

Chemical Analysis Report

SE-DIST-2018-11-29-01

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

Event Description: **SMP- Dade**
Request ID: **RQ-2018-11-26-06**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Matthew Sewell

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: Colin Wright, Program Administrator

Date Certified: 18-DEC-2018 11:25

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light blue rectangular background.

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: SNAKE CREEK CANAL (NORTH FORK) @ STIRLING

Collection Date/Time: 11/28/2018 11:25

Field ID: G4SE0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2044539	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P355351	
	EPA 300.0 Rev. 2.1	Chloride	73		mg Cl/L	P355697	
		Sulfate	2.0		mg SO4/L	P355699	
	SM 2120 B	Color (true)	38		PCU	P355391	
	SM 2320 B-97	Total Alkalinity	242		mg CaCO3/L	P355560	
	SM 2540 C-97	TDS	369		mg/L	P355727	
	SM 2540 D-97	TSS	2	I	mg/L	P355821	
	SM 4500 F-C-97	Fluoride	0.30		mg F/L	P355563	
2044540	EPA 350.1 Rev. 2.0	Ammonia-N	0.27		mg N/L	P355590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P355402	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P355381	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P355405	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P355514	
2044541	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P355340	

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: SNAKE CREEK CANAL (NF) @ STIRLING

Collection Date/Time: 11/28/2018 11:30

Field ID: G4SE0049_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2044530	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P355351	
	EPA 300.0 Rev. 2.1	Chloride	73		mg Cl/L	P355697	
		Sulfate	2.0		mg SO4/L	P355699	
	SM 2120 B	Color (true)	38		PCU	P355391	
	SM 2320 B-97	Total Alkalinity	243		mg CaCO3/L	P355560	
	SM 2540 C-97	TDS	393		mg/L	P355727	
	SM 2540 D-97	TSS	3	I	mg/L	P355821	
	SM 4500 F-C-97	Fluoride	0.29		mg F/L	P355563	
2044531	EPA 350.1 Rev. 2.0	Ammonia-N	0.27		mg N/L	P355590	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P355402	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.24		mg N/L	P355381	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P355405	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P355514	
2044532	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P355340	

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: CUTLER DRAIN (C-100)(CD-06 MIAMI)

Collection Date/Time: 11/28/2018 13:40

Field ID: G4SECD06

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2044555	EPA 8321B	2,4-D	0.0030	I	ug/L	P355221	
		Bentazon	0.0051		ug/L	P355221	
		MCP	0.0020	U	ug/L	P355221	
		Triclopyr**	0.0040	U	ug/L	P355221	
		Imidacloprid	0.0022	I	ug/L	P355221	MS
		Diuron	0.0020	U	ug/L	P355221	
		Pyraclostrobin**	0.0020	U	ug/L	P355221	
		Primidone**	0.0040	U	ug/L	P355221	
		Linuron	0.0040	U	ug/L	P355221	
		Acetaminophen**	0.0080	U	ug/L	P355221	
		Fenuron	0.016	U	ug/L	P355221	
		Imazapyr**	0.054		ug/L	P355221	
		Carbamazepine**	0.0015	I	ug/L	P355221	
		Fluridone**	0.0093		ug/L	P355221	
		Hydrocodone**	8.0E-04	U	ug/L	P355221	
		Naproxen**	0.0080	U	ug/L	P355221	
		Ibuprofen**	0.020	U	ug/L	P355221	
		Sucralose**	0.24		ug/L	P355297	
		Acesulfame K**	0.10	I	ug/L	P355297	

Sample Location: WAGNER CREEK (WC-02)

