

Chemical Analysis Report

SO-DIST-2020-04-02-01

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

Event Description: **2020 SMP : Combo Run #2**
Request ID: **RQ-2020-03-30-50**
Customer: **SO-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 23-APR-2020 14:38



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: Drainage Ditch @ CR850

Collection Date/Time: 04/01/2020 09:30

Field ID: G1SD0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2169435	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P381995	
		Sulfate	7.7		mg SO4/L	P382001	
	SM 2320 B-2011	Total Alkalinity	214		mg CaCO3/L	P381989	
	SM 2540 C-2011	TDS	275		mg/L	P382049	
	SM 2540 D-2011	TSS	50		mg/L	P382052	
	SM 4500 F-C-2011	Fluoride	0.27		mg F/L	P381927	MS, RPD
2169437	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P381829	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P381799	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P381733	
	EPA 365.1 Rev. 2.0	Total-P	0.40		mg P/L	P381805	
	SM 5310 B-2011	Organic Carbon	7.2		mg C/L	P381851	
2169443	EPA 200.7 Rev. 4.4	Barium	20.1		ug/L	P381941	
		Calcium	72.2		mg/L	P381941	
		Iron	6.40E+03		ug/L	P381941	
		Magnesium	12.9		mg/L	P381941	
		Potassium	4.1		mg/L	P381941	
		Sodium	18.8		mg/L	P381941	
		Zinc	7.9	I	ug/L	P381941	
	EPA 200.8 Rev. 5.4	Aluminum	1.79E+03		ug/L	P381941	
		Antimony	0.15	I	ug/L	P381941	
		Arsenic	1.77		ug/L	P381941	
		Boron**	47.4		ug/L	P381941	
		Cadmium	0.020	U	ug/L	P381941	
		Chromium	5.3		ug/L	P381941	
		Copper	2.32		ug/L	P381941	
	SM 2340B	Lead	1.22		ug/L	P381941	
		Nickel	0.93	I	ug/L	P381941	
		Selenium	0.20	U	ug/L	P381941	
		Silver	0.010	U	ug/L	P381941	
		Thallium	0.10	U	ug/L	P381941	
		Hardness	233		mg/L	P381941	

Ref. Method and Comment:

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 are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Pollywog Creek @ SR 78

Collection Date/Time: 04/01/2020 10:20

Field ID: G3SD0098

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2169442	EPA 8321B	2,4-D	0.0025	I	ug/L	P381729	
		Acesulfame K**	0.10	I	ug/L	P381772	MS
		AMPA**	0.10	U	ug/L	P381772	
		Sucralose**	0.65		ug/L	P381772	
		Acetaminophen**	0.0080	U	ug/L	P381729	
		Acetamiprid**	0.0020	U	ug/L	P381729	
		Endothall**	0.25	U	ug/L	P381772	
		Glufosinate**	0.10	U	ug/L	P381772	
		Glyphosate**	0.10	U	ug/L	P381772	
		Afidopyropen**	0.0020	UJ	ug/L	P381729	
		Bentazon	8.0E-04	U	ug/L	P381729	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P381729	
		Carbamazepine**	0.0096		ug/L	P381729	
		Clothianidin**	0.0020	U	ug/L	P381729	
		Dinotefuran**	0.0020	U	ug/L	P381729	
		Diuron	0.0020	U	ug/L	P381729	
		Fenuron	0.016	U	ug/L	P381729	
		Fluridone**	8.0E-04	U	ug/L	P381729	
		Imazapyr**	0.0044	I	ug/L	P381729	
		Hydrocodone**	0.0020	U	ug/L	P381729	
		Ibuprofen**	0.020	U	ug/L	P381729	
		Imidacloprid	0.0020	U	ug/L	P381729	
		Linuron	0.0040	U	ug/L	P381729	
		Mandestrobin**	0.0020	UJ	ug/L	P381729	
		MCPP	0.0020	U	ug/L	P381729	
		Naproxen**	0.0080	U	ug/L	P381729	
		Primidone**	0.0040	U	ug/L	P381729	
		Pyraclostrobin**	0.0020	U	ug/L	P381729	
		Thiamethoxam**	0.0020	U	ug/L	P381729	
		Tolfenpyrad**	0.0020	U	ug/L	P381729	
		Triclopyr**	0.0040	U	ug/L	P381729	

