

Chemical Analysis Report

NE-DIST-2018-06-07-01

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

Event Description: **Santa Fe**
Request ID: **RQ-2018-05-14-29**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 03-JUL-2018 12:59



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: GRASSY HOLE SPRING ICHETUCKNEE

Collection Date/Time: 06/06/2018 11:35

Field ID: 21030051FLA

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1998422	EPA 180.1 Rev. 2.0	Turbidity	0.25		NTU	P346574	
	EPA 300.0 Rev. 2.1	Chloride	7.8		mg Cl/L	P346700	
		Sulfate	18		mg SO4/L	P346702	
	SM 2120 B	Color (true)	2.5	U	PCU	P346558	
	SM 2320 B-97	Total Alkalinity	156		mg CaCO3/L	P346910	
	SM 2540 C-97	TDS	214		mg/L	P346823	
	SM 2540 D-97	TSS	2	U	mg/L	P346710	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P346911	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P347008	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	U	mg N/L	P347599	MS
1998424	EPA 353.2 Rev. 2.0	NO2NO3-N	0.64		mg N/L	P346687	
	EPA 365.1 Rev. 2.0	Total-P	0.050		mg P/L	P346971	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P346717	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.054		mg P/L	P346572	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: The MDL was elevated due to sample matrix interference.

Sample Location: SANTA FE RIVER @ HOLLINGSWORTH BLUFF Collection Date/Time: 06/06/2018 12:15

Field ID: 21030145

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1998423	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P346574	
	EPA 300.0 Rev. 2.1	Chloride	9.7		mg Cl/L	P346700	
		Sulfate	15		mg SO4/L	P346702	
	SM 2120 B	Color (true)	220		PCU	P346558	
	SM 2320 B-97	Total Alkalinity	105		mg CaCO3/L	P346910	
	SM 2540 C-97	TDS	200		mg/L	P346823	
	SM 2540 D-97	TSS	3	I	mg/L	P346710	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P346911	
1998425	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P347104	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P347099	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.63		mg N/L	P346687	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P346971	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P346717	
1998427	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P346572	

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: CANNON CR @ CANNON CR RD BUSINESS
PARK POINT W CR 47**

Collection Date/Time: 06/06/2018 09:40

Field ID: 21030138

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1998428	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P346574	
	EPA 300.0 Rev. 2.1	Chloride	9.5		mg Cl/L	P346700	
		Sulfate	0.93		mg SO4/L	P346702	
	SM 2120 B	Color (true)	220		PCU	P346558	
	SM 2320 B-97	Total Alkalinity	59		mg CaCO3/L	P346910	
	SM 2540 C-97	TDS	135		mg/L	P346823	
	SM 2540 D-97	TSS	3	I	mg/L	P346710	
	SM 4500 F-C-97	Fluoride	0.073	I	mg F/L	P346911	
1998431	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P347104	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P347099	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P346687	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P346971	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P346717	
1998434	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.050		mg P/L	P346572	
1998449	EPA 8321B	2,4-D	0.0031	I	ug/L	P346521	
		Bentazon	8.0E-04	U	ug/L	P346521	
		MCP	0.0020	U	ug/L	P346521	
		Triclopyr**	0.0040	U	ug/L	P346521	
		Imidacloprid	0.17		ug/L	P346521	
		Diuron	0.0020	U	ug/L	P346521	
		Pyraclostrobin**	0.0020	U	ug/L	P346521	MS, RPD
		Primidone**	0.0040	U	ug/L	P346521	
		Linuron	0.0040	U	ug/L	P346521	
		Acetaminophen**	0.0080	U	ug/L	P346521	
		Fenuron	0.016	U	ug/L	P346521	
		Imazapyr**	0.16		ug/L	P346521	
		Carbamazepine**	4.0E-04	U	ug/L	P346521	
		Fluridone**	0.0040		ug/L	P346521	
		Hydrocodone**	8.0E-04	U	ug/L	P346521	
		Sucralose**	0.066		ug/L	P346523	

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 imazapyr and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: COW CREEK AT SR 138

