

Chemical Analysis Report

NE-DIST-2018-09-07-01

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

Event Description: **GTM NERR-Guana River SMP = 7 Sites + 1 Field Blank**
Request ID: **RQ-2018-09-03-01**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd.
MS 3560
Tallahassee, FL 32399-2400
Attn: Alicia Hogue

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 02-OCT-2018 09:46

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: DEPGR3

Collection Date/Time: 09/06/2018 07:48

Field ID: GTMGR3NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023217	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P351707	
	SM 2540 D-97	TSS	10		mg/L	P351733	
	SM 4500 F-C-97	Fluoride	0.94		mg F/L	P351710	
2023224	EPA 350.1 Rev. 2.0	Ammonia-N	0.058		mg N/L	P351575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P351493	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037		mg N/L	P351506	
	EPA 365.1 Rev. 2.0	Total-P	0.069		mg P/L	P351503	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P351877	
2023231	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.49		mg N/L	P351565	
2023269	EPA 8321B	2,4-D	0.0037	I	ug/L	P351258	
		Sucralose**	0.22		ug/L	P351269	
		Bentazon	0.016	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0070	I	ug/L	P351258	
		Diuron	0.0032	I	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.044		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.016		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPGR2

Collection Date/Time: 09/06/2018 08:11

Field ID: GTMGRNUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023218	EPA 180.1 Rev. 2.0	Turbidity	7.0	A	NTU	P351326	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P351707	
	SM 2540 D-97	TSS	10	I	mg/L	P351733	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P351710	
2023225	EPA 350.1 Rev. 2.0	Ammonia-N	0.075		mg N/L	P351575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P351493	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P351506	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P351503	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P351877	
2023232	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.61		mg N/L	P351565	
2023270	EPA 8321B	2,4-D	0.0038	I	ug/L	P351258	
		Sucralose**	0.22		ug/L	P351269	
		Bentazon	0.014	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0064	I	ug/L	P351258	
		Diuron	0.0034	I	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.050		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.012		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPGR1

Collection Date/Time: 09/06/2018 08:34

Field ID: GTMGR1NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023219	EPA 180.1 Rev. 2.0	Turbidity	8.4		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	117		mg CaCO3/L	P351707	
	SM 2540 D-97	TSS	12		mg/L	P351733	
	SM 4500 F-C-97	Fluoride	0.90		mg F/L	P351710	
2023226	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P351575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P351493	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P351506	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P351503	
	SM 5310 B-00	Organic Carbon	9.5		mg C/L	P351877	
2023233	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.72		mg N/L	P351565	
2023271	EPA 8321B	2,4-D	0.0039	I	ug/L	P351258	
		Sucralose**	0.26		ug/L	P351269	
		Bentazon	0.014	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0055	I	ug/L	P351258	
		Diuron	0.0022	I	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.042		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.012		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPGL4

Collection Date/Time: 09/06/2018 09:48

Field ID: GTMGL4NUT

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023220	EPA 180.1 Rev. 2.0	Turbidity	37		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	110	A	mg CaCO3/L	P351707	
	SM 2540 D-97	TSS	77		mg/L	P351732	
	SM 4500 F-C-97	Fluoride	0.57		mg F/L	P351710	
2023227	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P351575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P351565	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351506	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P351398	
	SM 5310 B-00	Organic Carbon	19		mg C/L	P351876	
2023234	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.6		mg N/L	P351565	
2023272	EPA 8321B	2,4-D	0.0020	U	ug/L	P351258	
		Sucralose**	0.51		ug/L	P351269	
		Bentazon	0.020	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0020	U	ug/L	P351258	
		Diuron	0.0020	U	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.025		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.0066		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPL3

Collection Date/Time: 09/06/2018 10:15

Field ID: GTMLMUT

Matrix: W-BRACKISH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023221	EPA 180.1 Rev. 2.0	Turbidity	29		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	104		mg CaCO ₃ /L	P351534	
	SM 2540 D-97	TSS	53		mg/L	P351732	
	SM 4500 F-C-97	Fluoride	0.39		mg F/L	P351537	
2023228	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P351607	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.8		mg N/L	P351494	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.004	U	mg N/L	P351587	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P351473	
	SM 5310 B-00	Organic Carbon	21		mg C/L	P351875	
2023235	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.6		mg N/L	P351494	
2023273	EPA 8321B	2,4-D	0.0020	U	ug/L	P351258	
		Sucralose**	0.87		ug/L	P351269	
		Bentazon	0.039	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0020	U	ug/L	P351258	
		Diuron	0.0020	U	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.11		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.014		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPL2