Ref. Method and Comment:

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Cow Slough @FarabeeRoad

Collection Date/Time: 04/01/2020 11:35

Field ID: G3SD0160

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2169436	EPA 300.0 Rev. 2.1	Chloride	83		mg Cl/L	P381995	
		Sulfate	100		mg SO4/L	P382001	
	SM 2320 B-2011	Total Alkalinity	115		mg CaCO3/L	P381989	
	SM 2540 C-2011	TDS	413		mg/L	P382049	
	SM 2540 D-2011	TSS	21		mg/L	P382052	
	SM 4500 F-C-2011	Fluoride	0.37		mg F/L	P381927	MS, RPD
2169438	EPA 350.1 Rev. 2.0	Ammonia-N	0.049		mg N/L	P381829	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P381799	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P381733	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P381805	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P381851	
2169444	EPA 200.7 Rev. 4.4	Barium	58.2		ug/L	P381941	
		Calcium	68.1		mg/L	P381941	
		Iron	750		ug/L	P381941	
		Magnesium	21.7		mg/L	P381941	
		Potassium	8.4		mg/L	P381941	
		Sodium	43.6		mg/L	P381941	
		Zinc	5.0	U	ug/L	P381941	
	EPA 200.8 Rev. 5.4	Aluminum	112		ug/L	P381941	
		Antimony	0.19	I	ug/L	P381941	
		Arsenic	1.29		ug/L	P381941	
		Boron**	67.6		ug/L	P381941	
		Cadmium	0.020	U	ug/L	P381941	
		Chromium	0.47	I	ug/L	P381941	
		Copper	0.58	I	ug/L	P381941	
		Lead	0.20	U	ug/L	P381941	
		Nickel	1.1	I	ug/L	P381941	
		Selenium	0.25	I	ug/L	P381941	
	SM 2340B	Silver	0.010	U	ug/L	P381941	
		Thallium	0.10	U	ug/L	P381941	
		Hardness	260		mg/L	P381941	

Ref. Method and Comment:

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 are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381941

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: P381941

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: P381995

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P382001

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381829

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381799

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: P381733

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P381805

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

Reference Method: EPA 8321B
 Batch ID: P381729

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
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
 Batch ID: P381772

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 2320 B-2011
Batch ID: P381989

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

Reference Method: SM 2540 C-2011
Batch ID: P382049

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P382052

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381927

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P381851

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: P381941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	97.1		P	85 - 115
Calcium	100		P	85 - 115
Iron	102		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	97.5		P	85 - 115
Sodium	99.6		P	85 - 115
Zinc	98.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	91.8		P	85 - 115
Antimony	95.9		P	85 - 115
Arsenic	97.3		P	85 - 115
Boron	94.7		P	85 - 115
Cadmium	95.8		P	85 - 115
Chromium	92.3		P	85 - 115
Copper	92.5		P	85 - 115
Lead	93.1		P	85 - 115
Nickel	91.3		P	85 - 115
Selenium	91.8		P	85 - 115
Silver	95.5		P	85 - 115
Thallium	95.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381995

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P382001

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381829

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381799

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381805

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

Reference Method: EPA 8321B
Batch ID: P381729

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	30 - 160
Acetaminophen	66.6		P	30 - 160
Acetamiprid	94.2		P	30 - 160
Afidopyropen	92.7		P	30 - 160
Bentazon	54.3		P	30 - 160
Benzovindiflupyr	78.1		P	30 - 160
Carbamazepine	110		P	30 - 160
Clothianidin	79.8		P	30 - 160
Dinotefuran	71.5		P	30 - 160
Diuron	94.1		P	30 - 160
Fenuron	100		P	30 - 160
Fluridone	82.1		P	30 - 160
Hydrocodone	82.5		P	30 - 160
Ibuprofen	72.8		P	30 - 160
Imazapyr	73.8		P	30 - 160
Imidacloprid	107		P	30 - 160
Linuron	64.4		P	30 - 160
Mandestrobin	80.0		P	30 - 160
MCPP	124		P	30 - 160
Naproxen	69.1		P	30 - 160
Primidone	91.9		P	30 - 160
Pyraclostrobin	77.8		P	30 - 160
Thiamethoxam	90.2		P	30 - 160
Tolfenpyrad	52.5		P	30 - 160
Triclopyr	98.0		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P381772

