

Chemical Analysis Report

NE-DIST-2018-10-24-01

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

Event Description: **LSJR North Salt Boat**
Request ID: **RQ-2018-10-22-04**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Date Certified: 13-NOV-2018 11:41



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 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: Moncrief Creek Near Mouth

Collection Date/Time: 10/23/2018 09:15

Field ID: 20030115

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035300	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P353756	
	SM 2320 B-97	Total Alkalinity	83		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	6	IA	mg/L	P354026	
	SM 4500 F-C-97	Fluoride	0.52		mg F/L	P354100	
2035303	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P353911	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P353828	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P353666	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P354066	
2035306	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.089		mg P/L	P353648	
2035324	EPA 8321B	2,4-D	0.0047	I	ug/L	P353529	
		Bentazon	0.0058		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.024		ug/L	P353529	MS
		Diuron	0.020		ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.10		ug/L	P353529	
		Carbamazepine**	0.0011	I	ug/L	P353529	
		Fluridone**	0.0056		ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.43		ug/L	P353544	
		Acesulfame K**	0.10	U	ug/L	P353544	

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: Trout R @ I-95 Burt Maxwell Dock

Collection Date/Time: 10/23/2018 09:30

Field ID: 20030121

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035301	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P353756	
	SM 2320 B-97	Total Alkalinity	83		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	5	I	mg/L	P354026	
	SM 4500 F-C-97	Fluoride	0.55		mg F/L	P354100	
2035304	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P353911	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P353828	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P353666	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P354066	
2035307	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.090		mg P/L	P353648	
2035325	EPA 8321B	2,4-D	0.0048	I	ug/L	P353529	
		Bentazon	0.0065		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.022		ug/L	P353529	MS
		Diuron	0.020		ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.10		ug/L	P353529	
		Carbamazepine**	0.0012	I	ug/L	P353529	
		Fluridone**	0.0050		ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.44		ug/L	P353544	
		Acesulfame K**	0.10	U	ug/L	P353544	

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: Trout River above 295

Collection Date/Time: 10/23/2018 10:05

Field ID: G2NE1138

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035302	EPA 180.1 Rev. 2.0	Turbidity	3.8		NTU	P353756	
	SM 2320 B-97	Total Alkalinity	78		mg CaCO3/L	P354097	
	SM 2540 D-97	TSS	4	IA	mg/L	P354022	
	SM 4500 F-C-97	Fluoride	0.32		mg F/L	P354100	
2035305	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P354088	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.76		mg N/L	P353911	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P353828	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P353667	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P353794	
2035308	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.086		mg P/L	P353648	
2035326	EPA 8321B	2,4-D	0.013		ug/L	P353529	
		Bentazon	0.0077		ug/L	P353529	
		MCP	0.0020	U	ug/L	P353529	
		Triclopyr**	0.0040	U	ug/L	P353529	MS
		Imidacloprid	0.025		ug/L	P353529	MS
		Diuron	0.015		ug/L	P353529	
		Pyraclostrobin**	0.0020	U	ug/L	P353529	
		Primidone**	0.0040	U	ug/L	P353529	
		Linuron	0.0040	U	ug/L	P353529	
		Acetaminophen**	0.0080	U	ug/L	P353529	
		Fenuron	0.016	U	ug/L	P353529	
		Imazapyr**	0.14		ug/L	P353529	
		Carbamazepine**	0.0011	I	ug/L	P353529	
		Fluridone**	0.0092		ug/L	P353529	
		Hydrocodone**	8.0E-04	U	ug/L	P353529	
		Naproxen**	0.0080	U	ug/L	P353529	
		Ibuprofen**	0.020	U	ug/L	P353529	
		Sucralose**	0.39		ug/L	P353544	
		Acesulfame K**	0.10	U	ug/L	P353544	

