

Chemical Analysis Report

SO-DIST-2019-07-09-01

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

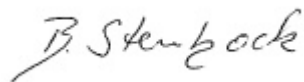
Event Description: **Sarasota Cricks**
Request ID: **RQ-2019-06-17-19**
Customer: **SO-DIST**
Project ID: **SMP**

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FLDEP South District Office
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Date Certified: 02-AUG-2019 16:10



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: WoodmereCreek@HeronRd

Collection Date/Time: 07/08/2019 11:00

Field ID: G2SD0027

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100816	EPA 8321B	2,4-D	0.018		ug/L	P366930	
		Acesulfame K**	0.54		ug/L	P367009	
		AMPA**	0.71		ug/L	P367009	
		Sucralose**	0.80		ug/L	P367009	
		Acetaminophen**	0.0080	U	ug/L	P366930	
		Endothall**	0.25	U	ug/L	P367009	
		Glufosinate**	0.10	U	ug/L	P367009	
		Glyphosate**	2.7		ug/L	P367009	
		Bentazon	0.012		ug/L	P366930	
		Carbamazepine**	0.013		ug/L	P366930	
		Diuron	0.0047	I	ug/L	P366930	
		Fenuron	0.016	U	ug/L	P366930	
		Fluridone**	0.0015	I	ug/L	P366930	
		Imazapyr**	0.35		ug/L	P366930	
		Hydrocodone**	0.0020	U	ug/L	P366930	
		Ibuprofen**	0.020	U	ug/L	P366930	
		Imidacloprid	0.047		ug/L	P366930	MS
		Linuron	0.0040	U	ug/L	P366930	
		MCPP	0.011		ug/L	P366930	MS
		Naproxen**	0.0080	U	ug/L	P366930	
		Primidone**	0.0078	I	ug/L	P366930	
		Pyraclostrobin**	0.0020	U	ug/L	P366930	
		Triclopyr**	0.0040	U	ug/L	P366930	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: NorthCreek(Tidal)@41

Collection Date/Time: 07/08/2019 12:25

Field ID: G3SD0089

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100817	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367009	
		2,4-D	0.14		ug/L	P366930	
		AMPA**	1.0	IQ	ug/L	P367009	
		Sucralose**	1.3		ug/L	P367009	
		Endothall**	0.25	U	ug/L	P367009	
		Acetaminophen**	0.0080	U	ug/L	P366930	
		Glufosinate**	1.0	UQ	ug/L	P367009	
		Glyphosate**	2.0	IQ	ug/L	P367009	
		Bentazon	0.0070		ug/L	P366930	
		Carbamazepine**	0.0017	I	ug/L	P366930	
		Diuron	0.0022	I	ug/L	P366930	
		Fenuron	0.016	U	ug/L	P366930	
		Fluridone**	0.50		ug/L	P366930	
		Imazapyr**	0.12		ug/L	P366930	
		Hydrocodone**	0.0020	U	ug/L	P366930	
		Ibuprofen**	0.020	U	ug/L	P366930	
		Imidacloprid	0.88		ug/L	P366930	MS
		Linuron	0.0040	U	ug/L	P366930	
		MCPP	0.0035	I	ug/L	P366930	MS
		Naproxen**	0.0080	U	ug/L	P366930	
		Primidone**	0.010	I	ug/L	P366930	
		Pyraclostrobin**	0.0020	U	ug/L	P366930	
		Triclopyr**	0.0040	U	ug/L	P366930	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. Some analytes analyzed beyond holding time due to matrix interference that required dilution.

