

Chemical Analysis Report

SO-DIST-2019-09-25-01

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

Event Description: **2019 SMP : Canals**
Request ID: **RQ-2019-09-23-51**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 10-OCT-2019 15:14

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

Case Narrative

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

Results for the following analytical groups are included in this report: 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: C-19 @ US 27

Collection Date/Time: 09/24/2019 11:00

Field ID: G3SD0087

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2122115	EPA 180.1 Rev. 2.0	Turbidity	5.5	A	NTU	P371320	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P371794	
		Sulfate	9.9		mg SO4/L	P371796	
	SM 2120 B	Color (true)	590		PCU	P371356	
	SM 2320 B-97	Total Alkalinity	49		mg CaCO3/L	P371878	
	SM 2540 C-97	TDS	210	A	mg/L	P371954	
	SM 2540 D-97	TSS	5	IA	mg/L	P371815	
	SM 4500 F-C-97	Fluoride	0.099	I	mg F/L	P371881	
2122116	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P371744	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P371446	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P371470	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P371496	
	SM 5310 B-00	Organic Carbon	39		mg C/L	P371504	
2122117	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P371331	
2122135	EPA 8321B	2,4-D	0.030		ug/L	P371346	
		Acesulfame K**	0.10	U	ug/L	P371269	
		AMPA**	0.32	I	ug/L	P371269	
		Sucralose**	0.063		ug/L	P371269	
		Acetaminophen**	0.0080	U	ug/L	P371346	
		Acetamiprid**	0.0020	U	ug/L	P371346	
		Endothall**	0.25	U	ug/L	P371269	
		Glufosinate**	0.10	U	ug/L	P371269	
		Glyphosate**	0.31	I	ug/L	P371269	
		Afidopyropen**	0.0020	UJ	ug/L	P371346	
		Bentazon	0.0014	I	ug/L	P371346	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P371346	
		Carbamazepine**	8.0E-04	U	ug/L	P371346	
		Clothianidin**	0.0029	I	ug/L	P371346	
		Dinotefuran**	0.0020	U	ug/L	P371346	
		Diuron	0.0020	U	ug/L	P371346	
		Fenuron	0.016	U	ug/L	P371346	
		Fluridone**	0.0010	I	ug/L	P371346	
		Imazapyr**	0.030		ug/L	P371346	
		Hydrocodone**	0.0020	U	ug/L	P371346	
		Ibuprofen**	0.020	U	ug/L	P371346	
		Imidacloprid	0.012		ug/L	P371346	MS
		Linuron	0.0040	U	ug/L	P371346	
		Mandestrobin**	0.0020	UJ	ug/L	P371346	
		MCP	0.0020	U	ug/L	P371346	MS
		Naproxen**	0.0080	U	ug/L	P371346	
		Primidone**	0.0040	U	ug/L	P371346	
		Pyraclostrobin**	0.0020	U	ug/L	P371346	
		Thiamethoxam**	0.0085		ug/L	P371346	

Field ID: G3SD0087

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2122135	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P371346	
		Triclopyr**	0.0040	U	ug/L	P371346	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. J - second source check standards for some analytes were not available for analysis.

Sample Location: Lake Hicpochee Canal

Collection Date/Time: 09/24/2019 11:50

Field ID: G3SD0102

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2122118	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P371320	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P371794	
		Sulfate	20		mg SO4/L	P371796	
		Color (true)	350		PCU	P371356	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P371878	
	SM 2540 C-97	TDS	252		mg/L	P371954	
	SM 2540 D-97	TSS	33		mg/L	P371815	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P371881	
2122120	EPA 350.1 Rev. 2.0	Ammonia-N	0.041		mg N/L	P371744	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P371446	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.41		mg N/L	P371470	
	EPA 365.1 Rev. 2.0	Total-P	0.23		mg P/L	P371496	
	SM 5310 B-00	Organic Carbon	30		mg C/L	P371504	
2122122	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P371331	

Ref. Method and Comment:

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

Sample Location: Lake Hicpochee Canal

Collection Date/Time: 09/24/2019 12:00

Field ID: FB_09242019

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2122124	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P371321	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P371794	
		Sulfate	0.20	U	mg SO4/L	P371796	
	SM 2120 B	Color (true)	2.5	U	PCU	P371357	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P371878	
	SM 2540 C-97	TDS	15	U	mg/L	P371953	
	SM 2540 D-97	TSS	2	U	mg/L	P371814	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P371881	
2122125	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P371744	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P371446	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P371470	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P371497	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P371504	
2122126	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P371331	

Ref. Method and Comment:

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

Sample Location: Nine Mile Canal @SR80

Collection Date/Time: 09/24/2019 12:35

Field ID: G3SD0088

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2122119	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P371320	
	EPA 300.0 Rev. 2.1	Chloride	42		mg Cl/L	P371794	
		Sulfate	22		mg SO4/L	P371796	
	SM 2120 B	Color (true)	310		PCU	P371357	
	SM 2320 B-97	Total Alkalinity	108		mg CaCO3/L	P371878	
	SM 2540 C-97	TDS	256		mg/L	P371954	
	SM 2540 D-97	TSS	5	I	mg/L	P371815	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P371881	
2122121	EPA 350.1 Rev. 2.0	Ammonia-N	0.040		mg N/L	P371744	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P371446	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P371470	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P371497	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P371504	
2122123	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P371331	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371320

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371321

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371794

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371796

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371744

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371446

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371470

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371496

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371497

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 dissolved
Batch ID: P371331

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

Reference Method: EPA 8321B
Batch ID: P371269

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: P371346

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 2120 B
Batch ID: P371356

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P371357

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P371878

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

Reference Method: SM 2540 C-97
Batch ID: P371953

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P371954

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371814

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P371815

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P371881

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P371504

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: P371794

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P371796

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P371744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P371446

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P371470

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: P371496

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P371497

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P371331

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

Reference Method: EPA 8321B
 Batch ID: P371269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	87.8		P	40 - 150
AMPA	97.3		P	40 - 150
Endothall	81.4		P	40 - 150
Glufosinate	82.4		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P371269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	107		P	40 - 140
Sucralose	111		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P371346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	159		P	40 - 160
Acetaminophen	96.0		P	30 - 160
Acetamiprid	108		P	40 - 160
Afidopyropen	101		P	40 - 160
Bentazon	146		P	30 - 160
Benzovindiflupyr	95.5		P	40 - 160
Carbamazepine	103		P	40 - 160
Clothianidin	92.3		P	40 - 160
Dinotefuran	101		P	40 - 160
Diuron	91.9		P	40 - 160
Fenuron	107		P	40 - 160
Fluridone	88.1		P	40 - 160
Hydrocodone	92.2		P	40 - 160
Ibuprofen	88.5		P	30 - 160
Imazapyr	107		P	40 - 160
Imidacloprid	115		P	40 - 160
Linuron	73.4		P	40 - 160
Mandestrobin	89.5		P	40 - 160
MCPP	148		P	40 - 160
Naproxen	75.0		P	40 - 160
Primidone	82.1		P	40 - 160
Pyraclostrobin	83.9		P	30 - 160
Thiamethoxam	107		P	40 - 160
Tolfenpyrad	60.5		P	40 - 160
Triclopyr	134		P	30 - 160

Reference Method: SM 2120 B
Batch ID: P371356

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

Reference Method: SM 2120 B
Batch ID: P371357

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

Reference Method: SM 2320 B-97
Batch ID: P371878

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P371881

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P371504

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	108		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122047	Chloride	96.6		P	90 - 110
2122097	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371796

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122047	Sulfate	99.0		P	90 - 110
2122097	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122098	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122081	Kjeldahl Nitrogen	95.9	96.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122081	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122049	Total-P	95.7	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371497

