Chemical Analysis Report

SW-DIST-2018-09-19-01

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

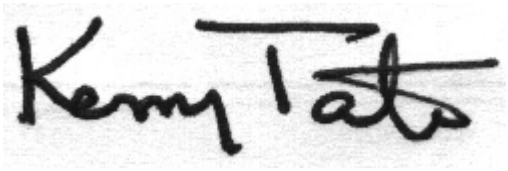
Event Description: **English, Turkey, Poley, Mustang**
Request ID: **RQ-2018-09-10-14**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Ben Paswater

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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 04-OCT-2018 11:01



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: TURKEY CREEK @ SYDNEY RD **Collection Date/Time: 09/18/2018 09:20**

Field ID: G2SW0025 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026529	EPA 8321B	2,4-D	0.0020	U	ug/L	P351783	
		Bentazon	0.013		ug/L	P351783	
		MCPP	0.015		ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.010		ug/L	P351783	
		Diuron	0.0020	U	ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0040	U	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.027		ug/L	P351783	
		Carbamazepine**	8.0E-04	U	ug/L	P351783	
		Fluridone**	4.0E-04	U	ug/L	P351783	
		Hydrocodone**	8.0E-04	U	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	0.53		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: TURKEY CREEK @ SR 60 **Collection Date/Time: 09/18/2018 09:40**

Field ID: G2SW0051 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026530	EPA 8321B	2,4-D	0.019		ug/L	P351783	
		Bentazon	0.020		ug/L	P351783	
		MCPP	0.0026	I	ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.033		ug/L	P351783	
		Diuron	0.0045	I	ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0098	I	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.11		ug/L	P351783	
		Carbamazepine**	0.0084		ug/L	P351783	
		Fluridone**	0.0021		ug/L	P351783	
		Hydrocodone**	0.0012	I	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	3.0		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: MUSTANG RANCH CREEK @ HOPEWELL **Collection Date/Time: 09/18/2018 10:00**

Field ID: G2SW0026 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026531	EPA 8321B	2,4-D	0.0020	U	ug/L	P351783	
		Bentazon	8.0E-04	U	ug/L	P351783	
		MCPP	0.0020	U	ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.14		ug/L	P351783	
		Diuron	0.0071	I	ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0040	U	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.0081	I	ug/L	P351783	
		Carbamazepine**	8.0E-04	U	ug/L	P351783	
		Fluridone**	4.0E-04	U	ug/L	P351783	
		Hydrocodone**	8.0E-04	U	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	0.25		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: MUSTANG RANCH CREEK @ HOPEWELL **Collection Date/Time: 09/18/2018 10:00**

Field ID: G2SW0026 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026507	EPA 180.1 Rev. 2.0	Turbidity	3.7	A	NTU	P352023	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P352352	
		Sulfate	16		mg SO4/L	P352355	
	SM 2120 B	Color (true)	140		PCU	P351914	
	SM 2320 B-97	Total Alkalinity	39	A	mg CaCO3/L	P352057	
	SM 2540 C-97	TDS	126		mg/L	P352291	
	SM 2540 D-97	TSS	5	I	mg/L	P352452	
	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P352233	
2026508	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P352275	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P352068	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.87		mg N/L	P352210	
	EPA 365.1 Rev. 2.0	Total-P	0.84		mg P/L	P352040	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P352197	
2026509	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.72		mg P/L	P351917	

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: MUSTANG RCH @ CR 39 **Collection Date/Time: 09/18/2018 10:15**

Field ID: G2SW0050 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026532	EPA 8321B	2,4-D	0.0020	U	ug/L	P351783	
		Bentazon	8.0E-04	U	ug/L	P351783	
		MCPP	0.0020	U	ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.14		ug/L	P351783	
		Diuron	0.0069	I	ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0040	U	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.0085	I	ug/L	P351783	
		Carbamazepine**	8.0E-04	U	ug/L	P351783	
		Fluridone**	4.0E-04	U	ug/L	P351783	
		Hydrocodone**	8.0E-04	U	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	0.23		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: ENGLISH CREEK ABOVE SR 60 **Collection Date/Time: 09/18/2018 10:40**

