

Chemical Analysis Report

NW-DIST-2021-02-15-01

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

Event Description: **Twin Lakes Run**
Request ID: **RQ-2021-02-08-42**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

For additional information please contact
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 09-MAR-2021 11:22



NON-CONFORMANCE REPORT INCLUDED

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: 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: Twin Lake

Collection Date/Time: 02/10/2021 10:45

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225313	EPA 300.0 Rev. 2.1	Bromide	0.071		mg Br/L	P394011	
		Chloride	36	A	mg Cl/L	P394003	
		Sulfate	13	A	mg SO4/L	P394006	
	SM 2320 B-2011	Total Alkalinity	55		mg CaCO3/L	P394147	
	SM 2540 C-2011	TDS	157		mg/L	P394142	
	SM 2540 D-2011	TSS	4	I	mg/L	P394140	
2225318	SM 4500 F-C-2011	Fluoride	0.17		mg F/L	P393943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P394188	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.71		mg N/L	P393953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P393888	
	EPA 365.1 Rev. 2.0	Total-P	0.65		mg P/L	P393873	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P394373	

Ref. Method and Comment:

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

Sample Location: Allen Lake Input

Collection Date/Time: 02/10/2021 10:05

Field ID: G3NW0177

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225335	EPA 8321B	2,4-D	0.0020	U	ug/L	P393796	
		Acesulfame K	0.10	U	ug/L	P393743	MS
		AMPA	0.10	U	ug/L	P393743	MS
		Sucralose	0.010	U	ug/L	P393743	
		Acetaminophen**	0.0084	I	ug/L	P393796	
		Acetamiprid**	0.0020	U	ug/L	P393796	
		Endothall	0.25	U	ug/L	P393743	
		Glufosinate	0.10	U	ug/L	P393743	MS
		Glyphosate	0.10	U	ug/L	P393743	MS
		Afidopyropen**	0.0020	U	ug/L	P393796	
		Bentazon	8.0E-04	U	ug/L	P393796	MS
		Benzovindiflupyr**	0.0020	U	ug/L	P393796	
		Carbamazepine**	8.0E-04	U	ug/L	P393796	
		Clothianidin**	0.0020	U	ug/L	P393796	
		Dinotefuran**	0.0020	U	ug/L	P393796	
		Diuron	0.0020	U	ug/L	P393796	
		Fenuron	0.016	U	ug/L	P393796	
		Fluridone**	8.0E-04	U	ug/L	P393796	
		Imazapyr**	0.0040	U	ug/L	P393796	
		Hydrocodone**	0.0020	U	ug/L	P393796	
		Ibuprofen**	0.020	U	ug/L	P393796	
		Imidacloprid	0.075		ug/L	P393796	
		Linuron	0.0040	U	ug/L	P393796	
		Mandestrobin**	0.0020	U	ug/L	P393796	
		MCPP	0.0020	U	ug/L	P393796	
		Naproxen**	0.0080	U	ug/L	P393796	
		Primidone**	0.0040	U	ug/L	P393796	
		Pyraclostrobin**	0.0020	U	ug/L	P393796	
		Thiamethoxam**	0.0020	U	ug/L	P393796	
		Tolfenpyrad**	0.0020	U	ug/L	P393796	
		Triclopyr**	0.0040	U	ug/L	P393796	

Sample Location: Twin Lake South Lobe

Collection Date/Time: 02/10/2021 11:00

Field ID: G3NW0448

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225314	EPA 300.0 Rev. 2.1	Bromide	0.10		mg Br/L	P394011	
		Chloride	25		mg Cl/L	P394003	
		Sulfate	9.2		mg SO4/L	P394006	
	SM 2320 B-2011	Total Alkalinity	53		mg CaCO3/L	P394147	
	SM 2540 C-2011	TDS	126		mg/L	P394142	
	SM 2540 D-2011	TSS	3	I	mg/L	P394140	
2225319	SM 4500 F-C-2011	Fluoride	0.11		mg F/L	P393943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P394188	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P393953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P393888	
	EPA 365.1 Rev. 2.0	Total-P	0.26		mg P/L	P393873	
	SM 5310 B-2011	Organic Carbon	8.8		mg C/L	P394373	

