

Chemical Analysis Report

SE-DIST-2018-05-02-01

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

Event Description: **SMP- Martin Boat**
Request ID: **RQ-2018-02-12-52**
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

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Certified by: Colin Wright, Program Administrator

Date Certified: 08-JUN-2018 14:21

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light-colored 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: Metals, 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: GREAT POCKET @ MARKER 8

Collection Date/Time: 05/01/2018 11:20

Field ID: G2SE0033

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989062	EPA 180.1 Rev. 2.0	Turbidity	5.4		NTU	P344506	
	SM 2320 B-97	Total Alkalinity	122		mg CaCO3/L	P345178	
	SM 2540 D-97	TSS	11	A	mg/L	P345187	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P344920	
1989063	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P344871	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P344576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344800	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P344584	
	SM 5310 B-00	Organic Carbon	2.5		mg C/L	P344774	
1989064	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.015		mg P/L	P344569	

Sample Location: MANATEE POCKET @ PORT SALERNO

Collection Date/Time: 05/01/2018 12:00

Field ID: G2SE0012

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989065	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P344506	
	SM 2320 B-97	Total Alkalinity	136		mg CaCO3/L	P345178	
	SM 2540 D-97	TSS	4	I	mg/L	P345187	
	SM 4500 F-C-97	Fluoride	0.86		mg F/L	P344920	
1989066	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P344871	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P344576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P344800	
	EPA 365.1 Rev. 2.0	Total-P	0.078		mg P/L	P344584	
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P345026	
1989067	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038		mg P/L	P344569	
1989092	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P344496	
		Zinc	22	I	ug/L	P344496	
	EPA 200.8 Rev. 5.4	Arsenic	4.17		ug/L	P344496	
		Cadmium	0.080	U	ug/L	P344496	
		Chromium	1.6	U	ug/L	P344496	
		Copper	12.3		ug/L	P344496	
		Lead	0.50	U	ug/L	P344496	
		Nickel	0.80	U	ug/L	P344496	
		Silver	0.040	U	ug/L	P344496	

Ref. Method and Comment:

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 05/22/2018.

Sample Location: NORTH FORK SLR @ VETERANS MEMORIAL PARK

Collection Date/Time: 05/01/2018 13:50

Field ID: G2SE0007

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989071	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P344506	
	SM 2320 B-97	Total Alkalinity	150		mg CaCO3/L	P345178	

Field ID: G2SE0007

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989071	SM 2540 D-97	TSS	7	I	mg/L	P345187	
	SM 4500 F-C-97	Fluoride	0.75		mg F/L	P344920	
1989073	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P344871	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P344576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344800	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P344584	
	SM 5310 B-00	Organic Carbon	9.5		mg C/L	P345109	
1989075	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.11		mg P/L	P344569	
1989090	EPA 8321B	2,4-D	0.012		ug/L	P344412	
		Bentazon	0.0050		ug/L	P344412	
		MCP	0.0020	U	ug/L	P344412	
		Triclopyr**	0.0040	U	ug/L	P344412	
		Imidacloprid	0.010	J	ug/L	P344412	MS
		Diuron	0.11		ug/L	P344412	
		Pyraclostrobin**	0.0020	U	ug/L	P344412	
		Primidone**	0.0040	U	ug/L	P344412	
		Linuron	0.0040	U	ug/L	P344412	
		Acetaminophen**	0.0080	U	ug/L	P344412	
		Fenuron	0.016	U	ug/L	P344412	
		Imazapyr**	0.092		ug/L	P344412	
		Carbamazepine**	6.4E-04	I	ug/L	P344412	
		Fluridone**	0.0073		ug/L	P344412	
		Hydrocodone**	8.0E-04	U	ug/L	P344412	
		Sucralose**	0.10	U	ug/L	P344375	
		Glyphosate**	0.10	UJ	ug/L	P344375	MS, SUR
		AMPA**	0.10	UJ	ug/L	P344375	MS, SUR
		Endothal**	0.10	U	ug/L	P344375	
		Glufosinate**	0.10	UJ	ug/L	P344375	SUR
1989093	EPA 200.7 Rev. 4.4	Iron	110	I	ug/L	P344496	
		Zinc	15	U	ug/L	P344496	
	EPA 200.8 Rev. 5.4	Arsenic	2.86		ug/L	P344496	
		Cadmium	0.060	U	ug/L	P344496	
		Chromium	1.2	U	ug/L	P344496	
		Copper	1.6	I	ug/L	P344496	
		Lead	0.50	U	ug/L	P344496	
		Nickel	0.75	I	ug/L	P344496	
		Silver	0.030	U	ug/L	P344496	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes.