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Walker Creek @32ndSt

Collection Date/Time: 07/08/2019 13:10

Field ID: G3SD0094

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100814	EPA 8321B	2,4-D	0.048		ug/L	P366930	
		Acesulfame K**	0.16	I	ug/L	P367009	
		AMPA**	1.8		ug/L	P367009	
		Sucralose**	0.19		ug/L	P367009	
		Acetaminophen**	0.0080	U	ug/L	P366930	
		Endothall**	0.25	U	ug/L	P367009	
		Glufosinate**	0.10	U	ug/L	P367009	
		Glyphosate**	4.5		ug/L	P367009	
		Bentazon	0.045		ug/L	P366930	
		Carbamazepine**	0.0018	I	ug/L	P366930	
		Diuron	0.012		ug/L	P366930	
		Fenuron	0.016	U	ug/L	P366930	
		Fluridone**	0.0051		ug/L	P366930	
		Imazapyr**	1.4		ug/L	P366930	
		Hydrocodone**	0.0020	U	ug/L	P366930	
		Ibuprofen**	0.020	U	ug/L	P366930	
		Imidacloprid	0.048	J	ug/L	P366930	MS
		Linuron	0.0040	U	ug/L	P366930	
		MCPP	0.013	J	ug/L	P366930	MS
		Naproxen**	0.0080	U	ug/L	P366930	
		Primidone**	0.0040	U	ug/L	P366930	
		Pyraclostrobin**	0.0020	U	ug/L	P366930	
		Triclopyr**	0.0040	U	ug/L	P366930	

Ref. Method and Comment:

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. Refer to the narrative for an explanation of QC Codes.

Sample Location: PhillippeCreek@Proctor

Collection Date/Time: 07/08/2019 14:05

Field ID: G3SD0091

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100774	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P366913	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P367011	
		Sulfate	61		mg SO4/L	P367013	
	SM 2120 B	Color (true)	56		PCU	P366901	
	SM 2320 B-97	Total Alkalinity	125	A	mg CaCO3/L	P367072	
	SM 2540 C-97	TDS	308		mg/L	P367311	
	SM 2540 D-97	TSS	6	I	mg/L	P367318	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P367074	
2100776	EPA 350.1 Rev. 2.0	Ammonia-N	0.086		mg N/L	P367004	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P366959	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P366949	
	EPA 365.1 Rev. 2.0	Total-P	0.20		mg P/L	P366955	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P367017	
2100778	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036		mg P/L	P366906	

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: PhillippeCreek@Proctor

Collection Date/Time: 07/08/2019 14:10

Field ID: G3SD0091_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100775	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P366913	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P367011	
		Sulfate	61		mg SO4/L	P367013	
	SM 2120 B	Color (true)	47		PCU	P366901	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P367072	
	SM 2540 C-97	TDS	291		mg/L	P367311	
	SM 2540 D-97	TSS	7	I	mg/L	P367318	
	SM 4500 F-C-97	Fluoride	0.31		mg F/L	P367074	
2100777	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P367004	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P366959	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P366949	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P366955	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P367017	
2100779	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.037		mg P/L	P366906	

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: NorthCreek@OaksCreekCt

Collection Date/Time: 07/08/2019 12:00

Field ID: G3SD0064

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2100815	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367009	
		2,4-D	0.017		ug/L	P366930	
		AMPA**	1.0	UQ	ug/L	P367009	
		Sucralose**	0.069		ug/L	P367009	
		Endothall**	0.25	U	ug/L	P367009	
		Acetaminophen**	0.0080	U	ug/L	P366930	
		Glufosinate**	1.0	UQ	ug/L	P367009	
		Glyphosate**	1.3	IQ	ug/L	P367009	
		Bentazon	0.017		ug/L	P366930	
		Carbamazepine**	0.0017	I	ug/L	P366930	
		Diuron	0.0020	U	ug/L	P366930	
		Fenuron	0.016	U	ug/L	P366930	
		Fluridone**	0.040		ug/L	P366930	
		Imazapyr**	0.045		ug/L	P366930	
		Hydrocodone**	0.0020	U	ug/L	P366930	
		Ibuprofen**	0.020	U	ug/L	P366930	
		Imidacloprid	1.4		ug/L	P366930	MS
		Linuron	0.0040	U	ug/L	P366930	
		MCPP	0.0020	U	ug/L	P366930	MS
		Naproxen**	0.0080	U	ug/L	P366930	
		Primidone**	0.012	I	ug/L	P366930	
		Pyraclostrobin**	0.0020	U	ug/L	P366930	
		Triclopyr**	0.0040	U	ug/L	P366930	

Ref. Method and Comment:

EPA 8321B: MDL for some parameters elevated due to matrix interference. Some analytes analyzed beyond holding time due to matrix interference that required dilution.