Collection Date/Time: 11/28/2018 14:45

Field ID: G4SEWC02

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2044536	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P355351	
	SM 2320 B-97	Total Alkalinity	162		mg CaCO3/L	P355707	
	SM 2540 D-97	TSS	3	U	mg/L	P355825	
	SM 4500 F-C-97	Fluoride	0.71		mg F/L	P355711	
2044537	EPA 350.1 Rev. 2.0	Ammonia-N	0.094		mg N/L	P355591	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.54		mg N/L	P355404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P355482	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P355408	
	SM 5310 B-00	Organic Carbon	4.6		mg C/L	P355517	
2044538	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.021		mg P/L	P355344	
2044554	EPA 8321B	2,4-D	0.0020	U	ug/L	P355221	
		Bentazon	0.0033		ug/L	P355221	
		MCP	0.0020	U	ug/L	P355221	
		Triclopyr**	0.0040	U	ug/L	P355221	
		Imidacloprid	0.0020	U	ug/L	P355221	MS
		Diuron	0.0045	I	ug/L	P355221	
		Pyraclostrobin**	0.0020	U	ug/L	P355221	
		Primidone**	0.0040	U	ug/L	P355221	
		Linuron	0.0040	U	ug/L	P355221	
		Acetaminophen**	0.055		ug/L	P355221	
		Fenuron	0.016	U	ug/L	P355221	
		Imazapyr**	0.042		ug/L	P355221	
		Carbamazepine**	0.0014	I	ug/L	P355221	
		Fluridone**	0.0019		ug/L	P355221	
		Hydrocodone**	8.0E-04	U	ug/L	P355221	
		Naproxen**	0.0080	U	ug/L	P355221	
		Ibuprofen**	0.020	U	ug/L	P355221	
		Sucralose**	0.14		ug/L	P355297	
		Acesulfame K**	0.10	U	ug/L	P355297	

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: MIAMI (C-6) @ S26

Collection Date/Time: 11/28/2018 15:15

Field ID: G4SE0024

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2044533	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P355351	
	SM 2320 B-97	Total Alkalinity	161		mg CaCO3/L	P355707	
	SM 2540 D-97	TSS	3	U	mg/L	P355825	
	SM 4500 F-C-97	Fluoride	0.76		mg F/L	P355711	
2044534	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P355591	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P355404	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.080		mg N/L	P355482	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P355408	
	SM 5310 B-00	Organic Carbon	5.8		mg C/L	P355517	
2044535	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P355344	
2044553	EPA 8321B	2,4-D	0.0020	U	ug/L	P355221	
		Bentazon	0.0040		ug/L	P355221	
		MCP	0.0020	U	ug/L	P355221	
		Triclopyr**	0.0040	U	ug/L	P355221	
		Imidacloprid	0.0020	U	ug/L	P355221	MS
		Diuron	0.0031	I	ug/L	P355221	
		Pyraclostrobin**	0.0020	U	ug/L	P355221	
		Primidone**	0.0040	U	ug/L	P355221	
		Linuron	0.0040	U	ug/L	P355221	
		Acetaminophen**	0.0080	UJ	ug/L	P355221	SUR
		Fenuron	0.016	U	ug/L	P355221	
		Imazapyr**	0.038		ug/L	P355221	
		Carbamazepine**	8.0E-04	U	ug/L	P355221	
		Fluridone**	0.0017		ug/L	P355221	
		Hydrocodone**	8.0E-04	U	ug/L	P355221	
		Naproxen**	0.0080	U	ug/L	P355221	
		Ibuprofen**	0.020	U	ug/L	P355221	
		Sucralose**	0.071		ug/L	P355297	
		Acesulfame K**	0.10	U	ug/L	P355297	

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: 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: P355351

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355697

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355699

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355590

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355591

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355402

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355404

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355381

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355482

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355405

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355340

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355344

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

Reference Method: EPA 8321B
Batch ID: P355221

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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P355297

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: SM 2120 B
Batch ID: P355391

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P355560

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

Reference Method: SM 2320 B-97
Batch ID: P355707

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

Reference Method: SM 2540 C-97
Batch ID: P355727

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P355821

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P355825

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P355563

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P355711

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P355514

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P355517

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: P355697

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355699

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355590

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355402

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355404

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355381

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355482

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355405

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355340

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P355221

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.0		P	40 - 150
Acetaminophen	105		P	30 - 150
Bentazon	113		P	30 - 150
Carbamazepine	92.0		P	40 - 150
Diuron	74.8		P	40 - 150
Fenuron	95.9		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	91.1		P	40 - 150
Ibuprofen	72.7		P	40 - 150
Imazapyr	105		P	40 - 150
Imidacloprid	101		P	40 - 160
Linuron	71.7		P	40 - 150
MCPP	111		P	40 - 150
Naproxen	88.0		P	40 - 150
Primidone	95.6		P	40 - 150
Pyraclostrobin	56.6		P	40 - 150
Triclopyr	69.9		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P355297

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
Sucralose	109		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P355391