Field ID: G2SW0006 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026533	EPA 8321B	2,4-D	0.0020	U	ug/L	P351783	
		Bentazon	0.011		ug/L	P351783	
		MCPP	0.0020	U	ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.0076	I	ug/L	P351783	
		Diuron	0.036		ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0040	U	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.067		ug/L	P351783	
		Carbamazepine**	0.0016	I	ug/L	P351783	
		Fluridone**	0.012		ug/L	P351783	
		Hydrocodone**	8.0E-04	U	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	0.17		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: ENGLISH CREEK @ OLD MULBERRY RD **Collection Date/Time: 09/18/2018 11:00**

Field ID: G2SW0048 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026534	EPA 8321B	2,4-D	0.0020	U	ug/L	P351783	
		Bentazon	0.013		ug/L	P351783	
		MCPP	0.0020	U	ug/L	P351783	
		Triclopyr**	0.0040	U	ug/L	P351783	
		Imidacloprid	0.0073	I	ug/L	P351783	
		Diuron	0.0048	I	ug/L	P351783	
		Pyraclostrobin**	0.0020	U	ug/L	P351783	
		Primidone**	0.0040	U	ug/L	P351783	
		Linuron	0.0040	U	ug/L	P351783	
		Acetaminophen**	0.0080	U	ug/L	P351783	
		Fenuron	0.016	U	ug/L	P351783	
		Imazapyr**	0.072		ug/L	P351783	
		Carbamazepine**	0.0021	I	ug/L	P351783	
		Fluridone**	0.013		ug/L	P351783	
		Hydrocodone**	8.0E-04	U	ug/L	P351783	
		Naproxen**	0.0080	U	ug/L	P351783	
		Ibuprofen**	0.020	U	ug/L	P351783	
		Sucralose**	0.14		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: POLEY CREEK @ SR 60 **Collection Date/Time: 09/18/2018 11:25**

Field ID: G2SW0049 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026535	EPA 8321B	2,4-D	0.53		ug/L	P351931	
		Bentazon	0.023		ug/L	P351931	
		MCPP	0.0020	U	ug/L	P351931	
		Triclopyr**	0.0040	U	ug/L	P351931	MS
		Imidacloprid	0.022		ug/L	P351931	
		Diuron	0.0058	I	ug/L	P351931	
		Pyraclostrobin**	0.0020	U	ug/L	P351931	
		Primidone**	0.0040	U	ug/L	P351931	
		Linuron	0.0040	U	ug/L	P351931	
		Acetaminophen**	0.0080	U	ug/L	P351931	
		Fenuron	0.016	U	ug/L	P351931	
		Imazapyr**	0.050		ug/L	P351931	
		Carbamazepine**	0.0019	I	ug/L	P351931	
		Fluridone**	0.019		ug/L	P351931	
		Hydrocodone**	8.0E-04	U	ug/L	P351931	
		Naproxen**	0.0080	U	ug/L	P351931	
		Ibuprofen**	0.020	U	ug/L	P351931	
		Sucralose**	1.0		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: POLEY @ SHEPARD RD **Collection Date/Time: 09/18/2018 11:50**

Field ID: G2SW0014 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026536	EPA 8321B	2,4-D	0.25		ug/L	P351931	
		Bentazon	0.026		ug/L	P351931	
		MCPP	0.0020	U	ug/L	P351931	
		Triclopyr**	0.0040	U	ug/L	P351931	MS
		Imidacloprid	0.020		ug/L	P351931	
		Diuron	0.0059	I	ug/L	P351931	
		Pyraclostrobin**	0.0020	U	ug/L	P351931	
		Primidone**	0.0040	U	ug/L	P351931	
		Linuron	0.0040	U	ug/L	P351931	
		Acetaminophen**	0.0080	U	ug/L	P351931	
		Fenuron	0.016	U	ug/L	P351931	
		Imazapyr**	0.049		ug/L	P351931	
		Carbamazepine**	0.0020	I	ug/L	P351931	
		Fluridone**	0.020		ug/L	P351931	
		Hydrocodone**	8.0E-04	U	ug/L	P351931	
		Naproxen**	0.0080	U	ug/L	P351931	
		Ibuprofen**	0.020	U	ug/L	P351931	
		Sucralose**	1.1		ug/L	P351652	
		Acesulfame K**	0.10	U	ug/L	P351652	