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122121	Total-P	98.8	93.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122070	O-Phosphate-P	95.7	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P371269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121760	Acesulfame K	75.8	76.2	P/P	40 - 150
2121760	AMPA	80.2	82.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
 Batch ID: P371269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121760	Endothall	101	103	P/P	40 - 150
2121760	Glufosinate	93.1	82.1	P/P	40 - 150
2121760	Glyphosate	110	90.9	P/P	40 - 140
2121760	Sucralose	129	138	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P371346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2121892	2,4-D	159	159	P/P	40 - 160
2121892	Acetaminophen	88.8	96.8	P/P	30 - 160
2121892	Acetamiprid	115	122	P/P	40 - 160
2121892	Afidopyropen	108	124	P/P	40 - 160
2121892	Benzovindiflupyr	102	95.0	P/P	40 - 160
2121892	Carbamazepine	109	111	P/P	40 - 160
2121892	Dinotefuran	126	118	P/P	40 - 160
2121892	Diuron	95.1	76.6	P/P	40 - 160
2121892	Fenuron	98.2	100	P/P	40 - 160
2121892	Hydrocodone	104	105	P/P	40 - 160
2121892	Ibuprofen	95.0	89.9	P/P	30 - 160
2121892	Imazapyr	137	127	P/P	40 - 160
2121892	Imidacloprid	194	165	F/F	40 - 160
2121892	Linuron	72.1	68.5	P/P	40 - 160
2121892	Mandestrobin	92.6	88.9	P/P	40 - 160
2121892	MCP	172	150	F/P	40 - 160
2121892	Naproxen	88.8	86.9	P/P	40 - 160
2121892	Primidone	104	103	P/P	40 - 160
2121892	Pyraclostrobin	93.4	92.2	P/P	30 - 160
2121892	Tolfenpyrad	67.9	67.7	P/P	40 - 160
2121892	Triclopyr	134	129	P/P	30 - 160

Reference Method: SM 4500 F-C-97
 Batch ID: P371881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122047	Fluoride	97.4	96.3	P/P	89 - 106

Reference Method: SM 5310 B-00
 Batch ID: P371504

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2122048	Organic Carbon	110	105	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371320

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122115	Turbidity	4.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P371321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122192	Turbidity	2.02	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122047	Chloride	0.926	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P371796

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122047	Sulfate	2.18	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P371744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122098	Ammonia-N	0.384	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P371446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122081	Kjeldahl Nitrogen	0.765	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P371470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122081	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122049	Total-P	2.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P371497

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122121	Total-P	3.57	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P371331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122070	O-Phosphate-P	1.14	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P371269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121760	Acesulfame K	0.501	Spike	P	0 - 30
2121760	AMPA	1.20	Spike	P	0 - 30
2121760	Endothall	1.68	Spike	P	0 - 30
2121760	Glufosinate	12.6	Spike	P	0 - 30
2121760	Glyphosate	8.56	Spike	P	0 - 30
2121760	Sucralose	6.73	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P371346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2121892	2,4-D	0.180	Spike	P	0 - 30
2121892	Acetaminophen	8.64	Spike	P	0 - 30
2121892	Acetamiprid	5.44	Spike	P	0 - 30
2121892	Afidopyropen	13.5	Spike	P	0 - 30
2121892	Bentazon	1.96	Spike	P	0 - 30
2121892	Benzovindiflupyr	7.10	Spike	P	0 - 30
2121892	Carbamazepine	2.17	Spike	P	0 - 30
2121892	Clothianidin	8.16	Spike	P	0 - 30
2121892	Dinotefuran	6.16	Spike	P	0 - 30
2121892	Diuron	20.3	Spike	P	0 - 30
2121892	Fenuron	1.39	Spike	P	0 - 30
2121892	Fluridone	3.47	Spike	P	0 - 30
2121892	Hydrocodone	0.552	Spike	P	0 - 30
2121892	Ibuprofen	5.53	Spike	P	0 - 30
2121892	Imazapyr	6.19	Spike	P	0 - 30
2121892	Imidacloprid	11.8	Spike	P	0 - 30
2121892	Linuron	5.11	Spike	P	0 - 30
2121892	Mandestrobin	4.04	Spike	P	0 - 30
2121892	MCPP	13.9	Spike	P	0 - 30
2121892	Naproxen	2.15	Spike	P	0 - 30
2121892	Primidone	1.51	Spike	P	0 - 30
2121892	Pyraclostrobin	1.29	Spike	P	0 - 30
2121892	Thiamethoxam	1.05	Spike	P	0 - 30
2121892	Tolfenpyrad	0.355	Spike	P	0 - 30
2121892	Triclopyr	4.26	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P371356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122046	Color (true)	1.92	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P371357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122047	Color (true)	2.28	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P371878