EPA 8321B: MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366913

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367011

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367013

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366959

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366949

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366955

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366906

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

Reference Method: EPA 8321B
Batch ID: P366930

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P366930

Component	Result	Code	Units
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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P367009

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: SM 2120 B
Batch ID: P366901

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367072

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

Reference Method: SM 2540 C-97
Batch ID: P367311

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367318

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P367074

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367017

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: P367011

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367013

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367004

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366959

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366949

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: P366955

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366906

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.6		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P366930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	135		P	40 - 150
Acetaminophen	93.3		P	30 - 150
Bentazon	96.7		P	30 - 150
Carbamazepine	90.2		P	40 - 150
Diuron	88.7		P	40 - 150
Fenuron	98.6		P	40 - 150
Fluridone	94.9		P	40 - 150
Hydrocodone	94.7		P	40 - 150
Ibuprofen	98.5		P	30 - 150
Imazapyr	74.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P366930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Imidacloprid	91.4		P	40 - 150
Linuron	75.0		P	40 - 150
MCPP	146		P	40 - 150
Naproxen	90.0		P	40 - 150
Primidone	89.4		P	40 - 150
Pyraclostrobin	95.3		P	30 - 150
Triclopyr	139		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P367009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	112		P	40 - 150
AMPA	90.0		P	40 - 150
Endothall	115		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	95.9		P	40 - 140
Sucralose	46.7		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P366901

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	93.9		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P367072

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P367074

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367017

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P367011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100782	Chloride	99.3	98.9	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P367013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100782	Sulfate	99.1	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P367004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100783	Ammonia-N	104	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P366959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100789	Kjeldahl Nitrogen	105	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P366949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100710	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P366955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100789	Total-P	105	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P366906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100784	O-Phosphate-P	95.9	97.3	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P366930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100814	2,4-D	118	130	P/P	40 - 150
2100814	Acetaminophen	95.7	97.8	P/P	30 - 150
2100814	Bentazon	116	107	P/P	30 - 150
2100814	Carbamazepine	73.8	76.4	P/P	40 - 150
2100814	Diuron	64.1	68.6	P/P	40 - 150
2100814	Fenuron	76.5	80.4	P/P	40 - 150
2100814	Fluridone	75.1	79.7	P/P	40 - 150
2100814	Hydrocodone	75.3	95.3	P/P	40 - 150
2100814	Ibuprofen	83.9	80.7	P/P	30 - 150
2100814	Imidacloprid	146	169	P/F	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P366930

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100814	Linuron	56.7	59.8	P/P	40 - 150
2100814	MCP	153	160	F/F	40 - 150
2100814	Naproxen	89.2	86.0	P/P	40 - 150
2100814	Primidone	90.7	93.5	P/P	40 - 150
2100814	Pyraclostrobin	88.2	89.5	P/P	30 - 150
2100814	Triclopyr	133	131	P/P	30 - 150

Reference Method: EPA 8321B
Batch ID: P367009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100814	Acesulfame K	103	114	P/P	40 - 150
2100814	AMPA	46.6	43.8	P/P	40 - 150
2100814	Endothall	83.0	87.7	P/P	40 - 150
2100814	Glufosinate	72.5	73.0	P/P	40 - 150
2100814	Glyphosate	104	92.5	P/P	40 - 140
2100814	Sucralose	76.6	86.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P367074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100774	Fluoride	99.3	100	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P367017