Ref. Method and Comment:

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

Sample Location: Coleman Lake

Collection Date/Time: 02/10/2021 11:55

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225315	EPA 300.0 Rev. 2.1	Bromide	0.050		mg Br/L	P394011	
		Chloride	25		mg Cl/L	P394003	
		Sulfate	9.5		mg SO4/L	P394006	
	SM 2320 B-2011	Total Alkalinity	50		mg CaCO3/L	P394147	
	SM 2540 C-2011	TDS	115		mg/L	P394142	
	SM 2540 D-2011	TSS	4	I	mg/L	P394140	
2225320	SM 4500 F-C-2011	Fluoride	0.092	I	mg F/L	P393943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P394188	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P393953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P393888	
	EPA 365.1 Rev. 2.0	Total-P	0.33		mg P/L	P393874	
	SM 5310 B-2011	Organic Carbon	6.8		mg C/L	P394373	

Ref. Method and Comment:

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

Sample Location: Kell-aire Lake

Collection Date/Time: 02/10/2021 12:10

Field ID: G3NW0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225316	EPA 300.0 Rev. 2.1	Bromide	0.053		mg Br/L	P394011	
		Chloride	27		mg Cl/L	P394003	
		Sulfate	10		mg SO4/L	P394006	
	SM 2320 B-2011	Total Alkalinity	52		mg CaCO3/L	P394147	
	SM 2540 C-2011	TDS	117		mg/L	P394142	
	SM 2540 D-2011	TSS	4	I	mg/L	P394140	
2225321	SM 4500 F-C-2011	Fluoride	0.10		mg F/L	P393943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P394290	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P393953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.053		mg N/L	P393889	
	EPA 365.1 Rev. 2.0	Total-P	0.34		mg P/L	P393874	
	SM 5310 B-2011	Organic Carbon	7.2		mg C/L	P394373	

Ref. Method and Comment:

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

Sample Location: Twin Lakes Eastern Lake

Collection Date/Time: 02/10/2021 11:25

Field ID: G3NW0449

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2225317	EPA 300.0 Rev. 2.1	Bromide	0.032	I	mg Br/L	P394011	
		Chloride	18		mg Cl/L	P394003	
		Sulfate	7.0		mg SO4/L	P394006	
	SM 2320 B-2011	Total Alkalinity	45		mg CaCO3/L	P394147	
	SM 2540 C-2011	TDS	97		mg/L	P394142	
2225322	SM 2540 D-2011	TSS	5	I	mg/L	P394140	
	SM 4500 F-C-2011	Fluoride	0.071	I	mg F/L	P393943	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P394290	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P393953	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P393889	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P393874	
	SM 5310 B-2011	Organic Carbon	5.8		mg C/L	P394373	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 8658

Event(s)

NW-DIST-2021-02-15-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived one or more days late by FedEx, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.

Authorized by/Date: Joshua Ayres 2/16/2021

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394003

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394006

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394188

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394290

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393953

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393888

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393889

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393873

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P393874

Component	Result	Code	Units
Total-P	0.005	U	mg P/L

Reference Method: EPA 8321B

Batch ID: P393743

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: P393796

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: SM 2320 B-2011

Batch ID: P394147

Component	Result	Code	Units
Total Alkalinity	0.97	I	mg CaCO3/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P394142

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P394140

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P393943

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P394373

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394003

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394006

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394188

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394290

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393953

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393888

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393889

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393873

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P393874

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

Reference Method: EPA 8321B
 Batch ID: P393743

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.6		P	40 - 150
AMPA	115		P	40 - 150
Endothall	143		P	40 - 150
Glufosinate	127		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	98.0		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P393796