Sample Location: FIELD BLANK_09/18/18 **Collection Date/Time: 09/18/2018 13:05**

Field ID: BLANK Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2026537	EPA 8321B	2,4-D	0.0020	U	ug/L	P351931	
		Bentazon	8.0E-04	U	ug/L	P351931	
		MCPP	0.0020	U	ug/L	P351931	
		Triclopyr**	0.0040	U	ug/L	P351931	MS
		Imidacloprid	0.0020	U	ug/L	P351931	
		Diuron	0.0020	U	ug/L	P351931	
		Pyraclostrobin**	0.0020	U	ug/L	P351931	
		Primidone**	0.0040	U	ug/L	P351931	
		Linuron	0.0040	U	ug/L	P351931	
		Acetaminophen**	0.0080	U	ug/L	P351931	
		Fenuron	0.016	U	ug/L	P351931	
		Imazapyr**	0.0040	U	ug/L	P351931	
		Carbamazepine**	8.0E-04	U	ug/L	P351931	
		Fluridone**	4.0E-04	U	ug/L	P351931	
		Hydrocodone**	8.0E-04	U	ug/L	P351931	
		Naproxen**	0.0080	U	ug/L	P351931	
		Ibuprofen**	0.020	U	ug/L	P351931	
		Sucralose**	0.010	U	ug/L	P351895	
		Acesulfame K**	0.10	U	ug/L	P351895	

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352023

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352352

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352355

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352275

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352068

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352210

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351917

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

Reference Method: EPA 8321B
Batch ID: P351652

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P351783

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: P351895

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

Reference Method: EPA 8321B
Batch ID: P351931

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: SM 2120 B
Batch ID: P351914

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P352057

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

Reference Method: SM 2540 C-97
Batch ID: P352291

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P352452

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P352233

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P352197

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: P352352

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352275

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352068

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352210

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: P352040

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351917

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

Reference Method: EPA 8321B
Batch ID: P351652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	91.4		P	40 - 150
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	77.6		P	40 - 150
Acetaminophen	77.3		P	30 - 150
Bentazon	70.6		P	30 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P351783

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Carbamazepine	70.9		P	40 - 150
Diuron	63.7		P	40 - 150
Fenuron	93.5		P	40 - 150
Fluridone	85.5		P	40 - 150
Hydrocodone	89.5		P	40 - 150
Ibuprofen	89.7		P	40 - 150
Imazapyr	74.5		P	40 - 150
Imidacloprid	77.6		P	40 - 160
Linuron	56.8		P	40 - 150
MCPP	101		P	40 - 150
Naproxen	70.2		P	40 - 150
Primidone	63.8		P	40 - 150
Pyraclostrobin	68.4		P	40 - 150
Triclopyr	94.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	114		P	40 - 150
Sucralose	129		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.6		P	40 - 150
Acetaminophen	124		P	30 - 150
Bentazon	84.2		P	30 - 150
Carbamazepine	102		P	40 - 150
Diuron	83.4		P	40 - 150
Fenuron	118		P	40 - 150
Fluridone	60.2		P	40 - 150
Hydrocodone	121		P	40 - 150
Ibuprofen	87.8		P	40 - 150
Imazapyr	71.7		P	40 - 150
Imidacloprid	101		P	40 - 160
Linuron	71.8		P	40 - 150
MCPP	102		P	40 - 150
Naproxen	86.1		P	40 - 150
Primidone	80.7		P	40 - 150
Pyraclostrobin	88.1		P	40 - 150
Triclopyr	106		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P351914

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.8		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P352057

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

Reference Method: SM 4500 F-C-97
Batch ID: P352233

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

Reference Method: SM 5310 B-00
Batch ID: P352197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026404	Chloride	95.3		P	90 - 110
2026648	Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026404	Sulfate	95.6		P	90 - 110
2026648	Sulfate	96.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026411	Ammonia-N	98.5	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026560	Kjeldahl Nitrogen	98.2	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352210

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026560	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026411	Total-P	99.0	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026382	O-Phosphate-P	95.4	95.6	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P351652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025880	Acesulfame K	54.9	56.4	P/P	40 - 150
2025880	Sucralose	122	127	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025880	2,4-D	116	95.7	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P351783