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2100630	Organic Carbon	96.4	96.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P366913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100788	Turbidity	2.44	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100782	Chloride	0.340	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100782	Sulfate	0.185	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P367004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100783	Ammonia-N	0.595	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100789	Kjeldahl Nitrogen	1.83	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100710	NO2NO3-N	0.769	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100789	Total-P	2.95	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P366906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100784	O-Phosphate-P	1.45	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P366930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100814	2,4-D	6.65	Spike	P	0 - 30
2100814	Acetaminophen	2.11	Spike	P	0 - 30
2100814	Bentazon	2.70	Spike	P	0 - 30
2100814	Carbamazepine	3.01	Spike	P	0 - 30
2100814	Diuron	5.59	Spike	P	0 - 30
2100814	Fenuron	5.07	Spike	P	0 - 30
2100814	Fluridone	4.42	Spike	P	0 - 30
2100814	Hydrocodone	23.4	Spike	P	0 - 30
2100814	Ibuprofen	3.96	Spike	P	0 - 30
2100814	Imazapyr	6.21	Spike	P	0 - 30
2100814	Imidacloprid	10.3	Spike	P	0 - 30
2100814	Linuron	5.32	Spike	P	0 - 30
2100814	MCP	4.11	Spike	P	0 - 30
2100814	Naproxen	3.56	Spike	P	0 - 30
2100814	Primidone	3.04	Spike	P	0 - 30
2100814	Pyraclostrobin	1.55	Spike	P	0 - 30
2100814	Triclopyr	1.40	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100814	Acesulfame K	9.15	Spike	P	0 - 30
2100814	AMPA	1.27	Spike	P	0 - 30
2100814	Endothall	5.51	Spike	P	0 - 30
2100814	Glufosinate	0.789	Spike	P	0 - 30
2100814	Glyphosate	2.06	Spike	P	0 - 30
2100814	Sucralose	11.5	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P366901

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100785	Color (true)	1.87	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100774	Total Alkalinity	0.117	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P367311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100665	TDS	3.19	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P367074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100774	Fluoride	0.470	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P367017

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2100630	Organic Carbon	0.246	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2100814
Field Sample ID: G3SD0094

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	147	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.8	P	30 - 160
EPA 8321B	Diuron-d6	77.6	P	30 - 160
EPA 8321B	Endothall-d6	92.0	P	30 - 160
EPA 8321B	Endothall-d6	92.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.5	P	30 - 160
EPA 8321B	Primidone-d5	92.0	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160
EPA 8321B	Sucralose-d6	103	P	30 - 160

Lab Sample ID: 2100815
Field Sample ID: G3SD0064

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	140	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.4	P	30 - 160
EPA 8321B	Diuron-d6	81.2	P	30 - 160
EPA 8321B	Endothall-d6	75.8	P	30 - 160
EPA 8321B	Endothall-d6	75.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.1	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	77.1	P	30 - 160
EPA 8321B	Sucralose-d6	77.1	P	30 - 160

Lab Sample ID: 2100816
Field Sample ID: G2SD0027

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	153	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.1	P	30 - 160
EPA 8321B	Diuron-d6	78.4	P	30 - 160
EPA 8321B	Endothall-d6	56.6	P	30 - 160
EPA 8321B	Endothall-d6	56.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	101	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	82.3	P	30 - 160
EPA 8321B	Sucralose-d6	82.3	P	30 - 160

Lab Sample ID: 2100817
Field Sample ID: G3SD0089

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2100817
Field Sample ID: G3SD0089

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	102	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.2	P	30 - 160
EPA 8321B	Diuron-d6	73.5	P	30 - 160
EPA 8321B	Endothall-d6	96.3	P	30 - 160
EPA 8321B	Endothall-d6	96.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	73.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	95.7	P	30 - 160
EPA 8321B	Primidone-d5	95.0	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92640

Included Lab Sample IDs: 2100774, 2100775

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

Reference Method: SM 2120 B

Run ID: A92652

Included Lab Sample IDs: 2100774, 2100775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.8	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92655

Included Lab Sample IDs: 2100778, 2100779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.8	98.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92658

Included Lab Sample IDs: 2100774, 2100775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A92677

Included Lab Sample IDs: 2100776, 2100777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A92688

Included Lab Sample IDs: 2100776, 2100777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	104	P/P	90 - 110
Ammonia-N	104	105	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A92692

Included Lab Sample IDs: 2100776, 2100777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	99.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92697

Included Lab Sample IDs: 2100776, 2100777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92697

Included Lab Sample IDs: 2100776, 2100777

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A92704

Included Lab Sample IDs: 2100776, 2100777

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	108	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A92708

Included Lab Sample IDs: 2100774, 2100775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A92708

Included Lab Sample IDs: 2100774, 2100775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A92724