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	129		P	30 - 160
Acetaminophen	105		P	30 - 160
Acetamiprid	104		P	30 - 160
Afidopyropen	86.0		P	30 - 160
Bentazon	81.0		P	30 - 160
Benzovindiflupyr	78.1		P	30 - 160
Carbamazepine	107		P	30 - 160
Clothianidin	107		P	30 - 160
Dinotefuran	102		P	30 - 160
Diuron	82.9		P	30 - 160
Fenuron	99.7		P	30 - 160
Fluridone	90.1		P	30 - 160
Hydrocodone	107		P	30 - 160
Ibuprofen	83.2		P	30 - 160
Imazapyr	103		P	30 - 160
Imidacloprid	118		P	30 - 160
Linuron	84.1		P	30 - 160
Mandestrobin	89.6		P	30 - 160
MCPP	111		P	30 - 160
Naproxen	69.2		P	30 - 160
Primidone	115		P	30 - 160
Pyraclostrobin	74.5		P	30 - 160
Thiamethoxam	121		P	30 - 160
Tolfenpyrad	40.7		P	30 - 160
Triclopyr	101		P	30 - 160

Reference Method: SM 2320 B-2011
 Batch ID: P394147

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.8		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P393943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.9		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P394373

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 300.0 Rev. 2.1
Batch ID: P394003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225224	Chloride	98.6		P	90 - 110
2225313	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225224	Sulfate	100		P	90 - 110
2225313	Sulfate	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224351	Bromide	95.5	96.8	P/P	90 - 110
2225313	Bromide	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394188

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225107	Ammonia-N	98.6	96.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394290

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225577	Ammonia-N	101	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393953

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225319	Kjeldahl Nitrogen	92.5	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224756	NO2NO3-N	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393889

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225321	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P393873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225222	Total-P	106	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P393874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225321	Total-P	105	106	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P393743

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2224945	Acesulfame K	5.72	5.08	F/F	40 - 150
2224945	AMPA	12.2	11.8	F/F	40 - 150
2224945	Endothall	139	139	P/P	40 - 150
2224945	Glufosinate	9.96	9.16	F/F	40 - 150
2224945	Glyphosate	493	517	F/F	40 - 140
2224945	Sucralose	81.2	92.5	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P393796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225022	2,4-D	91.0	95.1	P/P	30 - 160
2225022	Acetaminophen	125	120	P/P	30 - 160
2225022	Acetamiprid	75.4	76.8	P/P	30 - 160
2225022	Afidopyrophen	71.0	60.9	P/P	30 - 160
2225022	Bentazon	26.0	41.6	F/P	30 - 160
2225022	Benzovindiflupyr	77.4	76.3	P/P	30 - 160
2225022	Carbamazepine	72.6	75.9	P/P	30 - 160
2225022	Clothianidin	87.9	108	P/P	30 - 160
2225022	Dinotefuran	106	108	P/P	30 - 160
2225022	Diuron	52.7	52.0	P/P	30 - 160
2225022	Fenuron	60.2	67.6	P/P	30 - 160
2225022	Fluridone	78.7	75.8	P/P	30 - 160
2225022	Hydrocodone	87.4	92.7	P/P	30 - 160
2225022	Ibuprofen	77.7	85.9	P/P	30 - 160
2225022	Imazapyr	70.9	84.8	P/P	30 - 160
2225022	Imidacloprid	133	137	P/P	30 - 160
2225022	Linuron	68.8	66.3	P/P	30 - 160
2225022	Mandestrobin	82.5	79.0	P/P	30 - 160
2225022	MCP	88.4	87.2	P/P	30 - 160
2225022	Naproxen	59.8	64.9	P/P	30 - 160
2225022	Primidone	79.9	101	P/P	30 - 160
2225022	Pyraclostrobin	79.7	81.6	P/P	30 - 160
2225022	Thiamethoxam	130	142	P/P	30 - 160
2225022	Tolfenpyrad	53.3	64.2	P/P	30 - 160
2225022	Triclopyr	92.0	85.6	P/P	30 - 160