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

Sample Location: NORTH FORK SLR @ VETERANS MEMORIAL PARK Collection Date/Time: 05/01/2018 13:55

Field ID: G2SE0007 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G2SE0007 DUP

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989072	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P344506	
	SM 2320 B-97	Total Alkalinity	151		mg CaCO3/L	P345178	
	SM 2540 D-97	TSS	6	I	mg/L	P345187	
	SM 4500 F-C-97	Fluoride	0.74		mg F/L	P344920	
1989074	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P344871	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P344576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344800	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P344584	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P345109	
1989076	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P344569	
1989091	EPA 8321B	2,4-D	0.011		ug/L	P344412	
		Bentazon	0.0069		ug/L	P344412	
		MCP	0.0020	U	ug/L	P344412	
		Triclopyr**	0.0040	U	ug/L	P344412	
		Imidacloprid	0.0094		ug/L	P344412	MS
		Diuron	0.11		ug/L	P344412	
		Pyraclostrobin**	0.0020	U	ug/L	P344412	
		Primidone**	0.0040	U	ug/L	P344412	
		Linuron	0.0040	U	ug/L	P344412	
		Acetaminophen**	0.0080	U	ug/L	P344412	
		Fenuron	0.016	U	ug/L	P344412	
		Imazapyr**	0.097		ug/L	P344412	
		Carbamazepine**	7.1E-04	I	ug/L	P344412	
		Fluridone**	0.0083		ug/L	P344412	
		Hydrocodone**	8.0E-04	U	ug/L	P344412	
		Sucralose**	0.10	U	ug/L	P344375	
		Glyphosate**	0.10	UJ	ug/L	P344375	MS, SUR
		AMPA**	0.10	UJ	ug/L	P344375	MS, SUR
		Endothal**	0.10	U	ug/L	P344375	
		Glufosinate**	0.10	UJ	ug/L	P344375	SUR
1989094	EPA 200.7 Rev. 4.4	Iron	140	I	ug/L	P344496	
		Zinc	15	U	ug/L	P344496	
	EPA 200.8 Rev. 5.4	Arsenic	2.78		ug/L	P344496	
		Cadmium	0.060	U	ug/L	P344496	
		Chromium	1.2	U	ug/L	P345788	
		Copper	1.6	I	ug/L	P344496	
		Lead	0.50	U	ug/L	P344496	
		Nickel	0.60	U	ug/L	P345788	
		Silver	0.030	U	ug/L	P344496	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

Sample Location: NORTH FORK SLR @ MARKER 14

Collection Date/Time: 05/01/2018 14:20

Field ID: G2SE0042

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1989068	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P344506	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P345178	
	SM 2540 D-97	TSS	8	I	mg/L	P345187	
	SM 4500 F-C-97	Fluoride	0.86		mg F/L	P344920	
1989069	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P344871	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82		mg N/L	P344576	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P344800	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P344584	
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P345026	
1989070	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P344569	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P344506

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P344496

Component	Result	Code	Units
Iron	30	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P344496

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P345788

Component	Result	Code	Units
Chromium	0.40	U	ug/L
Nickel	0.20	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P344871

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344576

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344800

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344584

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344569

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

Reference Method: EPA 8321B
Batch ID: P344375

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P344412

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P345178

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

Reference Method: SM 2540 D-97
Batch ID: P345187

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344920

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P344774

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

Reference Method: SM 5310 B-00
Batch ID: P345026

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

Reference Method: SM 5310 B-00
Batch ID: P345109

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	95.7		P	85 - 115
Copper	97.9		P	85 - 115
Lead	96.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	102		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345788