Collection Date/Time: 09/06/2018 10:48

Field ID: GTMGL2NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023222	EPA 180.1 Rev. 2.0	Turbidity	4.5		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	108		mg CaCO3/L	P351534	
	SM 2540 D-97	TSS	8	I	mg/L	P351732	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P351537	
2023229	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P351608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P351494	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351587	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P351473	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P351875	
2023236	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.5		mg N/L	P351566	
2023274	EPA 8321B	2,4-D	0.16		ug/L	P351258	
		Sucralose**	1.4		ug/L	P351269	
		Bentazon	0.066	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0020	U	ug/L	P351258	
		Diuron	0.0020	U	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	2.1		ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	0.047		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: DEPGL1

Collection Date/Time: 09/06/2018 11:32

Field ID: GTMGL1NUT

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023223	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P351326	
	SM 2320 B-97	Total Alkalinity	117	A	mg CaCO3/L	P351534	
	SM 2540 D-97	TSS	3	IA	mg/L	P351732	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P351537	
2023230	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P351608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P351494	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351587	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P351473	
	SM 5310 B-00	Organic Carbon	20		mg C/L	P351875	
2023237	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	1.0		mg N/L	P351566	
2023275	EPA 8321B	2,4-D	0.14		ug/L	P351258	
		Sucralose**	1.6		ug/L	P351269	
		Bentazon	0.12	J	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0071	I	ug/L	P351258	
		Diuron	0.019		ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.12		ug/L	P351258	
		Carbamazepine**	9.7E-04	I	ug/L	P351258	
		Fluridone**	0.11		ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Sample Location: Field Blank

Collection Date/Time: 09/06/2018 07:38

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2023238	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P351326	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P351534	
	SM 2540 D-97	TSS	2	U	mg/L	P351732	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351537	
2023239	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P351608	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P351567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P351588	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P351473	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P351875	
2023240	EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	0.080	U	mg N/L	P351567	
2023276	EPA 8321B	2,4-D	0.0020	U	ug/L	P351258	
		Sucralose**	0.010	U	ug/L	P351269	
		Bentazon	8.0E-04	UJ	ug/L	P351258	RPD
		MCP	0.0020	U	ug/L	P351258	
		Triclopyr**	0.0040	U	ug/L	P351258	
		Imidacloprid	0.0020	U	ug/L	P351258	
		Diuron	0.0020	U	ug/L	P351258	
		Pyraclostrobin**	0.0020	U	ug/L	P351258	
		Primidone**	0.0040	U	ug/L	P351258	
		Linuron	0.0040	U	ug/L	P351258	
		Acetaminophen**	0.0080	U	ug/L	P351258	
		Fenuron	0.016	U	ug/L	P351258	
		Imazapyr**	0.0040	U	ug/L	P351258	
		Carbamazepine**	8.0E-04	U	ug/L	P351258	
		Fluridone**	4.0E-04	U	ug/L	P351258	
		Hydrocodone**	8.0E-04	U	ug/L	P351258	
		Naproxen**	0.0080	U	ug/L	P351258	
		Ibuprofen**	0.020	U	ug/L	P351258	

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: Insufficient sample to perform matrix spikes. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351326

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351607

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351494

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351565

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351567

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351494

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351565

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351566

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351567

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351506

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351587

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351588

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351398

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351473

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351503

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351258

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: P351269

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P351534

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

Reference Method: SM 2320 B-97
Batch ID: P351707

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

Reference Method: SM 2540 D-97
Batch ID: P351732

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351733

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P351710

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P351875

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

Reference Method: SM 5310 B-00
Batch ID: P351876

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

Reference Method: SM 5310 B-00
Batch ID: P351877

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: P351575

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: P351607

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351493

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351494

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: P351565

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351567

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351494

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

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351565

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351566

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.2		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351567