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P355560

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.7		P	98 - 107

Reference Method: SM 2320 B-97
Batch ID: P355707

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

Reference Method: SM 4500 F-C-97
Batch ID: P355563

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P355711

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355514

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P355517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044613	Chloride	96.1		P	90 - 110
2044657	Chloride	96.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355699

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044613	Sulfate	99.4		P	90 - 110
2044657	Sulfate	98.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044328	Ammonia-N	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044460	Ammonia-N	99.7	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044473	Kjeldahl Nitrogen	111	107	F/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355404

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044471	Kjeldahl Nitrogen	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044531	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044470	NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355405

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044540	Total-P	98.2	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044470	Total-P	97.5	93.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355340

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044321	O-Phosphate-P	96.0	97.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044566	O-Phosphate-P	96.2	98.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P355221

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043959	2,4-D	92.1	104	P/P	40 - 150
2043959	Acetaminophen	115	114	P/P	30 - 150
2043959	Bentazon	73.3	75.9	P/P	30 - 150
2043959	Carbamazepine	82.0	86.1	P/P	40 - 150
2043959	Diuron	61.3	65.9	P/P	40 - 150
2043959	Fenuron	98.7	104	P/P	40 - 150
2043959	Fluridone	109	119	P/P	40 - 150
2043959	Hydrocodone	65.4	79.8	P/P	40 - 150
2043959	Ibuprofen	67.7	71.1	P/P	40 - 150
2043959	Imazapyr	99.9	103	P/P	40 - 150
2043959	Imidacloprid	168	180	F/F	40 - 160
2043959	Linuron	67.5	73.0	P/P	40 - 150
2043959	MCP	110	128	P/P	40 - 150
2043959	Naproxen	68.0	69.0	P/P	40 - 150
2043959	Primidone	94.1	101	P/P	40 - 150
2043959	Pyraclostrobin	61.4	69.3	P/P	40 - 150
2043959	Triclopyr	51.7	68.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P355297

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044792	Acesulfame K	127	122	P/P	40 - 150
2044792	Sucralose	101	120	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P355563

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043988	Fluoride	100	99.7	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P355711

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043746	Fluoride	99.0	99.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P355514

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2043995	Organic Carbon	98.2	97.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P355517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2044534	Organic Carbon	99.5	94.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P355351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044326	Turbidity	3.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044613	Chloride	0.103	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P355699

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044613	Sulfate	0.893	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355590

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044328	Ammonia-N	0.166	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P355591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044460	Ammonia-N	0.636	Spike	P	0 - 15

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044473	Kjeldahl Nitrogen	3.38	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P355404

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044471	Kjeldahl Nitrogen	0.0567	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044531	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P355482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044470	NO2NO3-N	0.966	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355405

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044540	Total-P	3.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P355408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044470	Total-P	3.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044321	O-Phosphate-P	1.16	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P355344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044566	O-Phosphate-P	1.07	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P355221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043959	2,4-D	10.7	Spike	P	0 - 30
2043959	Acetaminophen	0.693	Spike	P	0 - 30
2043959	Bentazon	3.50	Spike	P	0 - 30
2043959	Carbamazepine	4.83	Spike	P	0 - 30
2043959	Diuron	7.10	Spike	P	0 - 30
2043959	Fenuron	5.25	Spike	P	0 - 30
2043959	Fluridone	8.56	Spike	P	0 - 30
2043959	Hydrocodone	19.8	Spike	P	0 - 30
2043959	Ibuprofen	4.94	Spike	P	0 - 30
2043959	Imazapyr	2.92	Spike	P	0 - 30
2043959	Imidacloprid	6.95	Spike	P	0 - 30
2043959	Linuron	7.89	Spike	P	0 - 30
2043959	MCP	14.8	Spike	P	0 - 30
2043959	Naproxen	1.41	Spike	P	0 - 30
2043959	Primidone	6.64	Spike	P	0 - 30
2043959	Pyraclostrobin	12.1	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P355221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043959	Triclopyr	28.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P355297

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044792	Acesulfame K	3.84	Spike	P	0 - 30
2044792	Sucralose	15.1	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P355391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044613	Color (true)	2.28	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P355560

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043988	Total Alkalinity	0.379	Sample	P	0 - 1.6