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
AMPA	88.5		P	40 - 150
Endothall	92.0		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	95.7		P	40 - 140
Sucralose	99.4		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P381989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P381927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	103		P	92 - 104

Reference Method: SM 5310 B-2011
Batch ID: P381851

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169376	Barium	94.6	96.5	P/P	80 - 120
2169376	Calcium	103		P	80 - 120
2169376	Iron	103	104	P/P	80 - 120
2169376	Magnesium	102		P	80 - 120
2169376	Potassium	98.2	97.4	P/P	80 - 120
2169376	Sodium	101		P	80 - 120
2169376	Zinc	94.7	95.6	P/P	80 - 120
2169385	Barium	92.6		P	80 - 120
2169385	Iron	98.2		P	80 - 120
2169385	Magnesium	103		P	80 - 120
2169385	Potassium	92.9		P	80 - 120
2169385	Sodium	99.7		P	80 - 120
2169385	Zinc	95.1		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381941

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169376	Aluminum	94.3	95.1	P/P	80 - 120
2169376	Antimony	96.3	98.3	P/P	80 - 120
2169376	Arsenic	96.1	99.1	P/P	80 - 120
2169376	Boron	98.6	97.3	P/P	80 - 120
2169376	Cadmium	95.5	98.9	P/P	80 - 120
2169376	Chromium	96.2	99.1	P/P	80 - 120
2169376	Copper	95.9	93.3	P/P	80 - 120
2169376	Lead	94.0	95.3	P/P	80 - 120
2169376	Nickel	92.5	93.7	P/P	80 - 120
2169376	Selenium	90.2	92.4	P/P	80 - 120
2169376	Silver	93.8	95.1	P/P	80 - 120
2169376	Thallium	97.7	101	P/P	80 - 120
2169385	Aluminum	88.8		P	80 - 120
2169385	Antimony	99.0		P	80 - 120
2169385	Arsenic	99.4		P	80 - 120
2169385	Boron	96.0		P	80 - 120
2169385	Cadmium	97.0		P	80 - 120
2169385	Chromium	97.2		P	80 - 120
2169385	Copper	92.0		P	80 - 120
2169385	Lead	95.0		P	80 - 120
2169385	Nickel	93.2		P	80 - 120
2169385	Selenium	92.3		P	80 - 120
2169385	Silver	93.6		P	80 - 120
2169385	Thallium	99.6		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169345	Chloride	97.5		P	90 - 110
2169413	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P382001

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169345	Sulfate	98.8		P	90 - 110
2169413	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169458	Ammonia-N	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381799

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169372	Kjeldahl Nitrogen	91.0	91.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169437	NO2NO3-N	94.0	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381805

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169401	Total-P	104	106	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P381729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169069	2,4-D	119	111	P/P	30 - 160
2169069	Acetaminophen	101	88.6	P/P	30 - 160
2169069	Acetamiprid	90.9	81.2	P/P	30 - 160
2169069	Afidopyropen	110	96.1	P/P	30 - 160
2169069	Benzovindiflupyr	87.2	75.0	P/P	30 - 160
2169069	Carbamazepine	91.1	80.7	P/P	30 - 160
2169069	Clothianidin	82.2	78.3	P/P	30 - 160
2169069	Dinotefuran	92.8	92.5	P/P	30 - 160
2169069	Diuron	96.4	83.4	P/P	30 - 160
2169069	Fenuron	66.4	58.8	P/P	30 - 160
2169069	Fluridone	89.5	73.5	P/P	30 - 160
2169069	Hydrocodone	86.6	76.6	P/P	30 - 160
2169069	Ibuprofen	73.9	63.1	P/P	30 - 160
2169069	Imazapyr	110	89.1	P/P	30 - 160
2169069	Imidacloprid	144	125	P/P	30 - 160
2169069	Linuron	66.7	53.9	P/P	30 - 160
2169069	Mandestrobin	91.1	78.4	P/P	30 - 160
2169069	MCP	127	111	P/P	30 - 160
2169069	Naproxen	80.9	66.9	P/P	30 - 160
2169069	Primidone	82.2	70.3	P/P	30 - 160
2169069	Pyraclostrobin	90.5	80.8	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P381729