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chromium	99.7		P	85 - 115
Nickel	101		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344871

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344576

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344800

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: P344584

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.3		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P344375

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	100		P	40 - 140
Endothall	103		P	40 - 140
Glufosinate	99.2		P	40 - 140
Glyphosate	94.7		P	40 - 140
Sucralose	100		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P344412

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	95.1		P	40 - 150
Acetaminophen	106		P	30 - 150
Bentazon	95.6		P	30 - 150
Carbamazepine	109		P	40 - 150
Diuron	97.6		P	40 - 150
Fenuron	127		P	40 - 150
Fluridone	98.6		P	40 - 150
Hydrocodone	123		P	40 - 150
Imazapyr	118		P	40 - 150
Imidacloprid	111		P	40 - 160
Linuron	103		P	40 - 150
MCPP	104		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	105		P	40 - 150
Triclopyr	110		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P345178

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

Reference Method: SM 4500 F-C-97
Batch ID: P344920

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344774

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

Reference Method: SM 5310 B-00
Batch ID: P345026

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

Reference Method: SM 5310 B-00
Batch ID: P345109

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

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987134	Iron	101	99.6	P/P	80 - 120
1987134	Zinc	102	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1987134	Arsenic	110	113	P/P	70 - 130
1987134	Cadmium	91.9	95.4	P/P	70 - 130
1987134	Chromium	89.8	91.2	P/P	70 - 130
1987134	Copper	95.6	93.7	P/P	70 - 130
1987134	Lead	102	101	P/P	70 - 130
1987134	Nickel	105	108	P/P	70 - 130
1987134	Silver	92.7	94.1	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345788

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1993496	Chromium	92.7	92.4	P/P	70 - 130
1993496	Nickel	119	120	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344871

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989063	Ammonia-N	105	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989197	Kjeldahl Nitrogen	98.0	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989063	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P344584

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989063	Total-P	95.8	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P344569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989064	O-Phosphate-P	92.8	94.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P344375

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988880	AMPA	29.7	27.5	F/F	40 - 140
1988880	Endothall	104	106	P/P	40 - 140
1988880	Glufosinate	102	102	P/P	40 - 140
1988880	Glyphosate	32.7	35.4	F/F	40 - 140
1988880	Sucralose	91.4	98.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P344412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989090	2,4-D	70.6	70.8	P/P	40 - 150
1989090	Acetaminophen	116	108	P/P	30 - 150
1989090	Bentazon	43.6	42.0	P/P	30 - 150
1989090	Carbamazepine	106	102	P/P	40 - 150
1989090	Diuron	95.0	81.7	P/P	40 - 150
1989090	Fenuron	109	106	P/P	40 - 150
1989090	Fluridone	87.2	85.7	P/P	40 - 150
1989090	Hydrocodone	140	136	P/P	40 - 150
1989090	Imazapyr	130	112	P/P	40 - 150
1989090	Imidacloprid	216	200	F/F	40 - 160
1989090	Linuron	94.2	88.9	P/P	40 - 150
1989090	MCPP	71.6	69.1	P/P	40 - 150
1989090	Primidone	119	102	P/P	40 - 150
1989090	Pyraclostrobin	94.4	92.7	P/P	40 - 150
1989090	Triclopyr	80.6	75.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344920

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989796	Fluoride	92.8	93.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P344774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988315	Organic Carbon	94.0	96.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P345026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1988324	Organic Carbon	94.2	92.9	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P345109

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1989104	Organic Carbon	94.3	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P344506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989023	Turbidity	0.402	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P344496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987134	Iron	1.14	Spike	P	0 - 20
1987134	Zinc	0.637	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P344496

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1987134	Arsenic	2.46	Spike	P	0 - 20
1987134	Cadmium	3.74	Spike	P	0 - 20
1987134	Chromium	1.48	Spike	P	0 - 20
1987134	Copper	1.84	Spike	P	0 - 20
1987134	Lead	1.50	Spike	P	0 - 20
1987134	Nickel	2.72	Spike	P	0 - 20
1987134	Silver	1.43	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P345788