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: Ribault River At US-1

Collection Date/Time: 10/23/2018 10:55

Field ID: 20030133

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2035309	EPA 180.1 Rev. 2.0	Turbidity	7.6		NTU	P353756	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P353897	
	SM 2540 D-97	TSS	4	I	mg/L	P354022	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P353902	
2035310	EPA 350.1 Rev. 2.0	Ammonia-N	0.044		mg N/L	P353949	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P353909	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P353774	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P353663	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P353794	
2035311	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P353641	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353756

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353666

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: P353667

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

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

Reference Method: EPA 8321B
Batch ID: P353529

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
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	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
MCPP	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: P353544

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P353897

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P354097

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

Reference Method: SM 2540 D-97
Batch ID: P354022

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P354026

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P353794

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

Reference Method: SM 5310 B-00
Batch ID: P354066

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

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: P353663

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353666

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P353641

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P353648

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

Reference Method: EPA 8321B
 Batch ID: P353529

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.6		P	40 - 150
Acetaminophen	143		P	30 - 150
Bentazon	73.3		P	30 - 150
Carbamazepine	97.0		P	40 - 150
Diuron	93.3		P	40 - 150
Fenuron	133		P	40 - 150
Fluridone	116		P	40 - 150
Hydrocodone	130		P	40 - 150
Ibuprofen	41.3		P	40 - 150
Imazapyr	110		P	40 - 150
Imidacloprid	137		P	40 - 160
Linuron	87.2		P	40 - 150
MCPP	97.5		P	40 - 150
Naproxen	92.8		P	40 - 150
Primidone	130		P	40 - 150
Pyraclostrobin	93.1		P	40 - 150
Triclopyr	99.9		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P353544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	84.0		P	40 - 150
Sucralose	83.5		P	40 - 150

Reference Method: SM 2320 B-97
 Batch ID: P353897

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 2320 B-97
 Batch ID: P354097

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353794

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.1		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P354066

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035092	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035303	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035190	Kjeldahl Nitrogen	105	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035305	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035334	NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035261	NO2NO3-N	99.0	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035304	Total-P	98.1	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035340	Total-P	92.2	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035093	O-Phosphate-P	96.7	97.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035069	O-Phosphate-P	97.7	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P353529

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035512	2,4-D	139	120	P/P	40 - 150
2035512	Acetaminophen	126	135	P/P	30 - 150
2035512	Bentazon	95.7	68.5	P/P	30 - 150
2035512	Carbamazepine	74.4	74.6	P/P	40 - 150
2035512	Diuron	65.9	65.5	P/P	40 - 150
2035512	Fenuron	114	115	P/P	40 - 150
2035512	Fluridone	105	107	P/P	40 - 150
2035512	Hydrocodone	119	123	P/P	40 - 150
2035512	Ibuprofen	44.5	41.7	P/P	40 - 150
2035512	Imazapyr	101	110	P/P	40 - 150
2035512	Imidacloprid	200	187	F/F	40 - 160
2035512	Linuron	68.7	67.9	P/P	40 - 150
2035512	MCP	136	134	P/P	40 - 150
2035512	Naproxen	103	102	P/P	40 - 150
2035512	Primidone	121	118	P/P	40 - 150
2035512	Pyraclostrobin	85.2	81.1	P/P	40 - 150
2035512	Triclopyr	165	132	F/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P353544

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034746	Acesulfame K	104	99.7	P/P	40 - 150
2034746	Sucralose	81.8	78.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2034796	Fluoride	101	100	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035932	Fluoride	97.5	98.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P353794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035305	Organic Carbon	95.2	95.6	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P354066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2035225	Organic Carbon	96.9	95.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P353756

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035187	Turbidity	1.47	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P353949

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035092	Ammonia-N	0.820	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P354088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035303	Ammonia-N	0.320	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353909

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035190	Kjeldahl Nitrogen	2.38	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P353911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035305	Kjeldahl Nitrogen	0.854	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035334	NO2NO3-N	0.325	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P353828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035261	NO2NO3-N	0.448	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035334	Total-P	0.665	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035304	Total-P	0.293	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P353667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035340	Total-P	2.10	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035093	O-Phosphate-P	1.13	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P353648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035069	O-Phosphate-P	2.43	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P353529