Reference Method: SM 4500 F-C-2011

Batch ID: P393943

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225435	Fluoride	101	102	P/P	94 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P394373

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2225271	Organic Carbon	105		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225313	Chloride	0.0594	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225313	Sulfate	1.80	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P394011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224351	Bromide	0.855	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394188

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225107	Ammonia-N	1.98	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P394290

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225577	Ammonia-N	1.60	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P393953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225319	Kjeldahl Nitrogen	5.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224756	NO2NO3-N	0.198	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P393889

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225321	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P393873

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225222	Total-P	0.265	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P393874

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225321	Total-P	0.433	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P393743

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2224945	Acesulfame K	11.9	Spike	P	0 - 30
2224945	AMPA	3.66	Spike	P	0 - 30
2224945	Endothall	0.576	Spike	P	0 - 30
2224945	Glufosinate	8.37	Spike	P	0 - 30
2224945	Glyphosate	4.72	Spike	P	0 - 30
2224945	Sucralose	11.3	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P393796

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225022	2,4-D	4.44	Spike	P	0 - 30
2225022	Acetaminophen	3.97	Spike	P	0 - 30
2225022	Acetamiprid	1.86	Spike	P	0 - 30
2225022	Afidopyropen	15.2	Spike	P	0 - 30
2225022	Bentazon	14.9	Spike	P	0 - 30
2225022	Benzovindiflupyr	1.45	Spike	P	0 - 30
2225022	Carbamazepine	4.43	Spike	P	0 - 30
2225022	Clothianidin	19.6	Spike	P	0 - 30
2225022	Dinotefuran	2.37	Spike	P	0 - 30
2225022	Diuron	1.32	Spike	P	0 - 30
2225022	Fenuron	11.7	Spike	P	0 - 30
2225022	Fluridone	2.76	Spike	P	0 - 30
2225022	Hydrocodone	5.85	Spike	P	0 - 30
2225022	Ibuprofen	10.1	Spike	P	0 - 30
2225022	Imazapyr	13.6	Spike	P	0 - 30
2225022	Imidacloprid	2.42	Spike	P	0 - 30
2225022	Linuron	3.67	Spike	P	0 - 30
2225022	Mandestrobin	4.27	Spike	P	0 - 30
2225022	MCPP	1.44	Spike	P	0 - 30
2225022	Naproxen	8.15	Spike	P	0 - 30
2225022	Primidone	23.0	Spike	P	0 - 30
2225022	Pyraclostrobin	2.39	Spike	P	0 - 30
2225022	Thiamethoxam	8.27	Spike	P	0 - 30
2225022	Tolfenpyrad	18.4	Spike	P	0 - 30
2225022	Triclopyr	7.20	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P394147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225434	Total Alkalinity	0.340	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P394142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225272	TDS	6.30	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P393943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225435	Fluoride	0.484	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P394373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2225271	Organic Carbon	0.187	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2225335

Field Sample ID: G3NW0177

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.7	P	30 - 160
EPA 8321B	Diuron-d6	56.3	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Endothall-d6	119	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.3	P	30 - 160
EPA 8321B	Primidone-d5	83.6	P	30 - 160
EPA 8321B	Sucralose-d6	52.0	P	30 - 160
EPA 8321B	Sucralose-d6	52.0	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103625
Included Lab Sample IDs: 2225335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	83.3	91.5	P/P	60 - 160
AMPA	120	126	P/P	40 - 160
Endothall	143	153	P/P	60 - 160
Glufosinate	118	110	P/P	60 - 200
Glyphosate	110	117	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103628
Included Lab Sample IDs: 2225313, 2225314, 2225315, 2225316, 2225317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	99.6	P/P	90 - 110
Chloride	99.6	100	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110
Sulfate	98.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A103630
Included Lab Sample IDs: 2225318, 2225319, 2225320, 2225321, 2225322