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2025880	Acetaminophen	76.8	91.9	P/P	30 - 150
2025880	Bentazon	81.4	53.0	P/P	30 - 150
2025880	Carbamazepine	55.7	56.8	P/P	40 - 150
2025880	Diuron	45.9	50.3	P/P	40 - 150
2025880	Fenuron	60.5	64.8	P/P	40 - 150
2025880	Fluridone	77.4	91.4	P/P	40 - 150
2025880	Hydrocodone	77.5	93.3	P/P	40 - 150
2025880	Ibuprofen	116	121	P/P	40 - 150
2025880	Imazapyr	79.7	94.2	P/P	40 - 150
2025880	Imidacloprid	96.5	119	P/P	40 - 160
2025880	Linuron	47.2	53.3	P/P	40 - 150
2025880	MCPP	127	135	P/P	40 - 150
2025880	Naproxen	92.2	88.3	P/P	40 - 150
2025880	Primidone	62.0	65.9	P/P	40 - 150
2025880	Pyraclostrobin	80.8	93.5	P/P	40 - 150
2025880	Triclopyr	138	135	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026897	Acesulfame K	94.1	96.1	P/P	40 - 150
2026897	Sucralose	124	140	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P351931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2027105	2,4-D	87.4	78.2	P/P	40 - 150
2027105	Acetaminophen	95.9	101	P/P	30 - 150
2027105	Bentazon	47.4	40.3	P/P	30 - 150
2027105	Carbamazepine	67.2	79.3	P/P	40 - 150
2027105	Diuron	55.5	67.5	P/P	40 - 150
2027105	Fenuron	69.7	75.2	P/P	40 - 150
2027105	Fluridone	55.9	87.9	P/P	40 - 150
2027105	Hydrocodone	92.8	98.7	P/P	40 - 150
2027105	Ibuprofen	74.8	70.3	P/P	40 - 150
2027105	Imazapyr	46.3	75.0	P/P	40 - 150
2027105	Imidacloprid	113	143	P/P	40 - 160
2027105	Linuron	55.3	62.2	P/P	40 - 150
2027105	MCPP	125	126	P/P	40 - 150
2027105	Naproxen	102	101	P/P	40 - 150
2027105	Primidone	67.0	72.8	P/P	40 - 150
2027105	Pyraclostrobin	80.3	86.4	P/P	40 - 150
2027105	Triclopyr	153	156	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P352233

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026507	Fluoride	93.9	95.7	P/P	91 - 105

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P352197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2026378	Organic Carbon	97.0	97.6	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P352023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026507	Turbidity	1.88	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026404	Chloride	0.192	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P352355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026404	Sulfate	0.288	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P352275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026411	Ammonia-N	1.87	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P352068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026560	Kjeldahl Nitrogen	1.81	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P352210

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026560	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P352040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026411	Total-P	1.35	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P351917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026382	O-Phosphate-P	0.209	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P351652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025880	Acesulfame K	2.84	Spike	P	0 - 30
2025880	Sucralose	1.80	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2025880	2,4-D	16.6	Spike	P	0 - 30
2025880	Acetaminophen	17.9	Spike	P	0 - 30
2025880	Bentazon	25.0	Spike	P	0 - 30
2025880	Carbamazepine	1.98	Spike	P	0 - 30
2025880	Diuron	9.19	Spike	P	0 - 30
2025880	Fenuron	6.88	Spike	P	0 - 30
2025880	Fluridone	16.4	Spike	P	0 - 30
2025880	Hydrocodone	18.6	Spike	P	0 - 30
2025880	Ibuprofen	4.44	Spike	P	0 - 30
2025880	Imazapyr	9.36	Spike	P	0 - 30
2025880	Imidacloprid	16.1	Spike	P	0 - 30
2025880	Linuron	12.0	Spike	P	0 - 30
2025880	MCPP	6.08	Spike	P	0 - 30
2025880	Naproxen	4.32	Spike	P	0 - 30
2025880	Primidone	5.41	Spike	P	0 - 30
2025880	Pyraclostrobin	14.5	Spike	P	0 - 30
2025880	Triclopyr	1.95	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026897	Acesulfame K	2.09	Spike	P	0 - 30
2026897	Sucralose	11.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P351931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2027105	2,4-D	8.44	Spike	P	0 - 30
2027105	Acetaminophen	4.78	Spike	P	0 - 30
2027105	Bentazon	6.06	Spike	P	0 - 30
2027105	Carbamazepine	16.5	Spike	P	0 - 30
2027105	Diuron	17.0	Spike	P	0 - 30
2027105	Fenuron	7.70	Spike	P	0 - 30
2027105	Fluridone	10.6	Spike	P	0 - 30
2027105	Hydrocodone	6.16	Spike	P	0 - 30
2027105	Ibuprofen	6.24	Spike	P	0 - 30
2027105	Imazapyr	11.6	Spike	P	0 - 30
2027105	Imidacloprid	14.0	Spike	P	0 - 30
2027105	Linuron	11.9	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P351931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2027105	MCPP	0.821	Spike	P	0 - 30
2027105	Naproxen	0.930	Spike	P	0 - 30
2027105	Primidone	8.23	Spike	P	0 - 30
2027105	Pyraclostrobin	7.27	Spike	P	0 - 30
2027105	Triclopyr	2.18	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P351914