Reference Method: SM 2320 B-97
Batch ID: P355707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043746	Total Alkalinity	0.211	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P355727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044067	TDS	3.19	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P355563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043988	Fluoride	0.470	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P355711

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043746	Fluoride	0.470	Spike	P	0 - 3.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P355514

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2043995	Organic Carbon	0.556	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P355517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2044534	Organic Carbon	4.07	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: 2044553
Field Sample ID: G4SE0024

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	186	F	30 - 160
EPA 8321B	Carbamazepine-d10	88.5	P	30 - 160
EPA 8321B	Diuron-d6	87.8	P	30 - 160
EPA 8321B	Endothall-d6	91.5	P	40 - 160
EPA 8321B	Ibuprofen-d3	121	P	30 - 160
EPA 8321B	Primidone-d5	98.2	P	30 - 160
EPA 8321B	Sucralose-d6	83.4	P	40 - 160

Lab Sample ID: 2044554
Field Sample ID: G4SEWC02

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	112	P	30 - 160
EPA 8321B	Acetaminophen-d4	158	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.9	P	30 - 160
EPA 8321B	Diuron-d6	77.7	P	30 - 160
EPA 8321B	Endothall-d6	89.4	P	40 - 160
EPA 8321B	Ibuprofen-d3	69.7	P	30 - 160
EPA 8321B	Primidone-d5	97.2	P	30 - 160
EPA 8321B	Sucralose-d6	84.6	P	40 - 160

Lab Sample ID: 2044555
Field Sample ID: G4SECD06

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	102	P	30 - 160
EPA 8321B	Acetaminophen-d4	120	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.6	P	30 - 160
EPA 8321B	Diuron-d6	75.7	P	30 - 160
EPA 8321B	Endothall-d6	101	P	40 - 160
EPA 8321B	Ibuprofen-d3	75.5	P	30 - 160
EPA 8321B	Primidone-d5	86.6	P	30 - 160
EPA 8321B	Sucralose-d6	125	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A88047

Included Lab Sample IDs: 2044532, 2044535, 2044538, 2044541

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	98.8	P/P	90 - 110
O-Phosphate-P	99.6	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A88051

Included Lab Sample IDs: 2044530, 2044533, 2044536, 2044539

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88055

Included Lab Sample IDs: 2044531, 2044540

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

Reference Method: SM 2120 B

Run ID: A88059

Included Lab Sample IDs: 2044530, 2044539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A88074

Included Lab Sample IDs: 2044553, 2044554, 2044555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	110	79.7	P/P	60 - 160
Acesulfame K	79.7	72.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A88078

Included Lab Sample IDs: 2044553, 2044554, 2044555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	100	98.8	P/P	50 - 150
Acetaminophen	106	130	P/P	60 - 160
Bentazon	121	133	P/P	50 - 160
Carbamazepine	110	103	P/P	60 - 160
Diuron	99.4	107	P/P	60 - 150
Fenuron	101	97.1	P/P	60 - 150
Fluridone	108	107	P/P	60 - 160
Hydrocodone	99.9	94.8	P/P	60 - 150
Ibuprofen	95.6	76.3	P/P	50 - 160
Imazapyr	102	115	P/P	50 - 150
Imidacloprid	99.7	96.8	P/P	60 - 160
Linuron	96.8	102	P/P	60 - 150
MCPP	96.8	94.2	P/P	50 - 150
Naproxen	94.6	80.6	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A88078

Included Lab Sample IDs: 2044553, 2044554, 2044555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Primidone	93.7	98.4	P/P	60 - 160
Pyraclostrobin	98.9	97.9	P/P	60 - 150
Triclopyr	102	83.9	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A88081

Included Lab Sample IDs: 2044553, 2044554, 2044555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	122	121	P/P	60 - 160
Sucralose	123	122	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A88100

Included Lab Sample IDs: 2044534, 2044537

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88104

Included Lab Sample IDs: 2044531

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	107	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A88116

Included Lab Sample IDs: 2044531, 2044534, 2044537, 2044540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.5	98.0	P/P	90 - 110
Organic Carbon	96.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A88120

Included Lab Sample IDs: 2044534, 2044537, 2044540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	105	P/P	90 - 110
Kjeldahl Nitrogen	99.3	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A88130

Included Lab Sample IDs: 2044531, 2044534, 2044537, 2044540

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A88134

Included Lab Sample IDs: 2044530, 2044539

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.7	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A88134