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351506

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351587

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351588

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: P351398

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351473

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351503

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

Reference Method: EPA 8321B
Batch ID: P351258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.7	97.3	P/P	40 - 150
Acetaminophen	134	135	P/P	30 - 150
Bentazon	96.3	148	P/P	30 - 150
Carbamazepine	87.3	90.0	P/P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	81.2	91.2	P/P	40 - 150
Fenuron	95.2	115	P/P	40 - 150
Fluridone	103	114	P/P	40 - 150
Hydrocodone	105	113	P/P	40 - 150
Ibuprofen	81.5	95.1	P/P	40 - 150
Imazapyr	75.7	80.1	P/P	40 - 150
Imidacloprid	94.4	100	P/P	40 - 160
Linuron	71.7	72.9	P/P	40 - 150
MCPP	91.4	116	P/P	40 - 150
Naproxen	102	93.2	P/P	40 - 150
Primidone	80.8	95.6	P/P	40 - 150
Pyraclostrobin	78.6	91.2	P/P	40 - 150
Triclopyr	98.2	118	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351269

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.1		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P351534

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

Reference Method: SM 2320 B-97
Batch ID: P351707

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

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P351876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2022522	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351607

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023164	Ammonia-N	98.2	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023229	Ammonia-N	99.1	94.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351493

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023137	Kjeldahl Nitrogen	94.6	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023167	Kjeldahl Nitrogen	105	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023227	Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023580	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351494

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023167	Kjeldahl Nitrogen	105	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351565

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023227	Kjeldahl Nitrogen	108	107	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023237	Kjeldahl Nitrogen	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023580	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023137	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351587

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023166	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023573	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351398

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023134	Total-P	94.6	93.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023230	Total-P	96.4	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351503

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023608	Total-P	95.9	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P351269

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023047	Sucralose	112	115	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023223	Fluoride	98.2	98.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P351710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023220	Fluoride	95.6	96.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P351875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023178	Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023654	Organic Carbon	101	102	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P351877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2023138	Organic Carbon	99.3	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P351326

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023218	Turbidity	1.28	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2022522	Ammonia-N	0.523	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351607

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023164	Ammonia-N	2.26	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023229	Ammonia-N	3.47	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023137	Kjeldahl Nitrogen	4.72	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023167	Kjeldahl Nitrogen	0.812	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023227	Kjeldahl Nitrogen	0.330	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P351567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023580	Kjeldahl Nitrogen	0.709	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351494

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023167	Kjeldahl Nitrogen	0.812	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023227	Kjeldahl Nitrogen	0.330	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023237	Kjeldahl Nitrogen	0.214	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0 dissolved
Batch ID: P351567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023580	Kjeldahl Nitrogen	0.709	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023137	NO2NO3-N	0.471	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351587

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023166	NO2NO3-N	0.962	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023573	NO2NO3-N	0.287	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023134	Total-P	1.76	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023230	Total-P	2.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P351503

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023608	Total-P	1.38	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P351258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	8.16	LCS	P	0 - 30
LFB	Acetaminophen	1.08	LCS	P	0 - 30
LFB	Bentazon	42.4	LCS	F	0 - 30
LFB	Carbamazepine	3.09	LCS	P	0 - 30
LFB	Diuron	11.6	LCS	P	0 - 30
LFB	Fenuron	18.7	LCS	P	0 - 30
LFB	Fluridone	9.32	LCS	P	0 - 30
LFB	Hydrocodone	7.04	LCS	P	0 - 30
LFB	Ibuprofen	15.4	LCS	P	0 - 30
LFB	Imazapyr	5.56	LCS	P	0 - 30
LFB	Imidacloprid	5.88	LCS	P	0 - 30
LFB	Linuron	1.62	LCS	P	0 - 30
LFB	MCPP	23.4	LCS	P	0 - 30
LFB	Naproxen	9.25	LCS	P	0 - 30
LFB	Primidone	16.8	LCS	P	0 - 30
LFB	Pyraclostrobin	14.8	LCS	P	0 - 30
LFB	Triclopyr	18.4	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351269

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023047	Sucralose	2.25	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P351534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023223	Total Alkalinity	1.14	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P351707

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

Reference Method: SM 2320 B-97
Batch ID: P351707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023220	Total Alkalinity	0.204	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P351537

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023223	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P351710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023220	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P351875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023178	Organic Carbon	0.433	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P351876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023654	Organic Carbon	0.403	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P351877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2023138	Organic Carbon	1.03	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: 2023269
Field Sample ID: GTMGR3NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	131	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	89.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.9	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	99.0	P	40 - 160

Lab Sample ID: 2023270
Field Sample ID: GTMGRNUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.2	P	30 - 160
EPA 8321B	Diuron-d6	77.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.9	P	30 - 160
EPA 8321B	Primidone-d5	83.4	P	30 - 160
EPA 8321B	Sucralose-d6	99.6	P	40 - 160