Collection Date/Time: 06/06/2018 12:50

Field ID: 21030086

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1998429	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P346574	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P346700	
		Sulfate	0.20	U	mg SO4/L	P346702	
	SM 2120 B	Color (true)	400		PCU	P346558	
	SM 2320 B-97	Total Alkalinity	46		mg CaCO3/L	P346910	
	SM 2540 C-97	TDS	142		mg/L	P346823	
	SM 2540 D-97	TSS	4	I	mg/L	P346710	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P346911	
1998432	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P347104	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P347099	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P346687	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P346971	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P346717	
1998435	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P346572	
1998450	EPA 8321B	2,4-D	0.0020	U	ug/L	P346521	
		Bentazon	8.0E-04	U	ug/L	P346521	
		MCP	0.0020	U	ug/L	P346521	
		Triclopyr**	0.0040	U	ug/L	P346521	
		Imidacloprid	0.0020	U	ug/L	P346521	
		Diuron	0.0020	U	ug/L	P346521	
		Pyraclostrobin**	0.0020	U	ug/L	P346521	MS, RPD
		Primidone**	0.0040	U	ug/L	P346521	
		Linuron	0.0040	U	ug/L	P346521	
		Acetaminophen**	0.0080	U	ug/L	P346521	
		Fenuron	0.016	U	ug/L	P346521	
		Imazapyr**	0.022		ug/L	P346521	
		Carbamazepine**	4.0E-04	U	ug/L	P346521	
		Fluridone**	4.0E-04	U	ug/L	P346521	
		Hydrocodone**	8.0E-04	U	ug/L	P346521	
		Sucralose**	0.010	U	ug/L	P346523	

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 imazapyr and fluridone could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: LITTLE WACASASSA @ CR 339

Collection Date/Time: 06/06/2018 13:45

Field ID: 23020018

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1998430	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P346574	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P346700	
		Sulfate	0.20	U	mg SO4/L	P346702	
	SM 2120 B	Color (true)	410		PCU	P346558	
	SM 2320 B-97	Total Alkalinity	1.6	I	mg CaCO3/L	P346910	
	SM 2540 C-97	TDS	98		mg/L	P346823	
	SM 2540 D-97	TSS	2	U	mg/L	P346710	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P346911	
1998433	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P347104	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P347099	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P346687	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P346972	
	SM 5310 B-00	Organic Carbon	35		mg C/L	P346717	
1998436	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P346572	
1998451	EPA 8321B	2,4-D	0.0020	U	ug/L	P346521	
		Bentazon	8.0E-04	U	ug/L	P346521	
		MCP	0.0020	U	ug/L	P346521	
		Triclopyr**	0.0040	U	ug/L	P346521	
		Imidacloprid	0.0020	U	ug/L	P346521	
		Diuron	0.0020	U	ug/L	P346521	
		Pyraclostrobin**	0.0020	U	ug/L	P346521	MS, RPD
		Primidone**	0.0040	U	ug/L	P346521	
		Linuron	0.0040	U	ug/L	P346521	
		Acetaminophen**	0.0080	U	ug/L	P346521	
		Fenuron	0.016	U	ug/L	P346521	
		Imazapyr**	0.0041	I	ug/L	P346521	
		Carbamazepine**	4.0E-04	U	ug/L	P346521	
		Fluridone**	4.0E-04	U	ug/L	P346521	
		Hydrocodone**	8.0E-04	U	ug/L	P346521	
		Sucralose**	0.010	U	ug/L	P346523	

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 imazapyr and fluridone 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: P346574

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346700

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346702

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347008

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347104

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347099

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347599

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346687

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346971

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: P346972

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346572

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

Reference Method: EPA 8321B
Batch ID: P346521

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	4.0E-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
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	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: P346523