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1993496	Chromium	0.295	Spike	P	0 - 20
1993496	Nickel	1.18	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344871

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989063	Ammonia-N	2.99	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P344576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989197	Kjeldahl Nitrogen	0.699	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P344800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989063	NO2NO3-N	0.480	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P344584

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989063	Total-P	2.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P344569

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989064	O-Phosphate-P	1.56	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P344375

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988880	AMPA	3.64	Spike	P	0 - 30
1988880	Endothall	2.49	Spike	P	0 - 30
1988880	Glufosinate	0.166	Spike	P	0 - 30
1988880	Glyphosate	6.83	Spike	P	0 - 30
1988880	Sucralose	7.21	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P344412

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989090	2,4-D	0.259	Spike	P	0 - 30
1989090	Acetaminophen	6.90	Spike	P	0 - 30
1989090	Bentazon	3.30	Spike	P	0 - 30
1989090	Carbamazepine	3.47	Spike	P	0 - 30
1989090	Diuron	6.04	Spike	P	0 - 30
1989090	Fenuron	2.24	Spike	P	0 - 30
1989090	Fluridone	1.54	Spike	P	0 - 30
1989090	Hydrocodone	3.08	Spike	P	0 - 30
1989090	Imazapyr	7.57	Spike	P	0 - 30
1989090	Imidacloprid	7.03	Spike	P	0 - 30
1989090	Linuron	5.82	Spike	P	0 - 30
1989090	MCP	3.58	Spike	P	0 - 30
1989090	Primidone	15.0	Spike	P	0 - 30
1989090	Pyraclostrobin	1.79	Spike	P	0 - 30
1989090	Triclopyr	5.92	Spike	P	0 - 30

Reference Method: SM 2320 B-97

Batch ID: P345178

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989796	Total Alkalinity	0.243	Sample	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 2540 D-97
Batch ID: P345187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989062	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P344920

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989796	Fluoride	0.480	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P344774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988315	Organic Carbon	1.88	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P345026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1988324	Organic Carbon	1.18	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P345109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1989104	Organic Carbon	0.778	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: 1989090
Field Sample ID: G2SE0007

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	59.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	99.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.9	P	30 - 160
EPA 8321B	Diuron-d6	72.1	P	30 - 160
EPA 8321B	Endothall-d6	127	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	40 - 160
EPA 8321B	Primidone-d5	101	P	30 - 160
EPA 8321B	Sucralose-d6	85.3	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1989091
Field Sample ID: G2SE0007 DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	63.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	101	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.8	P	30 - 160
EPA 8321B	Diuron-d6	71.4	P	30 - 160
EPA 8321B	Endothall-d6	96.8	P	50 - 160
EPA 8321B	Glyphosate 13C 15N	0.425	F	40 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Sucralose-d6	65.4	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A83605
Included Lab Sample IDs: 1989062, 1989065, 1989068, 1989071, 1989072

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A83633
Included Lab Sample IDs: 1989064, 1989067, 1989070, 1989075, 1989076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	95.0	96.6	P/P	90 - 110
O-Phosphate-P	95.7	95.0	P/P	90 - 110
O-Phosphate-P	98.1	95.7	P/P	90 - 110
O-Phosphate-P	98.7	98.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A83643
Included Lab Sample IDs: 1989092, 1989093, 1989094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	102	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Cadmium	96.5	97.9	P/P	90 - 110
Cadmium	97.6	96.5	P/P	90 - 110
Chromium	93.9	94.9	P/P	90 - 110
Chromium	95.8	93.9	P/P	90 - 110
Lead	96.5	96.6	P/P	90 - 110
Nickel	101	99.0	P/P	90 - 110
Nickel	99.0	99.8	P/P	90 - 110
Silver	97.4	98.8	P/P	90 - 110
Silver	99.4	97.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A83649
Included Lab Sample IDs: 1989092, 1989093, 1989094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83649