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103641
Included Lab Sample IDs: 2225320, 2225321, 2225322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.9	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A103647
Included Lab Sample IDs: 2225335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	93.1	90.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A103651
Included Lab Sample IDs: 2225313, 2225314, 2225315, 2225316, 2225317

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

Reference Method: SM 4500 F-C-2011
Run ID: A103652
Included Lab Sample IDs: 2225313, 2225314, 2225315, 2225316, 2225317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.5	99.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A103681
Included Lab Sample IDs: 2225335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	104	107	P/P	50 - 150
Acetaminophen	105	97.6	P/P	60 - 160
Acetamiprid	116	116	P/P	50 - 150
Afidopyropen	100	96.0	P/P	50 - 150
Bentazon	122	115	P/P	50 - 160
Benzovindiflupyr	104	88.8	P/P	50 - 160
Carbamazepine	114	103	P/P	60 - 150
Clothianidin	108	111	P/P	60 - 150
Dinotefuran	102	104	P/P	50 - 150
Diuron	133	122	P/P	60 - 160
Fenuron	101	90.8	P/P	60 - 150
Fluridone	134	118	P/P	60 - 160
Hydrocodone	109	99.1	P/P	60 - 150
Ibuprofen	103	84.6	P/P	50 - 160
Imazapyr	99.1	125	P/P	50 - 160
Imidacloprid	90.9	97.7	P/P	60 - 150
Linuron	111	102	P/P	60 - 150
Mandestrobin	106	97.4	P/P	50 - 150
MCPP	105	105	P/P	50 - 150
Naproxen	109	96.8	P/P	50 - 160
Primidone	103	96.9	P/P	60 - 150
Pyraclostrobin	114	104	P/P	60 - 150
Thiamethoxam	115	125	P/P	50 - 150
Tolfenpyrad	111	118	P/P	60 - 150
Triclopyr	108	95.6	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A103688
Included Lab Sample IDs: 2225318, 2225319

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A103694
Included Lab Sample IDs: 2225318, 2225319, 2225320, 2225321, 2225322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	108	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A103741
Included Lab Sample IDs: 2225313, 2225314, 2225315, 2225316, 2225317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.0	97.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103751

Included Lab Sample IDs: 2225318, 2225319, 2225320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.6	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A103805

Included Lab Sample IDs: 2225321, 2225322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A103844