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169069	Thiamethoxam	116	100	P/P	30 - 160
2169069	Tolfenpyrad	60.3	51.6	P/P	30 - 160
2169069	Triclopyr	118	102	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P381772

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169045	Acesulfame K	18.8	18.0	F/F	40 - 150
2169045	AMPA	59.9	56.5	P/P	40 - 150
2169045	Endothall	98.6	111	P/P	40 - 150
2169045	Glufosinate	93.7	89.1	P/P	40 - 150
2169045	Glyphosate	100	84.2	P/P	40 - 140
2169045	Sucralose	95.5	87.1	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P381927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169176	Fluoride	106	103	F/P	91 - 105

Reference Method: SM 5310 B-2011
Batch ID: P381851

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2169460	Organic Carbon	97.2	96.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P381941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169376	Barium	1.87	Spike	P	0 - 20
2169376	Calcium	0.664	Spike	P	0 - 20
2169376	Iron	0.391	Spike	P	0 - 20
2169376	Magnesium	0.769	Spike	P	0 - 20
2169376	Potassium	0.629	Spike	P	0 - 20
2169376	Sodium	0.133	Spike	P	0 - 20
2169376	Zinc	1.02	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P381941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169376	Aluminum	0.712	Spike	P	0 - 20
2169376	Antimony	2.03	Spike	P	0 - 20
2169376	Arsenic	3.03	Spike	P	0 - 20
2169376	Boron	1.15	Spike	P	0 - 20
2169376	Cadmium	3.49	Spike	P	0 - 20
2169376	Chromium	2.78	Spike	P	0 - 20
2169376	Copper	2.75	Spike	P	0 - 20
2169376	Lead	1.35	Spike	P	0 - 20
2169376	Nickel	1.31	Spike	P	0 - 20
2169376	Selenium	2.41	Spike	P	0 - 20
2169376	Silver	1.35	Spike	P	0 - 20
2169376	Thallium	3.08	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169345	Chloride	0.102	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P382001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169345	Sulfate	0.192	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169458	Ammonia-N	1.04	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169372	Kjeldahl Nitrogen	0.489	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169437	NO2NO3-N	0.602	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381805

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169401	Total-P	2.16	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P381729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169069	2,4-D	5.17	Spike	P	0 - 30
2169069	Acetaminophen	12.7	Spike	P	0 - 30
2169069	Acetamiprid	11.2	Spike	P	0 - 30
2169069	Afidopyropen	13.5	Spike	P	0 - 30
2169069	Bentazon	6.74	Spike	P	0 - 30
2169069	Benzovindiflupyr	15.1	Spike	P	0 - 30
2169069	Carbamazepine	12.1	Spike	P	0 - 30
2169069	Clothianidin	4.66	Spike	P	0 - 30
2169069	Dinotefuran	0.228	Spike	P	0 - 30
2169069	Diuron	14.4	Spike	P	0 - 30
2169069	Fenuron	12.1	Spike	P	0 - 30
2169069	Fluridone	15.7	Spike	P	0 - 30
2169069	Hydrocodone	12.3	Spike	P	0 - 30
2169069	Ibuprofen	15.8	Spike	P	0 - 30
2169069	Imazapyr	15.7	Spike	P	0 - 30
2169069	Imidacloprid	13.4	Spike	P	0 - 30
2169069	Linuron	21.3	Spike	P	0 - 30
2169069	Mandestrobin	15.0	Spike	P	0 - 30
2169069	MCPP	13.9	Spike	P	0 - 30
2169069	Naproxen	19.0	Spike	P	0 - 30
2169069	Primidone	15.6	Spike	P	0 - 30
2169069	Pyraclostrobin	11.3	Spike	P	0 - 30
2169069	Thiamethoxam	13.4	Spike	P	0 - 30
2169069	Tolfenpyrad	15.6	Spike	P	0 - 30
2169069	Triclopyr	14.2	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P381772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169045	Acesulfame K	4.28	Spike	P	0 - 30
2169045	AMPA	3.91	Spike	P	0 - 30
2169045	Endothall	11.7	Spike	P	0 - 30
2169045	Glufosinate	5.02	Spike	P	0 - 30
2169045	Glyphosate	15.5	Spike	P	0 - 30
2169045	Sucralose	9.15	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
 Batch ID: P381989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169462	Total Alkalinity	1.88	Sample	P	0 - 3.3