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P346558

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P346910

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

Reference Method: SM 2540 C-97
Batch ID: P346823

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P346710

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P346911

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P346717

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: P346700

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347008

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347104

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347099

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347599

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: P346687

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346971

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346972

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346572

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

Reference Method: EPA 8321B
Batch ID: P346521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.4		P	40 - 150
Acetaminophen	101		P	30 - 150
Bentazon	87.4		P	30 - 150
Carbamazepine	113		P	40 - 150
Diuron	85.2		P	40 - 150
Fenuron	104		P	40 - 150
Fluridone	92.0		P	40 - 150
Hydrocodone	95.0		P	40 - 150
Imazapyr	85.7		P	40 - 150
Imidacloprid	119		P	40 - 160
Linuron	83.4		P	40 - 150
MCPP	94.8		P	40 - 150
Primidone	111		P	40 - 150
Pyraclostrobin	99.5		P	40 - 150
Triclopyr	94.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P346523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	122		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P346910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P346911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P346717

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346700

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998377	Chloride	95.7		P	90 - 110
1998454	Chloride	94.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998377	Sulfate	96.9		P	90 - 110
1998454	Sulfate	92.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347008

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998384	Ammonia-N	95.5	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347104

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998425	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998457	Kjeldahl Nitrogen	94.0	91.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347599

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998387	Kjeldahl Nitrogen	80.9	81.2	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998456	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346971

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998424	Total-P	99.0	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346972

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998479	Total-P	98.8	99.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346572

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998426	O-Phosphate-P	94.8	94.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P346521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998488	Acetaminophen	93.5	82.9	P/P	30 - 150
1998488	Carbamazepine	61.8	55.7	P/P	40 - 150
1998488	Diuron	56.7	47.1	P/P	40 - 150
1998488	Fenuron	63.7	58.6	P/P	40 - 150
1998488	Hydrocodone	75.6	65.0	P/P	40 - 150
1998488	Imidacloprid	116	99.1	P/P	40 - 160
1998488	Linuron	59.1	46.1	P/P	40 - 150
1998488	Primidone	81.1	75.2	P/P	40 - 150
1998488	Pyraclostrobin	75.9	22.5	P/F	40 - 150
1998568	2,4-D	115	114	P/P	40 - 150
1998568	Bentazon	30.3	30.9	P/P	30 - 150
1998568	MCP	123	133	P/P	40 - 150
1998568	Triclopyr	145	127	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P346523

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998282	Sucralose	88.3	117	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P346911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998168	Fluoride	98.2	97.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P346717

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1998244	Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P346574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998423	Turbidity	7.41	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998454	Chloride	0.402	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P346702

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998454	Sulfate	0.0755	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998384	Ammonia-N	0.318	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P347104

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998425	Ammonia-N	1.49	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998457	Kjeldahl Nitrogen	2.09	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P347599

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998387	Kjeldahl Nitrogen	0.274	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P346687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998456	NO2NO3-N	0.304	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346971

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998424	Total-P	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P346972

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998479	Total-P	0.519	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P346572

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998426	O-Phosphate-P	0.0670	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P346521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998488	Acetaminophen	11.9	Spike	P	0 - 30
1998488	Carbamazepine	10.2	Spike	P	0 - 30
1998488	Diuron	18.5	Spike	P	0 - 30
1998488	Fenuron	8.41	Spike	P	0 - 30
1998488	Fluridone	5.70	Spike	P	0 - 30
1998488	Hydrocodone	15.1	Spike	P	0 - 30
1998488	Imazapyr	10.3	Spike	P	0 - 30
1998488	Imidacloprid	10.8	Spike	P	0 - 30
1998488	Linuron	24.8	Spike	P	0 - 30
1998488	Primidone	7.54	Spike	P	0 - 30
1998488	Pyraclostrobin	109	Spike	F	0 - 30
1998568	2,4-D	0.678	Spike	P	0 - 30
1998568	Bentazon	1.82	Spike	P	0 - 30
1998568	MCP	7.80	Spike	P	0 - 30
1998568	Triclopyr	13.5	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P346523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998282	Sucralose	26.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P346558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998477	Color (true)	0.608	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P346910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998168	Total Alkalinity	0.182	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P346823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998478	TDS	0.353	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P346911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998168	Fluoride	0.506	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P346717

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1998244	Organic Carbon	0.749	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: 1998449
Field Sample ID: 21030138