Included Lab Sample IDs: 2100814, 2100815, 2100816, 2100817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	110	112	P/P	60 - 160
Endothall	112	94.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92756

Included Lab Sample IDs: 2100814, 2100815, 2100816, 2100817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.1	96.3	P/P	50 - 150
Acetaminophen	116	120	P/P	60 - 160
Bentazon	101	105	P/P	50 - 160
Carbamazepine	108	106	P/P	60 - 150
Diuron	110	112	P/P	60 - 150
Fenuron	107	99.2	P/P	60 - 150
Fluridone	108	111	P/P	60 - 160
Fluridone	112	111	P/P	60 - 160
Hydrocodone	109	103	P/P	60 - 150
Ibuprofen	100	113	P/P	50 - 160
Imazapyr	81.1	86.5	P/P	50 - 150
Imazapyr	95.5	109	P/P	50 - 150
Imidacloprid	104	105	P/P	60 - 150
Imidacloprid	99.3	103	P/P	60 - 150
Linuron	115	105	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A92756

Included Lab Sample IDs: 2100814, 2100815, 2100816, 2100817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	97.6	96.5	P/P	50 - 150
Naproxen	98.2	116	P/P	50 - 160
Primidone	106	106	P/P	60 - 150
Pyraclostrobin	112	117	P/P	60 - 150
Triclopyr	109	92.4	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A92782

Included Lab Sample IDs: 2100814, 2100815, 2100816, 2100817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	80.0	86.7	P/P	60 - 160
AMPA	92.0	84.7	P/P	60 - 160
Glufosinate	104	94.1	P/P	60 - 160
Glufosinate	78.8	89.3	P/P	60 - 160
Glyphosate	80.4	90.3	P/P	60 - 160
Glyphosate	96.5	97.9	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93126

Included Lab Sample IDs: 2100814, 2100815, 2100816, 2100817

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	117	112	P/P	60 - 160
Sucralose	121	117	P/P	60 - 160
Sucralose	133	121	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		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					2.44	
EPA 300.0 Rev. 2.1	Chloride	100	99.3	98.9			0.340
	Sulfate	99.5	99.1	98.9			0.185
EPA 350.1 Rev. 2.0	Ammonia-N	104	104	105			0.595
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	105	107			1.83
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102	103	104			0.769
EPA 365.1 Rev. 2.0	Total-P	107	105	108			2.95
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.6	95.9	97.3			1.45
EPA 8321B	2,4-D	135	118	130			6.65
	Acesulfame K	112	103	114			9.15
	Acetaminophen	93.3	95.7	97.8			2.11
	AMPA	90.0	46.6	43.8			1.27
	Bentazon	96.7	116	107			2.70
	Carbamazepine	90.2	73.8	76.4			3.01
	Diuron	88.7	64.1	68.6			5.59
	Endothall	115	83.0	87.7			5.51
	Fenuron	98.6	76.5	80.4			5.07
	Fluridone	94.9	75.1	79.7			4.42
	Glufosinate	108	72.5	73.0			0.789
	Glyphosate	95.9	104	92.5			2.06
	Hydrocodone	94.7	75.3	95.3			23.4
	Ibuprofen	98.5	83.9	80.7			3.96
	Imazapyr	74.0					6.21
	Imidacloprid	91.4	146	169			10.3
	Linuron	75.0	56.7	59.8			5.32
	MCPP	146	153	160			4.11
	Naproxen	90.0	89.2	86.0			3.56
	Primidone	89.4	90.7	93.5			3.04
	Pyraclostrobin	95.3	88.2	89.5			1.55
	Sucralose	46.7	76.6	86.9			11.5
	Triclopyr	139	133	131			1.40
SM 2120 B	Color (true)	93.9				1.87	
SM 2320 B-97	Total Alkalinity	103				0.117	
SM 2540 C-97	TDS					3.19	
SM 4500 F-C-97	Fluoride	99.0	99.3	100			0.470
SM 5310 B-00	Organic Carbon	96.7	96.4	96.8			0.246

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2100774, 2100775
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2100774, 2100775
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2100774, 2100775
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2100776, 2100777
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2100776, 2100777
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2100776, 2100777
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2100776, 2100777