Reference Method: SM 2540 C-2011
 Batch ID: P382049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169348	TDS	5.13	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P381927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169176	Fluoride	2.85	Spike	F	0 - 2.0

Reference Method: SM 5310 B-2011
 Batch ID: P381851

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2169460	Organic Carbon	0.299	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2169442
Field Sample ID: G3SD0098

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	94.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.1	P	30 - 160
EPA 8321B	Diuron-d6	109	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Endothall-d6	100	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Ibuprofen-d3	91.4	P	30 - 160
EPA 8321B	Primidone-d5	88.4	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A98609

Included Lab Sample IDs: 2169437, 2169438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.0	95.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A98658

Included Lab Sample IDs: 2169437, 2169438

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

Reference Method: SM 5310 B-2011

Run ID: A98666

Included Lab Sample IDs: 2169437, 2169438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.3	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A98668

Included Lab Sample IDs: 2169437, 2169438

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A98669

Included Lab Sample IDs: 2169437, 2169438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.6	97.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A98686

Included Lab Sample IDs: 2169435, 2169436

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

Reference Method: EPA 8321B

Run ID: A98689

Included Lab Sample IDs: 2169442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.5	93.8	P/P	50 - 150
Acetaminophen	93.0	86.3	P/P	60 - 160
Acetamiprid	96.5	91.3	P/P	50 - 150
Afidopyrophen	99.8	90.1	P/P	50 - 150
Bentazon	71.0	96.5	P/P	50 - 160
Benzovindiflupyr	110	104	P/P	50 - 150
Carbamazepine	99.6	92.2	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A98689
Included Lab Sample IDs: 2169442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	96.0	80.9	P/P	60 - 150
Dinotefuran	87.8	78.0	P/P	50 - 150
Diuron	98.4	99.0	P/P	60 - 160
Fenuron	88.3	77.0	P/P	60 - 150
Fluridone	110	97.3	P/P	60 - 160
Hydrocodone	107	95.4	P/P	60 - 150
Ibuprofen	99.0	69.1	P/P	50 - 160
Imazapyr	98.1	91.9	P/P	50 - 150
Imidacloprid	102	86.8	P/P	60 - 150
Linuron	105	89.1	P/P	60 - 150
Mandestrobin	112	98.7	P/P	50 - 150
MCPP	91.9	96.3	P/P	50 - 150
Naproxen	134	89.2	P/P	50 - 160
Primidone	86.1	86.4	P/P	60 - 150
Pyraclostrobin	116	108	P/P	60 - 150
Thiamethoxam	96.6	81.9	P/P	50 - 150
Tolfenpyrad	116	102	P/P	60 - 150
Triclopyr	96.9	85.1	P/P	50 - 150

Reference Method: SM 4500 F-C-2011
Run ID: A98694
Included Lab Sample IDs: 2169435, 2169436

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

Reference Method: EPA 8321B
Run ID: A98699
Included Lab Sample IDs: 2169442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	105	103	P/P	60 - 160
Endothall	101	102	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A98702
Included Lab Sample IDs: 2169442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	83.3	83.8	P/P	40 - 200
Glufosinate	111	109	P/P	40 - 200
Glyphosate	104	97.0	P/P	40 - 200

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A98721
Included Lab Sample IDs: 2169443, 2169444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.0	96.9	P/P	90 - 110
Arsenic	98.0	97.2	P/P	90 - 110
Boron	103	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98721