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122047	Total Alkalinity	0.0644	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P371953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122046	TDS	4.88	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P371954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122115	TDS	9.07	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P371881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122047	Fluoride	0.963	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P371504

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2122048	Organic Carbon	3.30	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2122135
Field Sample ID: G3SD0087

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.8	P	30 - 160
EPA 8321B	Bentazon-d7	51.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.0	P	30 - 160
EPA 8321B	Diuron-d6	69.5	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.8	P	30 - 160
EPA 8321B	Primidone-d5	70.1	P	30 - 160
EPA 8321B	Sucralose-d6	155	P	30 - 160
EPA 8321B	Sucralose-d6	155	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A94497

Included Lab Sample IDs: 2122115, 2122118, 2122119, 2122124

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A94499

Included Lab Sample IDs: 2122117, 2122122, 2122123, 2122126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.0	98.6	P/P	90 - 110
O-Phosphate-P	98.6	98.1	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A94510

Included Lab Sample IDs: 2122115, 2122118, 2122119, 2122124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115
Color (true)	102	103	P/P	90 - 115
Color (true)	103	104	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A94525

Included Lab Sample IDs: 2122116, 2122120, 2122121, 2122125

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

Reference Method: EPA 8321B

Run ID: A94527

Included Lab Sample IDs: 2122135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.1	93.8	P/P	60 - 160
Glufosinate	82.5	94.9	P/P	60 - 160
Glyphosate	96.2	109	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A94549

Included Lab Sample IDs: 2122135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	95.0	77.0	P/P	60 - 160
Endothall	96.8	107	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A94565

Included Lab Sample IDs: 2122116, 2122120, 2122121, 2122125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	100	P/P	90 - 110
Organic Carbon	109	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94578

Included Lab Sample IDs: 2122116, 2122120, 2122121

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A94584

Included Lab Sample IDs: 2122125

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

Reference Method: EPA 8321B

Run ID: A94586

Included Lab Sample IDs: 2122135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	105	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A94597

Included Lab Sample IDs: 2122116, 2122120, 2122121, 2122125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94609

Included Lab Sample IDs: 2122135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	115	123	P/P	50 - 150
Acetaminophen	125	129	P/P	60 - 160
Acetamiprid	124	120	P/P	50 - 150
Afidopyropen	116	117	P/P	50 - 150
Bentazon	131	129	P/P	50 - 160
Benzovindiflupyr	113	115	P/P	50 - 150
Carbamazepine	116	112	P/P	60 - 150
Clothianidin	116	110	P/P	60 - 150
Dinotefuran	106	111	P/P	50 - 150
Diuron	111	114	P/P	60 - 150
Fenuron	120	121	P/P	60 - 150
Fluridone	101	102	P/P	60 - 160
Hydrocodone	111	107	P/P	60 - 150
Ibuprofen	88.2	104	P/P	50 - 160
Imazapyr	116	124	P/P	50 - 150
Imidacloprid	120	122	P/P	60 - 150
Linuron	101	104	P/P	60 - 150
Mandestrobin	107	107	P/P	50 - 150
MCPP	127	128	P/P	50 - 150
Naproxen	123	110	P/P	50 - 160
Primidone	112	116	P/P	60 - 150
Pyraclostrobin	108	103	P/P	60 - 150
Thiamethoxam	119	120	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94609

Included Lab Sample IDs: 2122135

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	121	117	P/P	60 - 150
Triclopyr	117	115	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A94667

Included Lab Sample IDs: 2122116, 2122120, 2122121, 2122125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.7	P/P	90 - 110
Ammonia-N	99.7	98.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A94686

Included Lab Sample IDs: 2122115, 2122118, 2122119, 2122124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	99.8	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A94719