Included Lab Sample IDs: 2225318, 2225319, 2225320, 2225321, 2225322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.3	98.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 300.0 Rev. 2.1	Bromide	99.3	95.5	96.8	97.9		0.855
	Chloride	100	98.3	98.6		0.0594	
	Sulfate	100	98.2	100		1.80	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	98.6	96.4			1.98
	Ammonia-N	99.0	101	99.0			1.60
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.0	92.5	102			5.13
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	99.0				0.198
	NO ₂ NO ₃ -N	102	101	101			0.0
EPA 365.1 Rev. 2.0	Total-P	103	106	106			0.265
	Total-P	107	105	106			0.433
EPA 8321B	2,4-D	129	91.0	95.1			4.44
	Acesulfame K	96.6	5.72	5.08			11.9
	Acetaminophen	105	125	120			3.97
	Acetamiprid	104	75.4	76.8			1.86
	Afidopyropen	86.0	71.0	60.9			15.2
	AMPA	115	12.2	11.8			3.66
	Bentazon	81.0	26.0	41.6			14.9
	Benzovindiflupyr	78.1	77.4	76.3			1.45
	Carbamazepine	107	72.6	75.9			4.43
	Clothianidin	107	87.9	108			19.6
	Dinotefuran	102	106	108			2.37
	Diuron	82.9	52.7	52.0			1.32
	Endothall	143	139	139			0.576
	Fenuron	99.7	60.2	67.6			11.7
	Fluridone	90.1	78.7	75.8			2.76
	Glufosinate	127	9.96	9.16			8.37
	Glyphosate	114	493	517			4.72
	Hydrocodone	107	87.4	92.7			5.85
	Ibuprofen	83.2	77.7	85.9			10.1
	Imazapyr	103	70.9	84.8			13.6
	Imidacloprid	118	133	137			2.42
	Linuron	84.1	68.8	66.3			3.67
	Mandestrobin	89.6	82.5	79.0			4.27
	MCPP	111	88.4	87.2			1.44
	Naproxen	69.2	59.8	64.9			8.15
	Primidone	115	79.9	101			23.0
	Pyraclostrobin	74.5	79.7	81.6			2.39
	Sucralose	98.0	81.2	92.5			11.3
	Thiamethoxam	121	130	142			8.27
	Tolfenpyrad	40.7	53.3	64.2			18.4
	Triclopyr	101	92.0	85.6			7.20
SM 2320 B-2011	Total Alkalinity	98.8				0.340	
SM 2540 C-2011	TDS					6.30	
SM 4500 F-C-2011	Fluoride	94.9	101	102			0.484
SM 5310 B-2011	Organic Carbon	97.2	105				0.187

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2225313, 2225314, 2225315, 2225316, 2225317
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2225313, 2225314, 2225315, 2225316, 2225317

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2225313, 2225314, 2225315, 2225316, 2225317
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2225318, 2225319, 2225320, 2225321, 2225322
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2225318, 2225319, 2225320, 2225321, 2225322
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2225318, 2225319, 2225320, 2225321, 2225322
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2225318, 2225319, 2225320, 2225321, 2225322
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2225335
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2225335
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2225313, 2225314, 2225315, 2225316, 2225317
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2225313, 2225314, 2225315, 2225316, 2225317
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2225313, 2225314, 2225315, 2225316, 2225317
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2225313, 2225314, 2225315, 2225316, 2225317
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2225318, 2225319, 2225320, 2225321, 2225322