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026471	Color (true)	8.61	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P352057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026507	Total Alkalinity	0.527	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P352291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026287	TDS	4.73	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P352233

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026507	Fluoride	0.972	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P352197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2026378	Organic Carbon	0.536	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: 2026529
Field Sample ID: G2SW0025

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	94.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.3	P	30 - 160
EPA 8321B	Diuron-d6	77.4	P	30 - 160
EPA 8321B	Endothall-d6	143	P	40 - 160
EPA 8321B	Ibuprofen-d3	88.1	P	30 - 160
EPA 8321B	Primidone-d5	76.0	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	40 - 160

Lab Sample ID: 2026530
Field Sample ID: G2SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.8	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.3	P	30 - 160
EPA 8321B	Diuron-d6	67.7	P	30 - 160
EPA 8321B	Endothall-d6	156	P	40 - 160
EPA 8321B	Ibuprofen-d3	79.8	P	30 - 160
EPA 8321B	Primidone-d5	88.5	P	30 - 160
EPA 8321B	Sucralose-d6	140	P	40 - 160

Lab Sample ID: 2026531
Field Sample ID: G2SW0026

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	99.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.1	P	30 - 160
EPA 8321B	Diuron-d6	67.9	P	30 - 160
EPA 8321B	Endothall-d6	155	P	40 - 160
EPA 8321B	Ibuprofen-d3	84.0	P	30 - 160
EPA 8321B	Primidone-d5	77.1	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	40 - 160

Lab Sample ID: 2026532
Field Sample ID: G2SW0050

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	109	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.1	P	30 - 160
EPA 8321B	Diuron-d6	63.6	P	30 - 160
EPA 8321B	Endothall-d6	146	P	40 - 160
EPA 8321B	Ibuprofen-d3	87.3	P	30 - 160
EPA 8321B	Primidone-d5	76.6	P	30 - 160
EPA 8321B	Sucralose-d6	134	P	40 - 160

Lab Sample ID: 2026533
Field Sample ID: G2SW0006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits

Quality Assurance Report
Surrogates

Lab Sample ID: 2026533
Field Sample ID: G2SW0006

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	86.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.6	P	30 - 160
EPA 8321B	Diuron-d6	55.1	P	30 - 160
EPA 8321B	Endothall-d6	159	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.7	P	30 - 160
EPA 8321B	Primidone-d5	84.9	P	30 - 160
EPA 8321B	Sucralose-d6	141	P	40 - 160

Lab Sample ID: 2026534
Field Sample ID: G2SW0048

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	85.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	116	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.4	P	30 - 160
EPA 8321B	Diuron-d6	64.1	P	30 - 160
EPA 8321B	Endothall-d6	151	P	40 - 160
EPA 8321B	Ibuprofen-d3	82.4	P	30 - 160
EPA 8321B	Primidone-d5	83.9	P	30 - 160
EPA 8321B	Sucralose-d6	141	P	40 - 160

Lab Sample ID: 2026535
Field Sample ID: G2SW0049

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	82.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	75.7	P	30 - 160
EPA 8321B	Diuron-d6	71.2	P	30 - 160
EPA 8321B	Endothall-d6	155	P	40 - 160
EPA 8321B	Ibuprofen-d3	73.2	P	30 - 160
EPA 8321B	Primidone-d5	76.0	P	30 - 160
EPA 8321B	Sucralose-d6	145	P	40 - 160