Included Lab Sample IDs: 2122115, 2122118, 2122119, 2122124

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

Reference Method: SM 4500 F-C-97

Run ID: A94719

Included Lab Sample IDs: 2122115, 2122118, 2122119, 2122124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					4.57	
	Turbidity					2.02	
EPA 300.0 Rev. 2.1	Chloride	99.1	96.6	99.9		0.926	
	Sulfate	99.8	99.0	101		2.18	
EPA 350.1 Rev. 2.0	Ammonia-N	98.1	102	102			0.384
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	95.9	96.9			0.765
EPA 353.2 Rev. 2.0	NO2NO3-N	102	104	104			0.0
EPA 365.1 Rev. 2.0	Total-P	97.5	95.7	98.0			2.31
	Total-P	99.6	98.8	93.7			3.57
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	95.7	96.8			1.14
EPA 8321B	2,4-D	159	159	159			0.180
	Acesulfame K	87.8	75.8	76.2			0.501
	Acetaminophen	96.0	88.8	96.8			8.64
	Acetamiprid	108	115	122			5.44
	Afidopyropen	101	108	124			13.5
	AMPA	97.3	80.2	82.4			1.20
	Bentazon	146					1.96
	Benzovindiflupyr	95.5	102	95.0			7.10
	Carbamazepine	103	109	111			2.17
	Clothianidin	92.3					8.16
	Dinotefuran	101	126	118			6.16
	Diuron	91.9	95.1	76.6			20.3
	Endothall	81.4	101	103			1.68
	Fenuron	107	98.2	100			1.39
	Fluridone	88.1					3.47
	Glufosinate	82.4	93.1	82.1			12.6
	Glyphosate	107	110	90.9			8.56
	Hydrocodone	92.2	104	105			0.552
	Ibuprofen	88.5	95.0	89.9			5.53
	Imazapyr	107	137	127			6.19
	Imidacloprid	115	194	165			11.8
	Linuron	73.4	72.1	68.5			5.11
	Mandestrobin	89.5	92.6	88.9			4.04
	MCPP	148	172	150			13.9
	Naproxen	75.0	88.8	86.9			2.15
	Primidone	82.1	104	103			1.51
	Pyraclostrobin	83.9	93.4	92.2			1.29
	Sucralose	111	129	138			6.73
	Thiamethoxam	107					1.05
	Tolfenpyrad	60.5	67.9	67.7			0.355
	Triclopyr	134	134	129			4.26
SM 2120 B	Color (true)	101				1.92	
	Color (true)	101				2.28	
SM 2320 B-97	Total Alkalinity	102				0.0644	
SM 2540 C-97	TDS					4.88	
	TDS					9.07	
SM 4500 F-C-97	Fluoride	96.4	97.4	96.3			0.963
SM 5310 B-00	Organic Carbon	108	110	105			3.30

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
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Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2122115, 2122118, 2122119, 2122124
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2122115, 2122118, 2122119, 2122124
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2122115, 2122118, 2122119, 2122124
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2122116, 2122120, 2122121, 2122125
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2122116, 2122120, 2122121, 2122125
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2122116, 2122120, 2122121, 2122125
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2122116, 2122120, 2122121, 2122125
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2122117, 2122122, 2122123, 2122126
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2122135
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2122135
SM 2120 B / E31780	True Color measured at 450 nm	2122115, 2122118, 2122119, 2122124
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2122115, 2122118, 2122119, 2122124
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2122115, 2122118, 2122119, 2122124
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2122115, 2122118, 2122119, 2122124
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2122115, 2122118, 2122119, 2122124
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2122116, 2122120, 2122121, 2122125