Lab Sample ID: 2023271
Field Sample ID: GTMGR1NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.1	P	30 - 160
EPA 8321B	Diuron-d6	77.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	96.3	P	30 - 160
EPA 8321B	Primidone-d5	95.5	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	40 - 160

Lab Sample ID: 2023272
Field Sample ID: GTMGL4NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	147	P	30 - 160
EPA 8321B	Acetaminophen-d4	88.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	64.2	P	30 - 160
EPA 8321B	Diuron-d6	57.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	91.3	P	30 - 160
EPA 8321B	Primidone-d5	64.2	P	30 - 160
EPA 8321B	Sucralose-d6	114	P	40 - 160

Lab Sample ID: 2023273
Field Sample ID: GTMLMNUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	140	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.7	P	30 - 160
EPA 8321B	Diuron-d6	62.8	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2023273

Field Sample ID: GTMLMNUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Ibuprofen-d3	97.4	P	30 - 160
EPA 8321B	Primidone-d5	69.1	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	40 - 160

Lab Sample ID: 2023274

Field Sample ID: GTMGL2NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	151	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	67.4	P	30 - 160
EPA 8321B	Diuron-d6	52.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	86.7	P	30 - 160
EPA 8321B	Primidone-d5	73.6	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160

Lab Sample ID: 2023275

Field Sample ID: GTMGL1NUT

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	138	P	30 - 160
EPA 8321B	Acetaminophen-d4	140	P	30 - 160
EPA 8321B	Carbamazepine-d10	61.7	P	30 - 160
EPA 8321B	Diuron-d6	47.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.6	P	30 - 160
EPA 8321B	Primidone-d5	73.8	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	40 - 160

Lab Sample ID: 2023276

Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	65.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	102	P	30 - 160
EPA 8321B	Diuron-d6	96.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.2	P	30 - 160
EPA 8321B	Primidone-d5	70.3	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86366

Included Lab Sample IDs: 2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238

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

Reference Method: EPA 8321B

Run ID: A86410

Included Lab Sample IDs: 2023269, 2023270, 2023271, 2023272, 2023273, 2023274, 2023275, 2023276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	114	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86431

Included Lab Sample IDs: 2023269, 2023270, 2023271, 2023272, 2023273, 2023274, 2023275, 2023276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	86.4	83.5	P/P	50 - 150
2,4-D	89.8	86.4	P/P	50 - 150
Bentazon	120	110	P/P	50 - 160
Bentazon	125	120	P/P	50 - 160
Ibuprofen	126	67.7	P/P	50 - 160
Ibuprofen	67.7	86.7	P/P	50 - 160
MCP	61.9	94.3	P/P	50 - 150
MCP	98.4	61.9	P/P	50 - 150
Naproxen	66.1	109	P/P	50 - 160
Naproxen	82.4	66.1	P/P	50 - 160
Triclopyr	113	100	P/P	50 - 160
Triclopyr	99.3	113	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86436

Included Lab Sample IDs: 2023224, 2023225, 2023226, 2023227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86437

Included Lab Sample IDs: 2023227

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

Reference Method: SM 2320 B-97

Run ID: A86448

Included Lab Sample IDs: 2023221, 2023222, 2023223, 2023238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	102	P/P	90 - 110
Total Alkalinity	102	100	P/P	90 - 110
Total Alkalinity	102	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A86448

Included Lab Sample IDs: 2023221, 2023222, 2023223, 2023238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	100	P/P	90 - 110
Fluoride	99.5	100	P/P	90 - 110
Fluoride	99.5	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86449

Included Lab Sample IDs: 2023274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	83.9	89.2	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86451

Included Lab Sample IDs: 2023228, 2023229, 2023230

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86458

Included Lab Sample IDs: 2023224, 2023225, 2023226, 2023227

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	103	P/P	90 - 110
Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86459

Included Lab Sample IDs: 2023224, 2023225, 2023226

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86460

Included Lab Sample IDs: 2023228, 2023229, 2023230, 2023239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86462

Included Lab Sample IDs: 2023228, 2023229, 2023230, 2023239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	100	P/P	90 - 110
Ammonia-N	96.7	98.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86508

Included Lab Sample IDs: 2023224, 2023225, 2023226, 2023228, 2023229, 2023230

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	99.6	P/P	90 - 110
Kjeldahl Nitrogen	99.6	110	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A86508