Included Lab Sample IDs: 2169443, 2169444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	96.1	95.7	P/P	90 - 110
Chromium	93.7	91.6	P/P	90 - 110
Copper	94.2	91.7	P/P	90 - 110
Lead	96.9	96.7	P/P	90 - 110
Nickel	93.3	93.0	P/P	90 - 110
Selenium	95.1	93.3	P/P	90 - 110
Silver	92.9	93.4	P/P	90 - 110
Thallium	93.0	91.8	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A98727

Included Lab Sample IDs: 2169435, 2169436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.6	99.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A98738

Included Lab Sample IDs: 2169443, 2169444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	96.2	95.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A98761

Included Lab Sample IDs: 2169443, 2169444

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	102	P/P	90 - 110
Calcium	99.7	102	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	101	104	P/P	90 - 110
Potassium	99.5	102	P/P	90 - 110
Sodium	98.2	101	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A98790

Included Lab Sample IDs: 2169442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	102	P/P	60 - 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			Precision SMP	MS
			LCS				
EPA 200.7 Rev. 4.4	Barium	97.1	94.6	96.5	92.6		1.87
	Calcium	100	103				0.664
	Iron	102	103	104	98.2		0.391
	Magnesium	101	102	103			0.769
	Potassium	97.5	98.2	97.4	92.9		0.629
	Sodium	99.6	101	99.7			0.133
	Zinc	98.3	94.7	95.6	95.1		1.02
EPA 200.8 Rev. 5.4	Aluminum	91.8	88.8	94.3	95.1		0.712
	Antimony	95.9	99.0	96.3	98.3		2.03
	Arsenic	97.3	99.4	96.1	99.1		3.03
	Boron	94.7	96.0	98.6	97.3		1.15
	Cadmium	95.8	97.0	95.5	98.9		3.49
	Chromium	92.3	97.2	96.2	99.1		2.78
	Copper	92.5	92.0	95.9	93.3		2.75
	Lead	93.1	95.0	94.0	95.3		1.35
	Nickel	91.3	93.2	92.5	93.7		1.31
	Selenium	91.8	92.3	90.2	92.4		2.41
	Silver	95.5	93.6	93.8	95.1		1.35
	Thallium	95.6	99.6	97.7	101		3.08
	Chloride	98.3	97.5	101		0.102	
EPA 300.0 Rev. 2.1	Sulfate	99.2	98.8	101		0.192	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	101			1.04
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	91.0	91.8			0.489
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	94.0	95.0			0.602
EPA 365.1 Rev. 2.0	Total-P	104	104	106			2.16
EPA 8321B	2,4-D	115	119	111			5.17
	Acesulfame K	102	18.8	18.0			4.28
	Acetaminophen	66.6	101	88.6			12.7
	Acetamiprid	94.2	90.9	81.2			11.2
	Afidopyropen	92.7	110	96.1			13.5
	AMPA	88.5	59.9	56.5			3.91
	Bentazon	54.3					6.74
	Benzovindiflupyr	78.1	87.2	75.0			15.1
	Carbamazepine	110	91.1	80.7			12.1
	Clothianidin	79.8	82.2	78.3			4.66
	Dinotefuran	71.5	92.8	92.5			0.228
	Diuron	94.1	96.4	83.4			14.4
	Endothall	92.0	98.6	111			11.7
	Fenuron	100	66.4	58.8			12.1
	Fluridone	82.1	89.5	73.5			15.7
	Glufosinate	101	93.7	89.1			5.02
	Glyphosate	95.7	100	84.2			15.5
	Hydrocodone	82.5	86.6	76.6			12.3
	Ibuprofen	72.8	73.9	63.1			15.8
	Imazapyr	73.8	110	89.1			15.7
	Imidacloprid	107	144	125			13.4
	Linuron	64.4	66.7	53.9			21.3
	Mandestrobin	80.0	91.1	78.4			15.0
	MCPP	124	127	111			13.9
	Naproxen	69.1	80.9	66.9			19.0
	Primidone	91.9	82.2	70.3			15.6
	Pyraclostrobin	77.8	90.5	80.8			11.3
	Sucralose	99.4	95.5	87.1			9.15
	Thiamethoxam	90.2	116	100			13.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Tolfenpyrad	52.5	60.3	51.6			15.6
	Triclopyr	98.0	118	102			14.2
SM 2320 B-2011	Total Alkalinity	101				1.88	
SM 2540 C-2011	TDS					5.13	
SM 4500 F-C-2011	Fluoride	103	106	103			2.85
SM 5310 B-2011	Organic Carbon	97.2	97.2	96.6			0.299

