazon	39.3	38.0	P/P	30 - 160
2198240	Benzovindiflupyr	73.2	71.7	P/P	30 - 160
2198240	Carbamazepine	56.4	56.0	P/P	30 - 160
2198240	Clothianidin	75.3	72.7	P/P	30 - 160
2198240	Dinotefuran	96.1	96.7	P/P	30 - 160
2198240	Diuron	52.5	53.3	P/P	30 - 160
2198240	Fenuron	77.6	80.0	P/P	30 - 160
2198240	Fluridone	74.2	74.3	P/P	30 - 160
2198240	Hydrocodone	75.5	84.6	P/P	30 - 160
2198240	Ibuprofen	45.3	47.0	P/P	30 - 160
2198240	Imazapyr	87.8	74.9	P/P	30 - 160
2198240	Linuron	69.9	67.1	P/P	30 - 160
2198240	Mandestrobin	79.1	80.5	P/P	30 - 160
2198240	MCPP	66.0	68.9	P/P	30 - 160
2198240	Naproxen	72.5	55.2	P/P	30 - 160
2198240	Primidone	84.5	73.8	P/P	30 - 160
2198240	Pyraclostrobin	63.8	64.8	P/P	30 - 160
2198240	Thiamethoxam	75.6	74.2	P/P	30 - 160
2198240	Tolfenpyrad	57.9	58.3	P/P	30 - 160
2198240	Triclopyr	52.4	53.7	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
 Batch ID: P388090

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198231	Fluoride	97.6	98.2	P/P	94 - 107

Reference Method: SM 4500 F-C-2011
 Batch ID: P388091

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

Reference Method: SM 4500 F-C-2011
Batch ID: P388091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198158	Fluoride	102	102	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P388075

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2198161	Organic Carbon	98.0	95.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P387975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198772	Turbidity	2.01	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P388237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198982	Barium	0.289	Spike	P	0 - 20
2198982	Calcium	0.845	Spike	P	0 - 20
2198982	Chromium	1.01	Spike	P	0 - 20
2198982	Iron	2.84	Spike	P	0 - 20
2198982	Magnesium	0.181	Spike	P	0 - 20
2198982	Potassium	0.425	Spike	P	0 - 20
2198982	Sodium	0.667	Spike	P	0 - 20
2198982	Zinc	0.0752	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P388237

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198982	Aluminum	2.25	Spike	P	0 - 20
2198982	Antimony	0.979	Spike	P	0 - 20
2198982	Arsenic	1.16	Spike	P	0 - 20
2198982	Beryllium	4.16	Spike	P	0 - 20
2198982	Boron	2.09	Spike	P	0 - 20
2198982	Cadmium	2.06	Spike	P	0 - 20
2198982	Copper	3.20	Spike	P	0 - 20
2198982	Lead	0.430	Spike	P	0 - 20
2198982	Nickel	2.68	Spike	P	0 - 20
2198982	Selenium	2.05	Spike	P	0 - 20
2198982	Silver	2.34	Spike	P	0 - 20
2198982	Thallium	2.10	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P388177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198661	Ammonia-N	0.319	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P388104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198140	Kjeldahl Nitrogen	2.33	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P387946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198643	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P388275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198140	Total-P	0.973	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P387986