Included Lab Sample IDs: 2023235

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

Reference Method: SM 2320 B-97

Run ID: A86511

Included Lab Sample IDs: 2023217, 2023218, 2023219, 2023220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A86511

Included Lab Sample IDs: 2023217, 2023218, 2023219, 2023220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	99.5	P/P	90 - 110
Fluoride	99.5	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86516

Included Lab Sample IDs: 2023239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A86527

Included Lab Sample IDs: 2023236, 2023237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86532

Included Lab Sample IDs: 2023227, 2023239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	100	P/P	90 - 110
Kjeldahl Nitrogen	99.8	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0 dissolved

Run ID: A86532

Included Lab Sample IDs: 2023231, 2023232, 2023233, 2023234, 2023240

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86572

Included Lab Sample IDs: 2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	99.8	P/P	90 - 110
Organic Carbon	98.8	98.3	P/P	90 - 110
Organic Carbon	98.8	99.9	P/P	90 - 110
Organic Carbon	99.6	98.8	P/P	90 - 110
Organic Carbon	99.8	99.1	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86633

Included Lab Sample IDs: 2023269, 2023272, 2023273, 2023274, 2023275, 2023276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	120	131	P/P	60 - 160
Acetaminophen	98.7	120	P/P	60 - 160
Carbamazepine	118	137	P/P	60 - 160
Carbamazepine	119	118	P/P	60 - 160
Diuron	102	126	P/P	60 - 150
Diuron	107	102	P/P	60 - 150
Fenuron	105	88.7	P/P	60 - 150
Fenuron	88.7	130	P/P	60 - 150
Fluridone	113	117	P/P	60 - 160
Fluridone	117	120	P/P	60 - 160
Hydrocodone	107	128	P/P	60 - 150
Hydrocodone	108	107	P/P	60 - 150
Imazapyr	111	112	P/P	50 - 150
Imazapyr	112	88.8	P/P	50 - 150
Imidacloprid	79.6	108	P/P	60 - 150
Imidacloprid	92.3	79.6	P/P	60 - 150
Linuron	102	97.9	P/P	60 - 150
Linuron	97.9	101	P/P	60 - 150
Primidone	104	108	P/P	60 - 150
Primidone	114	104	P/P	60 - 150
Pyraclostrobin	101	112	P/P	60 - 150
Pyraclostrobin	114	101	P/P	60 - 150

Reference Method: EPA 8321B

Run ID: A86696

Included Lab Sample IDs: 2023270, 2023271

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	92.3	P/P	60 - 160
Carbamazepine	111	112	P/P	60 - 160
Diuron	108	106	P/P	60 - 150
Fenuron	94.3	96.7	P/P	60 - 150
Fluridone	91.9	99.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86696

Included Lab Sample IDs: 2023270, 2023271

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	91.8	87.3	P/P	60 - 150
Imazapyr	84.8	89.2	P/P	50 - 150
Imidacloprid	83.2	92.6	P/P	60 - 150
Linuron	105	98.9	P/P	60 - 150
Primidone	85.2	83.8	P/P	60 - 150
Pyraclostrobin	106	114	P/P	60 - 150