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2169443, 2169444
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2169443, 2169444
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2169435, 2169436
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2169435, 2169436
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2169437, 2169438
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2169437, 2169438
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2169437, 2169438
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2169437, 2169438
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2169442
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2169442
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2169435, 2169436
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2169443, 2169444
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2169435, 2169436
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2169435, 2169436
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2169435, 2169436
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2169437, 2169438

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/13/2020 16:28	Betina Topolski	2169443
	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/13/2020 16:34	Betina Topolski	2169444
EPA 200.8 Rev. 5.4	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/10/2020 05:53	Alexander Thompson	2169443
	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/10/2020 06:02	Alexander Thompson	2169444
	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/10/2020 21:55	Alexander Thompson	2169443
	04/02/2020	04/08/2020 16:30	Alexander Thompson	04/10/2020 22:02	Alexander Thompson	2169444
	04/02/2020			04/10/2020 02:20	Jhamieka S. Greenwood	2169435
EPA 300.0 Rev. 2.1	04/02/2020			04/10/2020 02:33	Jhamieka S. Greenwood	2169436
	04/02/2020			04/04/2020 13:46	Ping Hua	2169437
EPA 350.1 Rev. 2.0	04/02/2020			04/04/2020 14:00	Ping Hua	2169438
	04/02/2020	04/03/2020 09:10	Sima Feizi	04/06/2020 11:04	Jhamieka S. Greenwood	2169437
EPA 351.2 Rev. 2.0	04/02/2020	04/03/2020 09:10	Sima Feizi	04/06/2020 11:06	Jhamieka S. Greenwood	2169438
	04/02/2020			04/02/2020 15:27	Lauren Lees	2169437
EPA 353.2 Rev. 2.0	04/02/2020			04/02/2020 15:38	Lauren Lees	2169438
	04/02/2020	04/03/2020 14:45	Yen Ta	04/06/2020 09:33	Lipi Saha	2169437
EPA 365.1 Rev. 2.0	04/02/2020	04/03/2020 14:45	Yen Ta	04/06/2020 09:34	Lipi Saha	2169438
	04/02/2020	04/03/2020 11:30	Rebecca Ware	04/03/2020 15:34	Rebecca Ware	2169442
EPA 8321B	04/02/2020	04/03/2020 11:30	Rebecca Ware	04/06/2020 17:38	Rebecca Ware	2169442
	04/02/2020	04/03/2020 11:30	Rebecca Ware	04/14/2020 21:24	Rebecca Ware	2169442
	04/02/2020	04/06/2020 09:00	Hoor Shaik	04/08/2020 16:34	Juyoung Kim	2169442
	04/02/2020			04/10/2020 05:44	Samantha Davila	2169435
SM 2320 B-2011	04/02/2020			04/10/2020 05:55	Samantha Davila	2169436
	04/02/2020			04/13/2020 16:28	Betina Topolski	2169443
SM 2340B	04/02/2020			04/13/2020 16:34	Betina Topolski	2169444
	04/02/2020			04/07/2020 14:10	Yijie Li	2169435, 2169436
SM 2540 C-2011	04/02/2020			04/07/2020 14:10	Yijie Li	2169435, 2169436
SM 2540 D-2011	04/02/2020			04/07/2020 19:13	Samantha Davila	2169435
	04/02/2020			04/07/2020 20:48	Samantha Davila	2169436
SM 4500 F-C-2011	04/02/2020			04/04/2020 06:44	Madeline Gruver	2169437
	04/02/2020			04/04/2020 06:58	Madeline Gruver	2169438