Included Lab Sample IDs: 2044530, 2044539

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A88149

Included Lab Sample IDs: 2044531, 2044534, 2044537, 2044540

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

Reference Method: SM 2320 B-97

Run ID: A88191

Included Lab Sample IDs: 2044533, 2044536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.9	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A88191

Included Lab Sample IDs: 2044533, 2044536

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A88194

Included Lab Sample IDs: 2044530, 2044539

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				3.27	
EPA 300.0 Rev. 2.1	Chloride	99.4	96.1	96.9	0.103	
	Sulfate	99.8	99.4	98.1	0.893	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	100	100		0.166
	Ammonia-N	97.0	99.7	101		0.636
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	111	107		3.38
	Kjeldahl Nitrogen	104	105	105		0.0567
EPA 353.2 Rev. 2.0	NO2NO3-N	100	101	101		0.0
	NO2NO3-N	101	103	104		0.966
EPA 365.1 Rev. 2.0	Total-P	102	98.2	102		3.87
	Total-P	104	97.5	93.7		3.92
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1	96.0	97.7		1.16
	O-Phosphate-P	99.2	96.2	98.0		1.07
EPA 8321B	2,4-D	95.0	92.1	104		10.7
	Acesulfame K	102	127	122		3.84
	Acetaminophen	105	115	114		0.693
	Bentazon	113	73.3	75.9		3.50
	Carbamazepine	92.0	82.0	86.1		4.83
	Diuron	74.8	61.3	65.9		7.10
	Fenuron	95.9	98.7	104		5.25
	Fluridone	102	109	119		8.56
	Hydrocodone	91.1	65.4	79.8		19.8
	Ibuprofen	72.7	67.7	71.1		4.94
	Imazapyr	105	99.9	103		2.92
	Imidacloprid	101	168	180		6.95
	Linuron	71.7	67.5	73.0		7.89
	MCP	111	110	128		14.8
	Naproxen	88.0	68.0	69.0		1.41
	Primidone	95.6	94.1	101		6.64
	Pyraclostrobin	56.6	61.4	69.3		12.1
	Sucralose	109	101	120		15.1
	Triclopyr	69.9	51.7	68.6		28.1
SM 2120 B	Color (true)	102			2.28	
SM 2320 B-97	Total Alkalinity	98.7			0.379	
	Total Alkalinity	100			0.211	
SM 2540 C-97	TDS				3.19	
SM 4500 F-C-97	Fluoride	97.2	100	99.7		0.470
	Fluoride	97.4	99.0	99.7		0.470
SM 5310 B-00	Organic Carbon	98.0	98.2	97.4		0.556
	Organic Carbon	93.6	99.5	94.9		4.07

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2044530, 2044533, 2044536, 2044539
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2044530, 2044539
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2044530, 2044539
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2044531, 2044534, 2044537, 2044540
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2044531, 2044534, 2044537, 2044540

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2044531, 2044534, 2044537, 2044540
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2044531, 2044534, 2044537, 2044540
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2044532, 2044535, 2044538, 2044541
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2044553, 2044554, 2044555
SM 2120 B / E31780	True Color measured at 450 nm	2044530, 2044539
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2044530, 2044533, 2044536, 2044539
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2044530, 2044539
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2044530, 2044533, 2044536, 2044539
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2044530, 2044533, 2044536, 2044539
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2044531, 2044534, 2044537, 2044540