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	45.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.5	P	30 - 160
EPA 8321B	Diuron-d6	54.5	P	30 - 160
EPA 8321B	Primidone-d5	67.9	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 1998450
Field Sample ID: 21030086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	60.8	P	30 - 160
EPA 8321B	Diuron-d6	49.1	P	30 - 160
EPA 8321B	Primidone-d5	62.9	P	30 - 160
EPA 8321B	Sucralose-d6	86.1	P	40 - 160

Lab Sample ID: 1998451
Field Sample ID: 23020018

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.9	P	30 - 160
EPA 8321B	Diuron-d6	45.2	P	30 - 160
EPA 8321B	Primidone-d5	59.3	P	30 - 160
EPA 8321B	Sucralose-d6	82.7	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A84433

Included Lab Sample IDs: 1998422, 1998423, 1998428, 1998429, 1998430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	98.7	P/P	90 - 115
Color (true)	100	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A84438

Included Lab Sample IDs: 1998426, 1998427, 1998434, 1998435, 1998436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	98.9	P/P	90 - 110
O-Phosphate-P	98.9	98.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A84439

Included Lab Sample IDs: 1998422, 1998423, 1998428, 1998429, 1998430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A84488

Included Lab Sample IDs: 1998449, 1998450, 1998451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.6	99.6	P/P	50 - 150
Bentazon	111	112	P/P	50 - 150
MCPP	96.9	95.1	P/P	50 - 150
Triclopyr	85.8	107	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A84493

Included Lab Sample IDs: 1998424, 1998425, 1998431, 1998432, 1998433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A84498

Included Lab Sample IDs: 1998422, 1998423, 1998428, 1998429, 1998430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.5	P/P	90 - 110
Chloride	97.3	100	P/P	90 - 110
Sulfate	102	96.1	P/P	90 - 110
Sulfate	95.5	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A84511

Included Lab Sample IDs: 1998424, 1998425, 1998431, 1998432, 1998433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A84511

Included Lab Sample IDs: 1998424, 1998425, 1998431, 1998432, 1998433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A84524

Included Lab Sample IDs: 1998449, 1998450, 1998451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	109	109	P/P	60 - 150
Carbamazepine	111	111	P/P	60 - 150
Diuron	108	111	P/P	60 - 150
Fenuron	104	98.7	P/P	60 - 150
Fluridone	124	126	P/P	60 - 160
Hydrocodone	108	106	P/P	60 - 150
Imazapyr	104	101	P/P	50 - 150
Imidacloprid	96.6	92.5	P/P	60 - 150
Linuron	106	104	P/P	60 - 150
Primidone	104	102	P/P	60 - 150
Pyraclostrobin	107	101	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A84525

Included Lab Sample IDs: 1998449, 1998450, 1998451

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	106	89.3	P/P	60 - 160

Reference Method: SM 2320 B-97

Run ID: A84586

Included Lab Sample IDs: 1998422, 1998423, 1998428, 1998429, 1998430

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: A84586

Included Lab Sample IDs: 1998422, 1998423, 1998428, 1998429, 1998430

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	99.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84640

Included Lab Sample IDs: 1998424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.0	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84661

Included Lab Sample IDs: 1998424, 1998425, 1998431, 1998432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	101	P/P	90 - 110
Total-P	104	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A84675

Included Lab Sample IDs: 1998425, 1998431, 1998432, 1998433

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A84706

Included Lab Sample IDs: 1998433

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84816

Included Lab Sample IDs: 1998425, 1998431, 1998432, 1998433

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.1	94.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A84950