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	09/25/2019			09/25/2019 16:25	Samantha Davila	2122115, 2122118, 2122119, 2122124
EPA 300.0 Rev. 2.1	09/25/2019			10/02/2019 20:21	Julia Storbeck	2122115
	09/25/2019			10/02/2019 20:33	Julia Storbeck	2122118
	09/25/2019			10/02/2019 20:46	Julia Storbeck	2122119
	09/25/2019			10/02/2019 21:22	Julia Storbeck	2122124
EPA 350.1 Rev. 2.0	09/25/2019			10/02/2019 12:46	Ping Hua	2122116
	09/25/2019			10/02/2019 12:47	Ping Hua	2122120
	09/25/2019			10/02/2019 12:59	Ping Hua	2122121
	09/25/2019			10/02/2019 13:04	Ping Hua	2122125
EPA 351.2 Rev. 2.0	09/25/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 15:02	Virginia P. Brown	2122116
	09/25/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 15:04	Virginia P. Brown	2122120
	09/25/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 15:05	Virginia P. Brown	2122121
	09/25/2019	09/27/2019 12:10	Jhamieka S. Greenwood	09/30/2019 15:07	Virginia P. Brown	2122125
EPA 353.2 Rev. 2.0	09/25/2019			09/26/2019 11:34	Beverly Y. Sanders	2122116
	09/25/2019			09/26/2019 11:35	Beverly Y. Sanders	2122120
	09/25/2019			09/26/2019 11:36	Beverly Y. Sanders	2122121
	09/25/2019			09/26/2019 11:37	Beverly Y. Sanders	2122125
EPA 365.1 Rev. 2.0	09/25/2019	09/27/2019 15:05	Lipi Saha	09/30/2019 09:44	Lipi Saha	2122116
	09/25/2019	09/27/2019 15:05	Lipi Saha	09/30/2019 09:45	Lipi Saha	2122120
	09/25/2019	09/27/2019 15:05	Lipi Saha	09/30/2019 09:49	Lipi Saha	2122121
	09/25/2019	09/27/2019 15:05	Lipi Saha	09/30/2019 11:53	Lipi Saha	2122125
EPA 365.1 Rev. 2.0 dissolved	09/25/2019			09/25/2019 18:01	Ping Hua	2122117
	09/25/2019			09/25/2019 18:02	Ping Hua	2122122
	09/25/2019			09/25/2019 18:03	Ping Hua	2122123
	09/25/2019			09/25/2019 18:08	Ping Hua	2122126
EPA 8321B	09/25/2019	09/25/2019 11:30	Rebecca Ware	09/25/2019 17:17	Rebecca Ware	2122135
	09/25/2019	09/25/2019 11:30	Rebecca Ware	09/26/2019 19:38	Rebecca Ware	2122135
	09/25/2019	09/25/2019 11:30	Rebecca Ware	09/27/2019 23:43	Rebecca Ware	2122135
	09/25/2019	09/27/2019 09:00	Hoor Shaik	09/27/2019 23:37	Juyoung Kim	2122135
SM 2120 B	09/25/2019			09/25/2019 17:23	Madeline Funaro	2122124
	09/25/2019			09/25/2019 17:55	Madeline Funaro	2122115
	09/25/2019			09/25/2019 17:56	Madeline Funaro	2122118
	09/25/2019			09/25/2019 18:09	Madeline Funaro	2122119
SM 2320 B-97	09/25/2019			10/02/2019 01:03	Dale L. Simmons	2122115
	09/25/2019			10/02/2019 01:16	Dale L. Simmons	2122118
	09/25/2019			10/02/2019 01:29	Dale L. Simmons	2122119
	09/25/2019			10/02/2019 01:43	Dale L. Simmons	2122124
SM 2540 C-97	09/25/2019			09/27/2019 14:08	Yijie Li	2122115, 2122118, 2122119, 2122124
SM 2540 D-97	09/25/2019			09/27/2019 14:08	Yijie Li	2122115, 2122118, 2122119, 2122124
SM 4500 F-C-97	09/25/2019			10/02/2019 01:03	Dale L. Simmons	2122115

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	09/25/2019			10/02/2019 01:16	Dale L. Simmons	2122118
	09/25/2019			10/02/2019 01:29	Dale L. Simmons	2122119
	09/25/2019			10/02/2019 01:43	Dale L. Simmons	2122124
SM 5310 B-00	09/25/2019			09/27/2019 19:08	Madeline Funaro	2122116
	09/25/2019			09/27/2019 19:20	Madeline Funaro	2122120
	09/25/2019			09/27/2019 20:01	Madeline Funaro	2122121
	09/25/2019			09/27/2019 20:13	Madeline Funaro	2122125