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	11/29/2018			11/29/2018 17:05	Megan Treadwell	2044530, 2044533, 2044536, 2044539
EPA 300.0 Rev. 2.1	11/29/2018			12/05/2018 22:09	Lipi Saha	2044530
	11/29/2018			12/05/2018 22:21	Lipi Saha	2044539
EPA 350.1 Rev. 2.0	11/29/2018			12/04/2018 12:57	Ping Hua	2044534
	11/29/2018			12/04/2018 13:05	Ping Hua	2044537
	11/29/2018			12/04/2018 13:58	Ping Hua	2044531
	11/29/2018			12/04/2018 13:59	Ping Hua	2044540
EPA 351.2 Rev. 2.0	11/29/2018	11/30/2018 12:15	Adrian Shelby	12/03/2018 12:25	Joseph Suarez	2044531
	11/29/2018	11/30/2018 12:15	Adrian Shelby	12/04/2018 09:56	Joseph Suarez	2044540
	11/29/2018	11/30/2018 12:15	Adrian Shelby	12/04/2018 10:46	Joseph Suarez	2044534
	11/29/2018	11/30/2018 12:15	Adrian Shelby	12/04/2018 10:48	Joseph Suarez	2044537
EPA 353.2 Rev. 2.0	11/29/2018			11/30/2018 10:49	Beverly Y. Sanders	2044531
	11/29/2018			11/30/2018 10:56	Beverly Y. Sanders	2044540
	11/29/2018			12/03/2018 12:30	Lauren Bottorf	2044534
	11/29/2018			12/03/2018 12:31	Lauren Bottorf	2044537
EPA 365.1 Rev. 2.0	11/29/2018	11/30/2018 13:35	Sima Feizi	12/03/2018 15:41	Beverly Y. Sanders	2044531
	11/29/2018	11/30/2018 13:35	Sima Feizi	12/03/2018 15:42	Beverly Y. Sanders	2044540
	11/29/2018	11/30/2018 13:35	Sima Feizi	12/03/2018 16:09	Beverly Y. Sanders	2044534
	11/29/2018	11/30/2018 13:35	Sima Feizi	12/03/2018 16:10	Beverly Y. Sanders	2044537
EPA 365.1 Rev. 2.0 dissolved	11/29/2018			11/29/2018 17:42	Jhamieka S. Greenwood	2044535, 2044538
	11/29/2018			11/29/2018 17:53	Jhamieka S. Greenwood	2044532, 2044541
EPA 8321B	11/29/2018	11/29/2018 14:00	Hoor Shaik	12/01/2018 21:16	Juyoung Kim	2044553
	11/29/2018	11/29/2018 14:00	Hoor Shaik	12/01/2018 21:51	Juyoung Kim	2044554
	11/29/2018	11/29/2018 14:00	Hoor Shaik	12/01/2018 22:25	Juyoung Kim	2044555
	11/29/2018	11/30/2018 15:00	Rebecca Ware	11/30/2018 17:32	Rebecca Ware	2044553
	11/29/2018	11/30/2018 15:00	Rebecca Ware	11/30/2018 18:00	Rebecca Ware	2044554
	11/29/2018	11/30/2018 15:00	Rebecca Ware	11/30/2018 18:13	Rebecca Ware	2044555
	11/29/2018	11/30/2018 15:00	Rebecca Ware	12/01/2018 14:33	Mohammad Ghaffari	2044553
	11/29/2018	11/30/2018 15:00	Rebecca Ware	12/01/2018 15:00	Mohammad Ghaffari	2044554
	11/29/2018	11/30/2018 15:00	Rebecca Ware	12/01/2018 15:14	Mohammad Ghaffari	2044555
SM 2120 B	11/29/2018			11/29/2018 15:35	Chelsea Hernandez	2044530
	11/29/2018			11/29/2018 15:36	Chelsea Hernandez	2044539
SM 2320 B-97	11/29/2018			12/04/2018 08:30	Dale L. Simmons	2044530
	11/29/2018			12/04/2018 08:41	Dale L. Simmons	2044539
	11/29/2018			12/05/2018 13:08	Dale L. Simmons	2044533
	11/29/2018			12/05/2018 13:18	Dale L. Simmons	2044536
SM 2540 C-97	11/29/2018			11/30/2018 16:02	Yijie Li	2044530, 2044539
SM 2540 D-97	11/29/2018			11/30/2018 16:02	Yijie Li	2044530, 2044533, 2044536, 2044539
SM 4500 F-C-97	11/29/2018			12/04/2018 08:30	Dale L. Simmons	2044530
	11/29/2018			12/04/2018 08:41	Dale L. Simmons	2044539

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	11/29/2018			12/05/2018 08:24	Dale L. Simmons	2044533
	11/29/2018			12/05/2018 08:28	Dale L. Simmons	2044536
SM 5310 B-00	11/29/2018			12/03/2018 07:40	Megan Treadwell	2044531
	11/29/2018			12/03/2018 07:52	Megan Treadwell	2044540
	11/29/2018			12/04/2018 05:38	Megan Treadwell	2044534
	11/29/2018			12/04/2018 06:19	Megan Treadwell	2044537