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035512	2,4-D	10.4	Spike	P	0 - 30
2035512	Acetaminophen	7.33	Spike	P	0 - 30
2035512	Bentazon	19.9	Spike	P	0 - 30
2035512	Carbamazepine	0.268	Spike	P	0 - 30
2035512	Diuron	0.333	Spike	P	0 - 30
2035512	Fenuron	0.665	Spike	P	0 - 30
2035512	Fluridone	2.37	Spike	P	0 - 30
2035512	Hydrocodone	3.02	Spike	P	0 - 30
2035512	Ibuprofen	6.51	Spike	P	0 - 30
2035512	Imazapyr	5.27	Spike	P	0 - 30
2035512	Imidacloprid	5.73	Spike	P	0 - 30
2035512	Linuron	1.21	Spike	P	0 - 30
2035512	MCPP	1.79	Spike	P	0 - 30
2035512	Naproxen	0.735	Spike	P	0 - 30
2035512	Primidone	2.34	Spike	P	0 - 30
2035512	Pyraclostrobin	4.90	Spike	P	0 - 30
2035512	Triclopyr	22.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P353544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P353544

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034746	Acesulfame K	3.97	Spike	P	0 - 30
2034746	Sucralose	3.21	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P353897

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034796	Total Alkalinity	0.312	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P354097

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035932	Total Alkalinity	0.133	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P353902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2034796	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P354100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035932	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P353794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035305	Organic Carbon	0.231	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P354066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2035225	Organic Carbon	1.79	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: 2035324
Field Sample ID: 20030115

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	106	P	30 - 160
EPA 8321B	Acetaminophen-d4	141	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.4	P	30 - 160
EPA 8321B	Diuron-d6	66.8	P	30 - 160
EPA 8321B	Endothall-d6	68.5	P	40 - 160
EPA 8321B	Ibuprofen-d3	78.9	P	30 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	40 - 160

Lab Sample ID: 2035325
Field Sample ID: 20030121

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	120	P	30 - 160
EPA 8321B	Acetaminophen-d4	125	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.4	P	30 - 160
EPA 8321B	Diuron-d6	72.7	P	30 - 160
EPA 8321B	Endothall-d6	69.7	P	40 - 160
EPA 8321B	Ibuprofen-d3	94.3	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	40 - 160

Lab Sample ID: 2035326
Field Sample ID: G2NE1138

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.7	P	30 - 160
EPA 8321B	Diuron-d6	68.2	P	30 - 160
EPA 8321B	Endothall-d6	65.6	P	40 - 160
EPA 8321B	Ibuprofen-d3	93.5	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A87273

Included Lab Sample IDs: 2035306, 2035307, 2035308, 2035311

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	99.4	P/P	90 - 110
O-Phosphate-P	99.9	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A87310

Included Lab Sample IDs: 2035303, 2035304, 2035305, 2035310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	100	P/P	90 - 110
Total-P	100	100	P/P	90 - 110
Total-P	100	100	P/P	90 - 110
Total-P	101	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A87320

Included Lab Sample IDs: 2035300, 2035301, 2035302, 2035309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87323

Included Lab Sample IDs: 2035310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87330

Included Lab Sample IDs: 2035324, 2035325, 2035326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	72.1	75.4	P/P	60 - 160

Reference Method: SM 5310 B-00

Run ID: A87335

Included Lab Sample IDs: 2035305, 2035310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	101	101	P/P	90 - 110
Organic Carbon	101	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A87354

Included Lab Sample IDs: 2035303, 2035304, 2035305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87369

Included Lab Sample IDs: 2035324, 2035325, 2035326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	88.1	61.7	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A87382