Lab Sample ID: 2026536
Field Sample ID: G2SW0014

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	91.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.3	P	30 - 160
EPA 8321B	Diuron-d6	71.0	P	30 - 160
EPA 8321B	Endothall-d6	155	P	40 - 160
EPA 8321B	Ibuprofen-d3	78.6	P	30 - 160
EPA 8321B	Primidone-d5	77.8	P	30 - 160
EPA 8321B	Sucralose-d6	140	P	40 - 160

Lab Sample ID: 2026537
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits

Quality Assurance Report
Surrogates

Lab Sample ID: 2026537
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	62.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	121	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.2	P	30 - 160
EPA 8321B	Diuron-d6	89.6	P	30 - 160
EPA 8321B	Endothall-d6	111	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.3	P	30 - 160
EPA 8321B	Primidone-d5	87.7	P	30 - 160
EPA 8321B	Sucralose-d6	133	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A86589
Included Lab Sample IDs: 2026507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	98.3	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A86590
Included Lab Sample IDs: 2026509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86591
Included Lab Sample IDs: 2026529, 2026530, 2026531, 2026532, 2026533, 2026534, 2026535, 2026536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	90.7	89.5	P/P	60 - 150

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A86621
Included Lab Sample IDs: 2026507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	103	103	P/P	95 - 105

Reference Method: SM 2320 B-97
Run ID: A86635
Included Lab Sample IDs: 2026507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.1	103	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86652
Included Lab Sample IDs: 2026529, 2026530, 2026531, 2026532, 2026533, 2026534, 2026535, 2026536, 2026537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	116	119	P/P	60 - 160
Sucralose	119	128	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A86656
Included Lab Sample IDs: 2026537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	87.7	120	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A86669
Included Lab Sample IDs: 2026508

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A86677
Included Lab Sample IDs: 2026508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	99.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86696
Included Lab Sample IDs: 2026529, 2026530, 2026531, 2026532, 2026533, 2026534, 2026535, 2026536, 2026537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	109	110	P/P	60 - 160
Acetaminophen	71.6	77.5	P/P	60 - 160
Acetaminophen	77.5	109	P/P	60 - 160
Carbamazepine	103	128	P/P	60 - 160
Carbamazepine	106	103	P/P	60 - 160
Carbamazepine	128	118	P/P	60 - 160
Diuron	101	98.9	P/P	60 - 150
Diuron	116	95.2	P/P	60 - 150
Diuron	98.9	116	P/P	60 - 150
Fenuron	112	107	P/P	60 - 150
Fenuron	95.9	98.5	P/P	60 - 150
Fenuron	98.5	112	P/P	60 - 150
Fluridone	108	109	P/P	60 - 160
Fluridone	109	103	P/P	60 - 160
Hydrocodone	108	96.7	P/P	60 - 150
Hydrocodone	94.0	94.9	P/P	60 - 150
Hydrocodone	94.9	108	P/P	60 - 150
Imazapyr	70.0	76.9	P/P	50 - 150
Imazapyr	76.9	85.9	P/P	50 - 150
Imazapyr	85.1	70.0	P/P	50 - 150
Imidacloprid	79.9	80.2	P/P	60 - 150
Imidacloprid	80.2	95.0	P/P	60 - 150
Imidacloprid	95.0	94.2	P/P	60 - 150
Linuron	101	97.4	P/P	60 - 150
Linuron	97.4	98.9	P/P	60 - 150
Linuron	99.2	101	P/P	60 - 150
Primidone	72.0	76.5	P/P	60 - 150
Primidone	76.5	91.6	P/P	60 - 150
Primidone	91.6	91.8	P/P	60 - 150
Pyraclostrobin	105	112	P/P	60 - 150
Pyraclostrobin	112	105	P/P	60 - 150
Pyraclostrobin	97.8	112	P/P	60 - 150

Reference Method: SM 5310 B-00
Run ID: A86702
Included Lab Sample IDs: 2026508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	95.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86710
Included Lab Sample IDs: 2026508