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198662	O-Phosphate-P	1.27	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P388001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198705	Acesulfame K	3.12	Spike	P	0 - 30
2198705	AMPA	5.79	Spike	P	0 - 30
2198705	Endothall	2.86	Spike	P	0 - 30
2198705	Glufosinate	1.87	Spike	P	0 - 30
2198705	Glyphosate	0.0514	Spike	P	0 - 30
2198705	Sucralose	0.469	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P388044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198240	2,4-D	13.4	Spike	P	0 - 30
2198240	Acetaminophen	7.96	Spike	P	0 - 30
2198240	Acetamiprid	4.94	Spike	P	0 - 30
2198240	Afidopyropen	3.98	Spike	P	0 - 30
2198240	Bentazon	3.44	Spike	P	0 - 30
2198240	Benzovindiflupyr	2.04	Spike	P	0 - 30
2198240	Carbamazepine	0.719	Spike	P	0 - 30
2198240	Clothianidin	2.94	Spike	P	0 - 30
2198240	Dinotefuran	0.605	Spike	P	0 - 30
2198240	Diuron	1.33	Spike	P	0 - 30
2198240	Fenuron	3.08	Spike	P	0 - 30
2198240	Fluridone	0.119	Spike	P	0 - 30
2198240	Hydrocodone	11.3	Spike	P	0 - 30
2198240	Ibuprofen	3.60	Spike	P	0 - 30
2198240	Imazapyr	15.9	Spike	P	0 - 30
2198240	Imidacloprid	7.74	Spike	P	0 - 30
2198240	Linuron	4.21	Spike	P	0 - 30
2198240	Mandestrobin	1.79	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P388044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198240	MCP	4.32	Spike	P	0 - 30
2198240	Naproxen	27.1	Spike	P	0 - 30
2198240	Primidone	13.6	Spike	P	0 - 30
2198240	Pyraclostrobin	1.57	Spike	P	0 - 30
2198240	Thiamethoxam	1.38	Spike	P	0 - 30
2198240	Tolfenpyrad	0.718	Spike	P	0 - 30
2198240	Triclopyr	2.34	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
 Batch ID: P388087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198231	Total Alkalinity	2.24	Sample	P	0 - 8.1

Reference Method: SM 2320 B-2011
 Batch ID: P388088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198158	Total Alkalinity	0.222	Sample	P	0 - 8.1

Reference Method: SM 4500 F-C-2011
 Batch ID: P388090

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198231	Fluoride	0.514	Spike	P	0 - 2.8

Reference Method: SM 4500 F-C-2011
 Batch ID: P388091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198158	Fluoride	0.473	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
 Batch ID: P388075

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2198161	Organic Carbon	1.64	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2198654

Field Sample ID: G1TLHR0042

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	56.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	59.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	62.0	P	30 - 160
EPA 8321B	Diuron-d6	47.7	P	30 - 160
EPA 8321B	Endothall-d6	403	F	30 - 160
EPA 8321B	Endothall-d6	403	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	53.0	P	30 - 160
EPA 8321B	Primidone-d5	58.9	P	30 - 160
EPA 8321B	Sucralose-d6	36.4	P	30 - 160
EPA 8321B	Sucralose-d6	36.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A101241

Included Lab Sample IDs: 2198643, 2198646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A101259

Included Lab Sample IDs: 2198642, 2198645

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A101263

Included Lab Sample IDs: 2198644, 2198647

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.7	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A101299

Included Lab Sample IDs: 2198643, 2198646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	99.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A101307

Included Lab Sample IDs: 2198642, 2198645

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

Reference Method: SM 4500 F-C-2011

Run ID: A101307

Included Lab Sample IDs: 2198642, 2198645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	103	P/P	90 - 110
Fluoride	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101337

Included Lab Sample IDs: 2198654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	69.9	82.0	P/P	60 - 160
Endothall	91.3	104	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A101338

Included Lab Sample IDs: 2198643, 2198646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.0	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A101343

Included Lab Sample IDs: 2198643, 2198646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	93.4	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A101349

Included Lab Sample IDs: 2198654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	101	P/P	60 - 160
Glufosinate	107	99.7	P/P	60 - 160
Glyphosate	105	100	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101350

Included Lab Sample IDs: 2198654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	98.4	96.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A101380

Included Lab Sample IDs: 2198654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	111	91.9	P/P	50 - 150
Acetaminophen	90.4	97.0	P/P	60 - 160
Acetamiprid	96.8	106	P/P	50 - 150
Afidopyropen	92.3	92.4	P/P	50 - 150
Bentazon	101	92.0	P/P	50 - 160
Benzovindiflupyr	104	97.9	P/P	50 - 150
Carbamazepine	101	103	P/P	60 - 150
Clothianidin	100	99.2	P/P	60 - 150
Dinotefuran	100	99.1	P/P	50 - 150
Diuron	100	103	P/P	60 - 160
Fenuron	106	106	P/P	60 - 150
Fluridone	101	101	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	75.7	72.5	P/P	50 - 160
Imazapyr	88.3	93.5	P/P	50 - 160
Imidacloprid	105	111	P/P	60 - 150
Linuron	96.6	78.3	P/P	60 - 150
Mandestrobin	99.1	99.7	P/P	50 - 150
MCPP	100	91.6	P/P	50 - 150
Naproxen	102	81.1	P/P	50 - 160
Primidone	91.4	94.5	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A101380