Included Lab Sample IDs: 1989092, 1989093, 1989094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	98.6	99.4	P/P	90 - 110
Zinc	97.5	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83665

Included Lab Sample IDs: 1989069, 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83682

Included Lab Sample IDs: 1989063, 1989066, 1989069, 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	97.6	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83699

Included Lab Sample IDs: 1989063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.7	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83710

Included Lab Sample IDs: 1989063, 1989066, 1989069, 1989073, 1989074

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A83713

Included Lab Sample IDs: 1989092, 1989093, 1989094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	99.5	97.4	P/P	90 - 110
Copper	99.6	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83729

Included Lab Sample IDs: 1989063, 1989066

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83734

Included Lab Sample IDs: 1989063, 1989066, 1989069, 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83734

Included Lab Sample IDs: 1989063, 1989066, 1989069, 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	104	P/P	90 - 110
Ammonia-N	99.7	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A83750

Included Lab Sample IDs: 1989062, 1989065, 1989068, 1989071, 1989072

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	99.0	P/P	90 - 110
Fluoride	98.1	97.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83769

Included Lab Sample IDs: 1989090, 1989091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	106	103	P/P	60 - 150
Acetaminophen	107	106	P/P	60 - 150
Carbamazepine	105	110	P/P	60 - 150
Carbamazepine	110	108	P/P	60 - 150
Diuron	113	113	P/P	60 - 150
Diuron	113	119	P/P	60 - 150
Fenuron	114	119	P/P	60 - 150
Fenuron	119	115	P/P	60 - 150
Fluridone	108	113	P/P	60 - 160
Fluridone	113	116	P/P	60 - 160
Hydrocodone	118	125	P/P	60 - 150
Hydrocodone	125	123	P/P	60 - 150
Imazapyr	103	117	P/P	50 - 150
Imazapyr	117	113	P/P	50 - 150
Imidacloprid	106	111	P/P	60 - 150
Imidacloprid	111	102	P/P	60 - 150
Linuron	106	109	P/P	60 - 150
Linuron	114	106	P/P	60 - 150
Primidone	100	114	P/P	60 - 150
Primidone	114	97.1	P/P	60 - 150
Pyraclostrobin	114	117	P/P	60 - 150
Pyraclostrobin	117	116	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A83798

Included Lab Sample IDs: 1989066, 1989069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.6	95.1	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83819

Included Lab Sample IDs: 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A83819

Included Lab Sample IDs: 1989073, 1989074

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	95.2	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A83837

Included Lab Sample IDs: 1989062, 1989065, 1989068, 1989071, 1989072

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83883

Included Lab Sample IDs: 1989090, 1989091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	119	115	P/P	50 - 150
2,4-D	123	110	P/P	50 - 150
Bentazon	124	127	P/P	50 - 150
Bentazon	125	119	P/P	50 - 150
MCPP	125	133	P/P	50 - 150
MCPP	126	117	P/P	50 - 150
Triclopyr	121	131	P/P	50 - 160
Triclopyr	129	124	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A83902

Included Lab Sample IDs: 1989090, 1989091

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	103	103	P/P	60 - 160
Endothall	104	109	P/P	60 - 160
Glufosinate	102	93.2	P/P	60 - 160
Glyphosate	95.8	94.1	P/P	60 - 160
Sucralose	122	93.8	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A84148

Included Lab Sample IDs: 1989094

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.1	97.9	P/P	90 - 110
Nickel	101	101	P/P	90 - 110