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

Reference Method: SM 4500 F-C-97
Run ID: A86715
Included Lab Sample IDs: 2026507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.7	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A86718
Included Lab Sample IDs: 2026507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.2	99.0	P/P	90 - 110
Sulfate	98.2	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A86725
Included Lab Sample IDs: 2026508

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	105	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A86770
Included Lab Sample IDs: 2026529, 2026530, 2026531, 2026532, 2026533, 2026534, 2026535, 2026536, 2026537

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	104	P/P	50 - 150
2,4-D	118	124	P/P	50 - 150
2,4-D	124	105	P/P	50 - 150
Bentazon	127	120	P/P	50 - 160
Bentazon	135	136	P/P	50 - 160
Bentazon	136	127	P/P	50 - 160
Ibuprofen	120	90.2	P/P	50 - 160
Ibuprofen	89.8	120	P/P	50 - 160
Ibuprofen	90.2	95.0	P/P	50 - 160
MCPP	103	106	P/P	50 - 150
MCPP	106	103	P/P	50 - 150
MCPP	110	103	P/P	50 - 150
Naproxen	103	119	P/P	50 - 160
Naproxen	119	100	P/P	50 - 160
Naproxen	100	86.2	P/P	50 - 160
Triclopyr	109	111	P/P	50 - 160
Triclopyr	113	109	P/P	50 - 160
Triclopyr	123	113	P/P	50 - 160

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					1.88	
EPA 300.0 Rev. 2.1	Chloride	99.6	95.3	97.8		0.192	
	Sulfate	98.7	95.6	96.8		0.288	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	98.5	96.1			1.87
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	98.2	101			1.81
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	103			0.976
EPA 365.1 Rev. 2.0	Total-P	99.6	99.0	101			1.35
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	95.4	95.6			0.209
EPA 8321B	2,4-D	77.6	116	95.7			16.6
	2,4-D	66.6	87.4	78.2			8.44
	Acesulfame K	91.4	54.9	56.4			2.84
	Acesulfame K	114	94.1	96.1			2.09
	Acetaminophen	77.3	76.8	91.9			17.9
	Acetaminophen	124	95.9	101			4.78
	Bentazon	70.6	81.4	53.0			25.0
	Bentazon	84.2	47.4	40.3			6.06
	Carbamazepine	70.9	55.7	56.8			1.98
	Carbamazepine	102	67.2	79.3			16.5
	Diuron	63.7	45.9	50.3			9.19
	Diuron	83.4	55.5	67.5			17.0
	Fenuron	93.5	60.5	64.8			6.88
	Fenuron	118	69.7	75.2			7.70
	Fluridone	85.5	77.4	91.4			16.4
	Fluridone	60.2	55.9	87.9			10.6
	Hydrocodone	89.5	77.5	93.3			18.6
	Hydrocodone	121	92.8	98.7			6.16
	Ibuprofen	89.7	116	121			4.44
	Ibuprofen	87.8	74.8	70.3			6.24
	Imazapyr	74.5	79.7	94.2			9.36
	Imazapyr	71.7	46.3	75.0			11.6
	Imidacloprid	77.6	96.5	119			16.1
	Imidacloprid	101	113	143			14.0
	Linuron	56.8	47.2	53.3			12.0
	Linuron	71.8	55.3	62.2			11.9
	MCPP	101	127	135			6.08
	MCPP	102	125	126			0.821
	Naproxen	70.2	92.2	88.3			4.32
	Naproxen	86.1	102	101			0.930
	Primidone	63.8	62.0	65.9			5.41
	Primidone	80.7	67.0	72.8			8.23
	Pyraclostrobin	68.4	80.8	93.5			14.5
	Pyraclostrobin	88.1	80.3	86.4			7.27
	Sucralose	122	122	127			1.80
	Sucralose	129	124	140			11.2
	Triclopyr	94.0	138	135			1.95
	Triclopyr	106	153	156			2.18
SM 2120 B	Color (true)	96.8				8.61	
SM 2320 B-97	Total Alkalinity	103				0.527	
SM 2540 C-97	TDS					4.73	
SM 4500 F-C-97	Fluoride	95.6	93.9	95.7			0.972
SM 5310 B-00	Organic Carbon	97.6	97.0	97.6			0.536