Included Lab Sample IDs: 2035309

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: A87382

Included Lab Sample IDs: 2035309

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87407

Included Lab Sample IDs: 2035310

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A87414

Included Lab Sample IDs: 2035303, 2035304, 2035305, 2035310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	108	P/P	90 - 110
Kjeldahl Nitrogen	104	101	P/P	90 - 110
Kjeldahl Nitrogen	105	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2035324, 2035325, 2035326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	117	111	P/P	50 - 150
Acetaminophen	112	130	P/P	60 - 160
Bentazon	106	106	P/P	50 - 160
Carbamazepine	132	127	P/P	60 - 160
Diuron	139	111	P/P	60 - 150
Fenuron	104	109	P/P	60 - 150
Fluridone	116	126	P/P	60 - 160
Hydrocodone	131	127	P/P	60 - 150
Ibuprofen	56.7	75.9	P/P	50 - 160
Imazapyr	94.0	100	P/P	50 - 150
Imidacloprid	133	129	P/P	60 - 160
Linuron	130	112	P/P	60 - 150
MCPP	110	103	P/P	50 - 150
Naproxen	104	110	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A87443

Included Lab Sample IDs: 2035324, 2035325, 2035326

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	114	111	P/P	60 - 160
Pyraclostrobin	126	124	P/P	60 - 150
Triclopyr	98.7	98.9	P/P	50 - 160

Reference Method: SM 5310 B-00

Run ID: A87453

Included Lab Sample IDs: 2035303, 2035304

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A87465

Included Lab Sample IDs: 2035303, 2035304, 2035305

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A87470

Included Lab Sample IDs: 2035300, 2035301, 2035302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.8	P/P	90 - 110
Total Alkalinity	99.8	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A87470

Included Lab Sample IDs: 2035300, 2035301, 2035302

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.6	P/P	90 - 110
Fluoride	98.6	99.5	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					1.47	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	102			0.820
	Ammonia-N	102	102	101			0.320
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	105	101			2.38
	Kjeldahl Nitrogen	99.8	101	102			0.854
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	100			0.325
	NO2NO3-N	102	99.0	98.4			0.448
EPA 365.1 Rev. 2.0	Total-P	103					0.665
	Total-P	102	98.1	97.8			0.293
	Total-P	102	92.2	94.3			2.10
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.3	96.7	97.8			1.13
	O-Phosphate-P	103	97.7	100			2.43
EPA 8321B	2,4-D	90.6	139	120			10.4
	Acesulfame K	84.0	104	99.7			3.97
	Acetaminophen	143	126	135			7.33
	Bentazon	73.3	95.7	68.5			19.9
	Carbamazepine	97.0	74.4	74.6			0.268
	Diuron	93.3	65.9	65.5			0.333
	Fenuron	133	114	115			0.665
	Fluridone	116	105	107			2.37
	Hydrocodone	130	119	123			3.02
	Ibuprofen	41.3	44.5	41.7			6.51
	Imazapyr	110	101	110			5.27
	Imidacloprid	137	200	187			5.73
	Linuron	87.2	68.7	67.9			1.21
	MCPP	97.5	136	134			1.79
	Naproxen	92.8	103	102			0.735
	Primidone	130	121	118			2.34
	Pyraclostrobin	93.1	85.2	81.1			4.90
	Sucralose	83.5	81.8	78.5			3.21
	Triclopyr	99.9	165	132			22.1
SM 2320 B-97	Total Alkalinity	103				0.312	
	Total Alkalinity	102				0.133	
SM 4500 F-C-97	Fluoride	99.1	101	100			0.470
	Fluoride	98.5	97.5	98.2			0.470
SM 5310 B-00	Organic Carbon	96.1	95.2	95.6			0.231
	Organic Carbon	95.6	96.9	95.1			1.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2035300, 2035301, 2035302, 2035309
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2035303, 2035304, 2035305, 2035310
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2035303, 2035304, 2035305, 2035310
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2035303, 2035304, 2035305, 2035310
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2035303, 2035304, 2035305, 2035310
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2035306, 2035307, 2035308, 2035311
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2035324, 2035325, 2035326

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2035300, 2035301, 2035302, 2035309
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2035300, 2035301, 2035302, 2035309
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2035300, 2035301, 2035302, 2035309
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2035303, 2035304, 2035305, 2035310