* 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						1.28	
EPA 350.1 Rev. 2.0	Ammonia-N	102		102	102			0.523
	Ammonia-N	96.8		98.2	101			2.26
	Ammonia-N	99.8		99.1	94.9			3.47
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		94.6	99.8			4.72
	Kjeldahl Nitrogen	96.9		105	107			0.812
	Kjeldahl Nitrogen	100		108	107			0.330
	Kjeldahl Nitrogen	105		103	104			0.709
EPA 351.2 Rev. 2.0 dissolved	Kjeldahl Nitrogen	96.9		105	107			0.812
	Kjeldahl Nitrogen	100		108	107			0.330
	Kjeldahl Nitrogen	97.2		101	100			0.214
	Kjeldahl Nitrogen	105		103	104			0.709
EPA 353.2 Rev. 2.0	NO2NO3-N	103		106	106			0.471
	NO2NO3-N	102		104	104			0.962
	NO2NO3-N	102		102	102			0.287
EPA 365.1 Rev. 2.0	Total-P	99.7		94.6	93.0			1.76
	Total-P	99.1		96.4	99.3			2.37
	Total-P	98.1		95.9	97.3			1.38
EPA 8321B	2,4-D	89.7	97.3			8.16		
	Acetaminophen	134	135			1.08		
	Bentazon	96.3	148			42.4		
	Carbamazepine	87.3	90.0			3.09		
	Diuron	81.2	91.2			11.6		
	Fenuron	95.2	115			18.7		
	Fluridone	103	114			9.32		
	Hydrocodone	105	113			7.04		
	Ibuprofen	81.5	95.1			15.4		
	Imazapyr	75.7	80.1			5.56		
	Imidacloprid	94.4	100			5.88		
	Linuron	71.7	72.9			1.62		
	MCPP	91.4	116			23.4		
	Naproxen	102	93.2			9.25		
	Primidone	80.8	95.6			16.8		
	Pyraclostrobin	78.6	91.2			14.8		
	Sucralose	92.1		112	115			2.25
	Triclopyr	98.2	118			18.4		
SM 2320 B-97	Total Alkalinity	103					1.14	
	Total Alkalinity	103					0.204	
SM 4500 F-C-97	Fluoride	99.2		98.2	98.2			0.0
	Fluoride	97.9		95.6	96.4			0.480
SM 5310 B-00	Organic Carbon	97.1		100				0.433
	Organic Carbon	100		101	102			0.403
	Organic Carbon	99.4		99.3	100			1.03

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 351.2 Rev. 2.0 dissolved / E31780	Total Kjeldahl Nitrogen, dissolved, in filtered, aqueous matrices	2023231, 2023232, 2023233, 2023234, 2023235, 2023236, 2023237, 2023240
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2023269, 2023270, 2023271, 2023272, 2023273, 2023274, 2023275, 2023276
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2023269, 2023270, 2023271, 2023272, 2023273, 2023274, 2023275, 2023276
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2023224, 2023225, 2023226, 2023227, 2023228, 2023229, 2023230, 2023239

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	09/07/2018			09/07/2018 16:38	Megan Treadwell	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
EPA 350.1 Rev. 2.0	09/07/2018			09/11/2018 13:24	Ping Hua	2023224
	09/07/2018			09/11/2018 13:32	Ping Hua	2023225
	09/07/2018			09/11/2018 13:33	Ping Hua	2023226
	09/07/2018			09/11/2018 13:35	Ping Hua	2023227
	09/07/2018			09/12/2018 13:48	Ping Hua	2023228
	09/07/2018			09/12/2018 13:54	Ping Hua	2023229
	09/07/2018			09/12/2018 13:59	Ping Hua	2023239
	09/07/2018			09/12/2018 14:54	Ping Hua	2023230
EPA 351.2 Rev. 2.0	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 17:55	Joseph Suarez	2023224
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 17:56	Joseph Suarez	2023225
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 17:58	Joseph Suarez	2023226
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 18:18	Joseph Suarez	2023228
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 18:20	Joseph Suarez	2023229
	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 18:21	Joseph Suarez	2023230
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:14	Joseph Suarez	2023227
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:32	Joseph Suarez	2023239
EPA 351.2 Rev. 2.0 dissolved	09/07/2018	09/12/2018 10:45	Adrian Shelby	09/14/2018 18:23	Joseph Suarez	2023235
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 10:58	Joseph Suarez	2023236
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 10:59	Joseph Suarez	2023237
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:22	Joseph Suarez	2023231
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:23	Joseph Suarez	2023232
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:25	Joseph Suarez	2023233
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:26	Joseph Suarez	2023234
	09/07/2018	09/13/2018 10:50	Adrian Shelby	09/17/2018 15:34	Joseph Suarez	2023240
EPA 353.2 Rev. 2.0	09/07/2018			09/12/2018 11:50	Lauren Bottorf	2023224
	09/07/2018			09/12/2018 11:51	Lauren Bottorf	2023225
	09/07/2018			09/12/2018 11:52	Lauren Bottorf	2023226
	09/07/2018			09/12/2018 11:53	Lauren Bottorf	2023227
	09/07/2018			09/13/2018 12:53	Lauren Bottorf	2023228
	09/07/2018			09/13/2018 12:54	Lauren Bottorf	2023229
	09/07/2018			09/13/2018 12:55	Lauren Bottorf	2023230
	09/07/2018			09/13/2018 13:08	Lauren Bottorf	2023239
EPA 365.1 Rev. 2.0	09/07/2018	09/11/2018 12:05	Sima Feizi	09/12/2018 12:37	Beverly Y. Sanders	2023227
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:08	Beverly Y. Sanders	2023230
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:17	Beverly Y. Sanders	2023228
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 08:18	Beverly Y. Sanders	2023229
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:29	Beverly Y. Sanders	2023224
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:30	Beverly Y. Sanders	2023225