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2026507
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2026507
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2026507
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2026508
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2026508
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2026508
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2026508
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2026509
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2026529, 2026530, 2026531, 2026532, 2026533, 2026534, 2026535, 2026536, 2026537
SM 2120 B / E31780	True Color measured at 450 nm	2026507
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2026507
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2026507
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2026507
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2026507
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2026508

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	09/19/2018			09/19/2018 14:56	Megan Treadwell	2026507
EPA 300.0 Rev. 2.1	09/19/2018			09/26/2018 17:30	Lipi Saha	2026507
EPA 350.1 Rev. 2.0	09/19/2018			09/24/2018 13:55	Ping Hua	2026508
EPA 351.2 Rev. 2.0	09/19/2018	09/21/2018 09:50	Adrian Shelby	09/24/2018 13:15	Joseph Suarez	2026508
EPA 353.2 Rev. 2.0	09/19/2018			09/25/2018 15:05	Lauren Bottorf	2026508
EPA 365.1 Rev. 2.0	09/19/2018	09/21/2018 12:45	Sima Feizi	09/24/2018 09:38	Beverly Y. Sanders	2026508
EPA 365.1 Rev. 2.0 dissolved	09/19/2018			09/19/2018 15:21	Julia Storbeck	2026509
EPA 8321B	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 20:20	Mohammad Ghaffari	2026529
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 20:34	Mohammad Ghaffari	2026530
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 20:49	Mohammad Ghaffari	2026531
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 21:03	Mohammad Ghaffari	2026532
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 21:18	Mohammad Ghaffari	2026533
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 21:33	Mohammad Ghaffari	2026534
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 21:48	Mohammad Ghaffari	2026535
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/19/2018 22:02	Mohammad Ghaffari	2026536
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 21:56	Mohammad Ghaffari	2026529
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 22:11	Mohammad Ghaffari	2026530
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 22:26	Mohammad Ghaffari	2026531
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 22:40	Mohammad Ghaffari	2026532
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 22:55	Mohammad Ghaffari	2026533
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 23:10	Mohammad Ghaffari	2026534
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 23:24	Mohammad Ghaffari	2026535
	09/19/2018	09/19/2018 15:30	Mohammad Ghaffari	09/21/2018 23:39	Mohammad Ghaffari	2026536
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 08:27	Mohammad Ghaffari	2026529
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 09:36	Mohammad Ghaffari	2026530
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 10:11	Mohammad Ghaffari	2026531
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 10:45	Mohammad Ghaffari	2026532
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 11:20	Mohammad Ghaffari	2026533
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/24/2018 11:54	Mohammad Ghaffari	2026534
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 16:42	Juyoung Kim	2026529
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 17:17	Juyoung Kim	2026530
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 17:51	Juyoung Kim	2026531
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 18:26	Juyoung Kim	2026532
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 19:01	Juyoung Kim	2026533
	09/19/2018	09/20/2018 10:00	Hoor Shaik	09/27/2018 19:35	Juyoung Kim	2026534
	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/24/2018 18:50	Mohammad Ghaffari	2026535
	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/24/2018 19:24	Mohammad Ghaffari	2026536
	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/24/2018 19:59	Mohammad Ghaffari	2026537
	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/27/2018 23:37	Juyoung Kim	2026535
	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/28/2018 00:46	Juyoung Kim	2026536

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	09/19/2018	09/21/2018 10:00	Hoor Shaik	09/28/2018 01:21	Juyoung Kim	2026537
	09/19/2018	09/21/2018 13:00	Mohammad Ghaffari	09/22/2018 01:36	Mohammad Ghaffari	2026537
	09/19/2018	09/21/2018 13:00	Mohammad Ghaffari	09/22/2018 18:58	Mohammad Ghaffari	2026537
SM 2120 B	09/19/2018			09/19/2018 15:29	DeAsia Armster	2026507
SM 2320 B-97	09/19/2018			09/20/2018 23:06	Dale L. Simmons	2026507
SM 2540 C-97	09/19/2018			09/21/2018 16:15	Yijie Li	2026507
SM 2540 D-97	09/19/2018			09/21/2018 16:15	Yijie Li	2026507
SM 4500 F-C-97	09/19/2018			09/25/2018 22:33	Dale L. Simmons	2026507
SM 5310 B-00	09/19/2018			09/25/2018 00:46	Megan Treadwell	2026508