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	10/24/2018			10/24/2018 17:02	Megan Treadwell	2035300, 2035301, 2035302, 2035309
EPA 350.1 Rev. 2.0	10/24/2018			10/30/2018 13:02	Ping Hua	2035310
	10/24/2018			11/01/2018 11:42	Ping Hua	2035303
	10/24/2018			11/01/2018 11:47	Ping Hua	2035304
	10/24/2018			11/01/2018 11:48	Ping Hua	2035305
EPA 351.2 Rev. 2.0	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 10:38	Virginia P. Brown	2035310
	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:24	Virginia P. Brown	2035303
	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:26	Virginia P. Brown	2035304
	10/24/2018	10/30/2018 11:55	Adrian Shelby	10/31/2018 11:31	Virginia P. Brown	2035305
EPA 353.2 Rev. 2.0	10/24/2018			10/26/2018 14:09	Lauren Bottorf	2035310
	10/24/2018			10/29/2018 10:58	Beverly Y. Sanders	2035303
	10/24/2018			10/29/2018 11:00	Beverly Y. Sanders	2035304
	10/24/2018			10/29/2018 11:01	Beverly Y. Sanders	2035305
EPA 365.1 Rev. 2.0	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 09:25	Beverly Y. Sanders	2035310
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 10:07	Beverly Y. Sanders	2035304
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 10:22	Beverly Y. Sanders	2035303
	10/24/2018	10/25/2018 12:50	Sima Feizi	10/26/2018 10:39	Beverly Y. Sanders	2035305
EPA 365.1 Rev. 2.0 dissolved	10/24/2018			10/24/2018 18:12	Julia Storbeck	2035311
	10/24/2018			10/24/2018 18:30	Julia Storbeck	2035306
	10/24/2018			10/24/2018 18:31	Julia Storbeck	2035307
	10/24/2018			10/24/2018 18:32	Julia Storbeck	2035308
EPA 8321B	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 10:21	Juyoung Kim	2035324
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 10:55	Juyoung Kim	2035325
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/27/2018 11:30	Juyoung Kim	2035326
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 03:04	Juyoung Kim	2035324
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 03:38	Juyoung Kim	2035325
	10/24/2018	10/25/2018 10:00	Hoor Shaik	10/28/2018 04:13	Juyoung Kim	2035326
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 15:48	Mohammad Ghaffari	2035324
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 16:02	Mohammad Ghaffari	2035325
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/27/2018 16:17	Mohammad Ghaffari	2035326
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 17:02	Rebecca Ware	2035324
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 17:17	Rebecca Ware	2035325
	10/24/2018	10/25/2018 13:00	Rebecca Ware	10/29/2018 17:31	Rebecca Ware	2035326
SM 2320 B-97	10/24/2018			10/29/2018 01:23	Dale L. Simmons	2035309
	10/24/2018			10/30/2018 23:10	Dale L. Simmons	2035302
	10/24/2018			10/31/2018 01:34	Dale L. Simmons	2035300
	10/24/2018			10/31/2018 01:44	Dale L. Simmons	2035301
SM 2540 D-97	10/24/2018			10/25/2018 15:41	Yijie Li	2035300, 2035301, 2035302, 2035309
SM 4500 F-C-97	10/24/2018			10/29/2018 01:23	Dale L. Simmons	2035309
	10/24/2018			10/30/2018 20:52	Dale L. Simmons	2035302

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	10/24/2018			10/30/2018 21:58	Dale L. Simmons	2035300
	10/24/2018			10/30/2018 22:02	Dale L. Simmons	2035301
SM 5310 B-00	10/24/2018			10/26/2018 08:55	Megan Treadwell	2035305
	10/24/2018			10/26/2018 10:09	Megan Treadwell	2035310
	10/24/2018			11/01/2018 10:07	Megan Treadwell	2035303
	10/24/2018			11/01/2018 10:21	Megan Treadwell	2035304