Included Lab Sample IDs: 1998424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.1	97.4	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				7.41	
EPA 300.0 Rev. 2.1	Chloride	99.4	94.6	95.7	0.402	
	Sulfate	97.6	92.8	96.9	0.0755	
EPA 350.1 Rev. 2.0	Ammonia-N	96.5	95.5	95.2		0.318
	Ammonia-N	105	100	102		1.49
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.9	94.0	91.8		2.09
	Kjeldahl Nitrogen	108	80.9	81.2		0.274
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	102	102		0.304
EPA 365.1 Rev. 2.0	Total-P	99.9	99.0	99.0		0.0
	Total-P	98.6	98.8	99.4		0.519
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0	94.8	94.9		0.0670
EPA 8321B	2,4-D	82.4	115	114		0.678
	Acetaminophen	101	93.5	82.9		11.9
	Bentazon	87.4	30.3	30.9		1.82
	Carbamazepine	113	61.8	55.7		10.2
	Diuron	85.2	56.7	47.1		18.5
	Fenuron	104	63.7	58.6		8.41
	Fluridone	92.0				5.70
	Hydrocodone	95.0	75.6	65.0		15.1
	Imazapyr	85.7				10.3
	Imidacloprid	119	116	99.1		10.8
	Linuron	83.4	59.1	46.1		24.8
	MCP	94.8	123	133		7.80
	Primidone	111	81.1	75.2		7.54
	Pyraclostrobin	99.5	75.9	22.5		109
	Sucralose	122	88.3	117		26.1
	Triclopyr	94.9	145	127		13.5
SM 2120 B	Color (true)				0.608	
SM 2320 B-97	Total Alkalinity	100			0.182	
SM 2540 C-97	TDS				0.353	
SM 4500 F-C-97	Fluoride	96.2	98.2	97.5		0.506
SM 5310 B-00	Organic Carbon	98.1	97.8			0.749

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1998422, 1998423, 1998428, 1998429, 1998430
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1998422, 1998423, 1998428, 1998429, 1998430
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1998422, 1998423, 1998428, 1998429, 1998430
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1998424, 1998425, 1998431, 1998432, 1998433
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1998424, 1998425, 1998431, 1998432, 1998433
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1998424, 1998425, 1998431, 1998432, 1998433
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1998424, 1998425, 1998431, 1998432, 1998433
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1998426, 1998427, 1998434, 1998435, 1998436
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1998449, 1998450, 1998451
SM 2120 B / E31780	True Color measured at 450 nm	1998422, 1998423, 1998428, 1998429, 1998430

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1998422, 1998423, 1998428, 1998429, 1998430
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1998422, 1998423, 1998428, 1998429, 1998430
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	1998422, 1998423, 1998428, 1998429, 1998430
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1998422, 1998423, 1998428, 1998429, 1998430
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1998424, 1998425, 1998431, 1998432, 1998433