Included Lab Sample IDs: 2198654

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	100	94.2	P/P	60 - 150
Thiamethoxam	93.0	105	P/P	50 - 150
Tolfenpyrad	102	90.6	P/P	60 - 150
Triclopyr	99.7	85.2	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A101391

Included Lab Sample IDs: 2198642, 2198645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	107	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A101420

Included Lab Sample IDs: 2198655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	102	P/P	90 - 110
Antimony	100	100	P/P	90 - 110
Arsenic	103	102	P/P	90 - 110
Beryllium	98.2	99.0	P/P	90 - 110
Boron	100	103	P/P	90 - 110
Cadmium	98.0	97.8	P/P	90 - 110
Copper	102	103	P/P	90 - 110
Lead	97.0	97.4	P/P	90 - 110
Nickel	105	105	P/P	90 - 110
Selenium	99.7	99.0	P/P	90 - 110
Silver	100	100	P/P	90 - 110
Thallium	94.0	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A101428

Included Lab Sample IDs: 2198643, 2198646

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	96.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A101438

Included Lab Sample IDs: 2198655

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	102	P/P	90 - 110
Calcium	103	102	P/P	90 - 110
Chromium	99.3	98.7	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	98.7	98.7	P/P	90 - 110
Sodium	99.5	99.8	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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				2.01	
EPA 200.7 Rev. 4.4	Barium	95.7	96.8	97.1		0.289
	Calcium	101				0.845
	Chromium	91.2	92.7	93.7		1.01
	Iron	101	104	101		2.84
	Magnesium	101				0.181
	Potassium	96.4				0.425
	Sodium	97.9				0.667
	Zinc	92.5	95.5	95.6		0.0752
EPA 200.8 Rev. 5.4	Aluminum	100	114	111		2.25
	Antimony	102	106	105		0.979
	Arsenic	103	114	113		1.16
	Beryllium	93.6	114	110		4.16
	Boron	97.2				2.09
	Cadmium	99.6	103	101		2.06
	Copper	101	115	111		3.20
	Lead	97.7	99.5	99.0		0.430
	Nickel	103	116	113		2.68
	Selenium	100	115	112		2.05
	Silver	96.2	91.1	89.0		2.34
	Thallium	101	101	104		2.10
EPA 300.0 Rev. 2.1	Bromide	106	94.2			
EPA 350.1 Rev. 2.0	Ammonia-N	99.8	96.9	97.2		0.319
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.0	102	105		2.33
EPA 353.2 Rev. 2.0	NO2NO3-N	100	98.0	98.0		0.0
EPA 365.1 Rev. 2.0	Total-P	103	105	104		0.973
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	103	102		1.27
EPA 8321B	2,4-D	87.0	87.4	76.4		13.4
	Acesulfame K	133	137	133		3.12
	Acetaminophen	66.2	57.0	61.7		7.96
	Acetamiprid	82.1	80.2	84.3		4.94
	Afidopyropen	40.5	43.7	45.4		3.98
	AMPA	47.8	112	119		5.79
	Bentazon	46.0	39.3	38.0		3.44
	Benzovindiflupyr	71.4	73.2	71.7		2.04
	Carbamazepine	59.0	56.4	56.0		0.719
	Clothianidin	80.4	75.3	72.7		2.94
	Dinotefuran	88.0	96.1	96.7		0.605
	Diuron	56.8	52.5	53.3		1.33
	Endothall	95.3	88.3	85.8		2.86
	Fenuron	84.3	77.6	80.0		3.08
	Fluridone	71.9	74.2	74.3		0.119
	Glufosinate	85.4	93.9	95.7		1.87
	Glyphosate	96.9	79.7	79.7		0.0514
	Hydrocodone	87.7	75.5	84.6		11.3
	Ibuprofen	44.7	45.3	47.0		3.60
	Imazapyr	84.4	87.8	74.9		15.9
	Imidacloprid	116				7.74
	Linuron	61.8	69.9	67.1		4.21
	Mandestrobin	72.7	79.1	80.5		1.79
	MCPP	74.3	66.0	68.9		4.32
	Naproxen	63.3	72.5	55.2		27.1
	Primidone	60.0	84.5	73.8		13.6
	Pyraclostrobin	60.5	63.8	64.8		1.57