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	09/07/2018	09/12/2018 12:10	Sima Feizi	09/13/2018 13:31	Beverly Y. Sanders	2023226
	09/07/2018	09/12/2018 12:10	Sima Feizi	09/14/2018 12:24	Beverly Y. Sanders	2023239
EPA 8321B	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 14:20	Mohammad Ghaffari	2023269
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 14:34	Mohammad Ghaffari	2023270
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 14:49	Mohammad Ghaffari	2023271
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 15:04	Mohammad Ghaffari	2023272
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 15:18	Mohammad Ghaffari	2023273
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 15:33	Mohammad Ghaffari	2023274
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 15:48	Mohammad Ghaffari	2023275
	09/07/2018	09/09/2018 16:45	Mohammad Ghaffari	09/11/2018 16:02	Mohammad Ghaffari	2023276
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/11/2018 23:48	Juyoung Kim	2023272
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 00:23	Juyoung Kim	2023273
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 00:57	Juyoung Kim	2023274
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 01:32	Juyoung Kim	2023275
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 02:41	Juyoung Kim	2023276
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 05:34	Juyoung Kim	2023269
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 06:09	Juyoung Kim	2023270
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/12/2018 06:43	Juyoung Kim	2023271
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/13/2018 11:43	Juyoung Kim	2023274
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 03:55	Mohammad Ghaffari	2023272
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 04:30	Mohammad Ghaffari	2023273
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 05:05	Mohammad Ghaffari	2023274
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 06:14	Mohammad Ghaffari	2023275
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 06:48	Mohammad Ghaffari	2023276
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/21/2018 09:41	Mohammad Ghaffari	2023269
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/22/2018 00:25	Mohammad Ghaffari	2023270
	09/07/2018	09/10/2018 13:00	Hoor Shaik	09/22/2018 01:00	Mohammad Ghaffari	2023271
SM 2320 B-97	09/07/2018			09/13/2018 02:50	Dale L. Simmons	2023223
	09/07/2018			09/13/2018 05:53	Dale L. Simmons	2023238
	09/07/2018			09/13/2018 06:14	Dale L. Simmons	2023222
	09/07/2018			09/13/2018 07:13	Dale L. Simmons	2023221
	09/07/2018			09/14/2018 03:46	Dale L. Simmons	2023220
	09/07/2018			09/14/2018 04:19	Dale L. Simmons	2023217
	09/07/2018			09/14/2018 04:29	Dale L. Simmons	2023218
	09/07/2018			09/14/2018 04:39	Dale L. Simmons	2023219
	09/07/2018			09/12/2018 15:16	Yijie Li	2023217, 2023218, 2023219, 2023220, 2023221, 2023222, 2023223, 2023238
	09/07/2018					
SM 4500 F-C-97	09/07/2018			09/13/2018 02:42	Dale L. Simmons	2023223
	09/07/2018			09/13/2018 05:53	Dale L. Simmons	2023238
	09/07/2018			09/13/2018 06:14	Dale L. Simmons	2023222

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	09/07/2018			09/13/2018 07:13	Dale L. Simmons	2023221
	09/07/2018			09/14/2018 02:13	Dale L. Simmons	2023220
	09/07/2018			09/14/2018 02:32	Dale L. Simmons	2023217
	09/07/2018			09/14/2018 02:35	Dale L. Simmons	2023218
	09/07/2018			09/14/2018 03:14	Dale L. Simmons	2023219
SM 5310 B-00	09/07/2018			09/17/2018 09:46	Megan Treadwell	2023228
	09/07/2018			09/17/2018 10:23	Megan Treadwell	2023229
	09/07/2018			09/17/2018 10:35	Megan Treadwell	2023230
	09/07/2018			09/17/2018 10:47	Megan Treadwell	2023239
	09/07/2018			09/18/2018 03:40	Megan Treadwell	2023227
	09/07/2018			09/18/2018 09:35	Megan Treadwell	2023224
	09/07/2018			09/18/2018 10:01	Megan Treadwell	2023225
	09/07/2018			09/18/2018 10:38	Megan Treadwell	2023226