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2100778, 2100779
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2100814, 2100815, 2100816, 2100817
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2100814, 2100815, 2100816, 2100817
SM 2120 B / E31780	True Color measured at 450 nm	2100774, 2100775
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2100774, 2100775
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2100774, 2100775
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2100774, 2100775
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2100774, 2100775
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2100776, 2100777

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	07/09/2019			07/09/2019 16:59	Samantha Davila	2100774, 2100775
EPA 300.0 Rev. 2.1	07/09/2019			07/10/2019 21:12	Lipi Saha	2100774
	07/09/2019			07/10/2019 21:24	Lipi Saha	2100775
EPA 350.1 Rev. 2.0	07/09/2019			07/10/2019 16:15	Ping Hua	2100776
	07/09/2019			07/10/2019 16:23	Ping Hua	2100777
EPA 351.2 Rev. 2.0	07/09/2019	07/10/2019 12:20	Sima Feizi	07/11/2019 10:38	Joseph Suarez	2100776
	07/09/2019	07/10/2019 12:20	Sima Feizi	07/11/2019 10:40	Joseph Suarez	2100777
EPA 353.2 Rev. 2.0	07/09/2019			07/10/2019 10:02	Beverly Y. Sanders	2100776
	07/09/2019			07/10/2019 10:04	Beverly Y. Sanders	2100777
EPA 365.1 Rev. 2.0	07/09/2019	07/10/2019 13:20	Sima Feizi	07/11/2019 09:02	Lipi Saha	2100776
	07/09/2019	07/10/2019 13:20	Sima Feizi	07/11/2019 09:03	Lipi Saha	2100777
EPA 365.1 Rev. 2.0 dissolved	07/09/2019			07/09/2019 15:56	Jhamieka S. Greenwood	2100778
	07/09/2019			07/09/2019 15:57	Jhamieka S. Greenwood	2100779
EPA 8321B	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/11/2019 18:58	Rebecca Ware	2100814
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/11/2019 19:12	Rebecca Ware	2100815
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/11/2019 19:26	Rebecca Ware	2100816
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/11/2019 19:40	Rebecca Ware	2100817
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/12/2019 13:23	Rebecca Ware	2100814
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/12/2019 13:44	Rebecca Ware	2100816
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/16/2019 09:54	Rebecca Ware	2100815
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/16/2019 10:04	Rebecca Ware	2100817
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/26/2019 11:21	Rebecca Ware	2100814
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/26/2019 12:48	Rebecca Ware	2100816
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/26/2019 13:00	Rebecca Ware	2100817
	07/09/2019	07/11/2019 09:15	Rebecca Ware	07/26/2019 15:11	Rebecca Ware	2100815
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 01:56	Juyoung Kim	2100814
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 02:31	Juyoung Kim	2100815
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 03:05	Juyoung Kim	2100816
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 03:40	Juyoung Kim	2100817
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 15:12	Juyoung Kim	2100814
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 15:47	Juyoung Kim	2100815
	07/09/2019	07/11/2019 10:00	Hoor Shaik	07/12/2019 16:56	Juyoung Kim	2100817
SM 2120 B	07/09/2019			07/09/2019 14:31	Madeline Funaro	2100774
	07/09/2019			07/09/2019 14:32	Madeline Funaro	2100775
SM 2320 B-97	07/09/2019			07/10/2019 23:25	Dale L. Simmons	2100774
	07/09/2019			07/10/2019 23:47	Dale L. Simmons	2100775
SM 2540 C-97	07/09/2019			07/11/2019 15:31	Yijie Li	2100774, 2100775
SM 2540 D-97	07/09/2019			07/11/2019 15:31	Yijie Li	2100774, 2100775
SM 4500 F-C-97	07/09/2019			07/10/2019 23:15	Dale L. Simmons	2100774
	07/09/2019			07/10/2019 23:47	Dale L. Simmons	2100775

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	07/09/2019			07/10/2019 10:36	Madeline Funaro	2100776
	07/09/2019			07/10/2019 10:50	Madeline Funaro	2100777