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Sucralose	103	103	103			0.469
	Thiamethoxam	79.2	75.6	74.2			1.38
	Tolfenpyrad	51.8	57.9	58.3			0.718
	Triclopyr	61.3	52.4	53.7			2.34
SM 2320 B-2011	Total Alkalinity	99.2				2.24	
	Total Alkalinity	99.7				0.222	
SM 4500 F-C-2011	Fluoride	97.3	97.6	98.2			0.514
	Fluoride	97.8	102	102			0.473
SM 5310 B-2011	Organic Carbon	99.2	98.0	95.8			1.64

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2198642, 2198645
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2198655
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2198655
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2198642, 2198645
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2198643, 2198646
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2198643, 2198646
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2198643, 2198646
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2198643, 2198646
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2198644, 2198647
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2198654
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2198654
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2198642, 2198645
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2198642, 2198645
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2198642, 2198645
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2198643, 2198646

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/28/2020			09/29/2020 15:34	Yen Ta	2198642, 2198645
EPA 200.7 Rev. 4.4	09/28/2020	10/05/2020 16:00	Elliott D. Healy	10/08/2020 22:27	Betina Topolski	2198655
	09/28/2020	10/05/2020 16:00	Elliott D. Healy	10/08/2020 22:35	Betina Topolski	2198655
EPA 200.8 Rev. 5.4	09/28/2020	10/05/2020 16:00	Elliott D. Healy	10/07/2020 22:02	Alexander Thompson	2198655
EPA 300.0 Rev. 2.1	09/28/2020			10/08/2020 23:58	Lipi Saha	2198642
	09/28/2020			10/09/2020 00:15	Lipi Saha	2198645
EPA 350.1 Rev. 2.0	09/28/2020			10/03/2020 16:22	Ping Hua	2198643
	09/28/2020			10/03/2020 16:24	Ping Hua	2198646
EPA 351.2 Rev. 2.0	09/28/2020	10/01/2020 13:30	David Boose	10/02/2020 12:25	Elliott Rodriguez	2198643
	09/28/2020	10/01/2020 13:30	David Boose	10/02/2020 12:27	Elliott Rodriguez	2198646
EPA 353.2 Rev. 2.0	09/28/2020			09/29/2020 08:56	Beverly Y. Sanders	2198643
	09/28/2020			09/29/2020 09:04	Beverly Y. Sanders	2198646
EPA 365.1 Rev. 2.0	09/28/2020	10/06/2020 12:50	Yen Ta	10/08/2020 11:42	Lipi Saha	2198643
	09/28/2020	10/06/2020 12:50	Yen Ta	10/08/2020 11:43	Lipi Saha	2198646
EPA 365.1 Rev. 2.0 dissolved	09/28/2020			09/29/2020 15:49	Virginia P. Brown	2198644
	09/28/2020			09/29/2020 15:50	Virginia P. Brown	2198647
EPA 8321B	09/28/2020	09/30/2020 14:45	Rebecca Ware	09/30/2020 22:26	Rebecca Ware	2198654
	09/28/2020	09/30/2020 14:45	Rebecca Ware	10/01/2020 13:39	Rebecca Ware	2198654
	09/28/2020	09/30/2020 14:45	Rebecca Ware	10/02/2020 14:22	Rebecca Ware	2198654
	09/28/2020	10/01/2020 09:00	Hoor Shaik	10/06/2020 08:13	Juyoung Kim	2198654
SM 2320 B-2011	09/28/2020			10/01/2020 01:29	Dale L. Simmons	2198645
	09/28/2020			10/01/2020 05:04	Dale L. Simmons	2198642
SM 2540 D-2011	09/28/2020			10/01/2020 15:15	Yijie Li	2198642, 2198645
SM 4500 F-C-2011	09/28/2020			10/01/2020 01:29	Dale L. Simmons	2198645
	09/28/2020			10/01/2020 03:29	Dale L. Simmons	2198642
SM 5310 B-2011	09/28/2020			10/01/2020 03:21	Madeline Gruver	2198643
	09/28/2020			10/01/2020 03:33	Madeline Gruver	2198646