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	06/07/2018			06/07/2018 16:41	William L. Brown IV	1998422, 1998423, 1998428, 1998429, 1998430
EPA 300.0 Rev. 2.1	06/07/2018			06/12/2018 00:37	Lipi Saha	1998422
	06/07/2018			06/12/2018 01:13	Lipi Saha	1998423
	06/07/2018			06/12/2018 01:25	Lipi Saha	1998428
	06/07/2018			06/12/2018 01:37	Lipi Saha	1998429
EPA 350.1 Rev. 2.0	06/07/2018			06/12/2018 01:49	Lipi Saha	1998430
	06/07/2018			06/15/2018 14:52	Adrian Shelby	1998424
	06/07/2018			06/18/2018 09:09	Ping Hua	1998425
	06/07/2018			06/18/2018 09:13	Ping Hua	1998431
EPA 351.2 Rev. 2.0	06/07/2018			06/18/2018 09:15	Ping Hua	1998432
	06/07/2018			06/18/2018 09:22	Ping Hua	1998433
	06/07/2018	06/19/2018 10:15	Adrian Shelby	06/22/2018 13:13	Tanya Welborn	1998425
	06/07/2018	06/19/2018 10:15	Adrian Shelby	06/22/2018 13:15	Tanya Welborn	1998431
EPA 353.2 Rev. 2.0	06/07/2018	06/19/2018 10:15	Adrian Shelby	06/22/2018 13:16	Tanya Welborn	1998432
	06/07/2018	06/19/2018 10:15	Adrian Shelby	06/22/2018 13:18	Tanya Welborn	1998433
	06/07/2018	06/27/2018 15:30	Adrian Shelby	06/29/2018 14:10	Joseph Suarez	1998424
	06/07/2018			06/11/2018 13:32	Lauren Bottorf	1998424
EPA 365.1 Rev. 2.0	06/07/2018			06/11/2018 13:40	Lauren Bottorf	1998425
	06/07/2018			06/11/2018 13:41	Lauren Bottorf	1998431
	06/07/2018			06/11/2018 13:42	Lauren Bottorf	1998432
	06/07/2018			06/11/2018 13:44	Lauren Bottorf	1998433
EPA 365.1 Rev. 2.0 dissolved	06/07/2018	06/14/2018 12:39	Sima Feizi	06/18/2018 10:30	Beverly Y. Sanders	1998424
	06/07/2018	06/14/2018 12:39	Sima Feizi	06/18/2018 10:43	Beverly Y. Sanders	1998425
	06/07/2018	06/14/2018 12:39	Sima Feizi	06/18/2018 10:44	Beverly Y. Sanders	1998431
	06/07/2018	06/14/2018 12:39	Sima Feizi	06/18/2018 10:45	Beverly Y. Sanders	1998432
EPA 8321B	06/07/2018	06/14/2018 12:39	Sima Feizi	06/19/2018 12:11	Beverly Y. Sanders	1998433
	06/07/2018			06/07/2018 16:25	Megan Treadwell	1998426
	06/07/2018			06/07/2018 16:36	Megan Treadwell	1998427
	06/07/2018			06/07/2018 16:37	Megan Treadwell	1998434, 1998435
EPA 8321B	06/07/2018			06/07/2018 16:38	Megan Treadwell	1998436
	06/07/2018	06/07/2018 13:00	Hoor Shaik	06/08/2018 08:06	Mohammad Ghaffari	1998449
	06/07/2018	06/07/2018 13:00	Hoor Shaik	06/08/2018 08:25	Mohammad Ghaffari	1998450
	06/07/2018	06/07/2018 13:00	Hoor Shaik	06/08/2018 08:43	Mohammad Ghaffari	1998451
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/12/2018 02:14	Juyoung Kim	1998449
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/12/2018 02:49	Juyoung Kim	1998450
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/12/2018 03:24	Juyoung Kim	1998451
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/13/2018 14:56	Juyoung Kim	1998449
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/13/2018 15:31	Juyoung Kim	1998450
	06/07/2018	06/08/2018 12:00	Hoor Shaik	06/13/2018 16:06	Juyoung Kim	1998451

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	06/07/2018			06/07/2018 14:48	Julia Storbeck	1998422
	06/07/2018			06/07/2018 15:17	Julia Storbeck	1998423
	06/07/2018			06/07/2018 15:18	Julia Storbeck	1998428
	06/07/2018			06/07/2018 15:19	Julia Storbeck	1998429
	06/07/2018			06/07/2018 15:20	Julia Storbeck	1998430
SM 2320 B-97	06/07/2018			06/13/2018 22:35	Dale L. Simmons	1998422
	06/07/2018			06/13/2018 22:45	Dale L. Simmons	1998423
	06/07/2018			06/13/2018 22:56	Dale L. Simmons	1998428
	06/07/2018			06/13/2018 23:06	Dale L. Simmons	1998429
	06/07/2018			06/13/2018 23:15	Dale L. Simmons	1998430
SM 2540 C-97	06/07/2018			06/08/2018 15:41	William L. Brown IV	1998422, 1998423, 1998428, 1998429, 1998430
SM 2540 D-97	06/07/2018			06/08/2018 16:15	William L. Brown IV	1998422, 1998423, 1998428, 1998429, 1998430
SM 4500 F-C-97	06/07/2018			06/13/2018 22:35	Dale L. Simmons	1998422
	06/07/2018			06/13/2018 22:45	Dale L. Simmons	1998423
	06/07/2018			06/13/2018 22:56	Dale L. Simmons	1998428
	06/07/2018			06/13/2018 23:06	Dale L. Simmons	1998429
	06/07/2018			06/13/2018 23:15	Dale L. Simmons	1998430
SM 5310 B-00	06/07/2018			06/11/2018 15:54	Megan Treadwell	1998424
	06/07/2018			06/11/2018 16:19	Megan Treadwell	1998425
	06/07/2018			06/11/2018 16:32	Megan Treadwell	1998431
	06/07/2018			06/11/2018 17:09	Megan Treadwell	1998432
	06/07/2018			06/11/2018 17:21	Megan Treadwell	1998433