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 300.0 Rev. 2.1	02/15/2021			02/18/2021 12:10	Lipi Saha	2225313
	02/15/2021			02/18/2021 15:49	Lipi Saha	2225314
	02/15/2021			02/18/2021 16:01	Lipi Saha	2225315
	02/15/2021			02/18/2021 16:13	Lipi Saha	2225316
	02/15/2021			02/18/2021 16:25	Lipi Saha	2225317
	02/15/2021			02/18/2021 16:40	Lipi Saha	2225313
	02/15/2021			02/18/2021 21:11	Lipi Saha	2225314
	02/15/2021			02/18/2021 21:29	Lipi Saha	2225315
	02/15/2021			02/18/2021 21:47	Lipi Saha	2225316
	02/15/2021			02/18/2021 22:05	Lipi Saha	2225317
	02/15/2021			02/24/2021 17:05	Ping Hua	2225320
EPA 350.1 Rev. 2.0	02/15/2021			02/24/2021 17:07	Ping Hua	2225318
	02/15/2021			02/24/2021 17:09	Ping Hua	2225319
	02/15/2021			02/26/2021 16:54	Ping Hua	2225321
	02/15/2021			02/26/2021 16:55	Ping Hua	2225322
EPA 351.2 Rev. 2.0	02/15/2021	02/18/2021 12:27	Yen Ta	02/19/2021 12:38	Virginia P. Brown	2225318
	02/15/2021	02/18/2021 12:27	Yen Ta	02/19/2021 12:39	Virginia P. Brown	2225319
	02/15/2021	02/18/2021 12:27	Yen Ta	02/19/2021 12:44	Virginia P. Brown	2225320
	02/15/2021	02/18/2021 12:27	Yen Ta	02/19/2021 12:46	Virginia P. Brown	2225321
	02/15/2021	02/18/2021 12:27	Yen Ta	02/19/2021 12:48	Virginia P. Brown	2225322
EPA 353.2 Rev. 2.0	02/15/2021			02/17/2021 09:32	Beverly Y. Sanders	2225318
	02/15/2021			02/17/2021 09:33	Beverly Y. Sanders	2225319
	02/15/2021			02/17/2021 09:34	Beverly Y. Sanders	2225320
	02/15/2021			02/17/2021 09:41	Beverly Y. Sanders	2225321
	02/15/2021			02/17/2021 09:47	Beverly Y. Sanders	2225322
EPA 365.1 Rev. 2.0	02/15/2021	02/16/2021 18:52	Madeline Gruver	02/17/2021 17:01	Shengyu Wang	2225320
	02/15/2021	02/16/2021 18:52	Madeline Gruver	02/17/2021 17:02	Shengyu Wang	2225321
	02/15/2021	02/16/2021 18:52	Madeline Gruver	02/17/2021 17:04	Shengyu Wang	2225322
	02/15/2021	02/16/2021 18:52	Madeline Gruver	02/19/2021 11:56	Shengyu Wang	2225318
	02/15/2021	02/16/2021 18:52	Madeline Gruver	02/19/2021 11:57	Shengyu Wang	2225319
EPA 8321B	02/15/2021	02/15/2021 10:00	Rebecca Ware	02/15/2021 17:43	Rebecca Ware	2225335
	02/15/2021	02/15/2021 10:00	Rebecca Ware	02/18/2021 05:05	Rebecca Ware	2225335
	02/15/2021	02/17/2021 10:00	Hoor Shaik	02/18/2021 05:56	Juyoung Kim	2225335
SM 2320 B-2011	02/15/2021			02/20/2021 05:29	Dale L. Simmons	2225313
	02/15/2021			02/20/2021 05:39	Dale L. Simmons	2225314
	02/15/2021			02/20/2021 05:48	Dale L. Simmons	2225315
	02/15/2021			02/20/2021 05:58	Dale L. Simmons	2225316
SM 2540 C-2011	02/15/2021			02/20/2021 06:07	Dale L. Simmons	2225317
	02/15/2021			02/17/2021 09:31	Yijie Li	2225313
	02/15/2021			02/17/2021 09:35	Yijie Li	2225314

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	02/15/2021			02/17/2021 09:41	Yijie Li	2225315
	02/15/2021			02/17/2021 09:44	Yijie Li	2225316
	02/15/2021			02/17/2021 09:49	Yijie Li	2225317
SM 2540 D-2011	02/15/2021			02/17/2021 09:31	Yijie Li	2225313
	02/15/2021			02/17/2021 09:35	Yijie Li	2225314
	02/15/2021			02/17/2021 09:41	Yijie Li	2225315
	02/15/2021			02/17/2021 09:44	Yijie Li	2225316
	02/15/2021			02/17/2021 09:49	Yijie Li	2225317
SM 4500 F-C-2011	02/15/2021			02/17/2021 18:38	Dale L. Simmons	2225313
	02/15/2021			02/17/2021 18:49	Dale L. Simmons	2225314
	02/15/2021			02/17/2021 19:01	Dale L. Simmons	2225315
	02/15/2021			02/17/2021 19:31	Dale L. Simmons	2225316
	02/15/2021			02/17/2021 20:18	Dale L. Simmons	2225317
SM 5310 B-2011	02/15/2021			03/02/2021 00:11	Touraj Touran	2225318
	02/15/2021			03/02/2021 00:22	Touraj Touran	2225319
	02/15/2021			03/02/2021 00:35	Touraj Touran	2225320
	02/15/2021			03/02/2021 00:45	Touraj Touran	2225321
	02/15/2021			03/02/2021 00:59	Touraj Touran	2225322