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

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				0.402	
EPA 200.7 Rev. 4.4	Iron	103	101 99.6			1.14
	Zinc	98.8	102 101			0.637
EPA 200.8 Rev. 5.4	Arsenic	103	110 113			2.46
	Cadmium	99.4	91.9 95.4			3.74
	Chromium	95.7	89.8 91.2			1.48
	Chromium	99.7	92.7 92.4			0.295
	Copper	97.9	95.6 93.7			1.84
	Lead	96.6	102 101			1.50
	Nickel	102	105 108			2.72
	Nickel	101	119 120			1.18
	Silver	100	92.7 94.1			1.43
EPA 350.1 Rev. 2.0	Ammonia-N	102	105 101			2.99
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.2	98.0 97.2			0.699
EPA 353.2 Rev. 2.0	NO2NO3-N	101	104 104			0.480
EPA 365.1 Rev. 2.0	Total-P	101	95.8 98.4			2.55
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.3	92.8 94.5			1.56
EPA 8321B	2,4-D	95.1	70.6 70.8			0.259
	Acetaminophen	106	116 108			6.90
	AMPA	100	29.7 27.5			3.64
	Bentazon	95.6	43.6 42.0			3.30
	Carbamazepine	109	106 102			3.47
	Diuron	97.6	95.0 81.7			6.04
	Endothall	103	104 106			2.49
	Fenuron	127	109 106			2.24
	Fluridone	98.6	87.2 85.7			1.54
	Glufosinate	99.2	102 102			0.166
	Glyphosate	94.7	32.7 35.4			6.83
	Hydrocodone	123	140 136			3.08
	Imazapyr	118	130 112			7.57
	Imidacloprid	111	216 200			7.03
	Linuron	103	94.2 88.9			5.82
	MCPP	104	71.6 69.1			3.58
	Primidone	107	119 102			15.0
	Pyraclostrobin	105	94.4 92.7			1.79
	Sucralose	100	91.4 98.3			7.21
	Triclopyr	110	80.6 75.9			5.92
SM 2320 B-97	Total Alkalinity	102			0.243	
SM 2540 D-97	TSS				7.41	
SM 4500 F-C-97	Fluoride	94.4	92.8 93.5			0.480
SM 5310 B-00	Organic Carbon	101	94.0 96.2			1.88
	Organic Carbon	100	94.2 92.9			1.18
	Organic Carbon	102	94.3 95.3			0.778

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1989062, 1989065, 1989068, 1989071, 1989072
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1989092, 1989093, 1989094
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1989092, 1989093, 1989094

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1989063, 1989066, 1989069, 1989073, 1989074
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1989063, 1989066, 1989069, 1989073, 1989074
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1989063, 1989066, 1989069, 1989073, 1989074
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1989063, 1989066, 1989069, 1989073, 1989074
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1989064, 1989067, 1989070, 1989075, 1989076
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1989090, 1989091
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1989062, 1989065, 1989068, 1989071, 1989072
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1989062, 1989065, 1989068, 1989071, 1989072
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1989062, 1989065, 1989068, 1989071, 1989072
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1989063, 1989066, 1989069, 1989073, 1989074

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	05/02/2018			05/02/2018 17:27	William L. Brown IV	1989062, 1989065, 1989068, 1989071, 1989072
EPA 200.7 Rev. 4.4	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 18:29	Betina Topolski	1989092
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 18:40	Betina Topolski	1989093
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 18:52	Betina Topolski	1989094
EPA 200.8 Rev. 5.4	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 19:57	Nadine Brooks	1989093
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 20:07	Nadine Brooks	1989094
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 20:26	Nadine Brooks	1989092
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 21:53	Nadine Brooks	1989093
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 22:12	Nadine Brooks	1989094
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/03/2018 23:19	Nadine Brooks	1989092
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/08/2018 00:59	Nadine Brooks	1989093
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/08/2018 01:05	Nadine Brooks	1989094
	05/02/2018	05/02/2018 17:25	Elliott D. Healy	05/08/2018 02:14	Nadine Brooks	1989092
	05/02/2018	05/23/2018 14:33	Allison Taylor	05/24/2018 22:44	Nadine Brooks	1989094
EPA 350.1 Rev. 2.0	05/02/2018			05/07/2018 12:54	Ping Hua	1989063
	05/02/2018			05/07/2018 13:04	Ping Hua	1989066
	05/02/2018			05/07/2018 13:06	Ping Hua	1989069
	05/02/2018			05/07/2018 13:07	Ping Hua	1989073
	05/02/2018			05/07/2018 13:09	Ping Hua	1989074
EPA 351.2 Rev. 2.0	05/02/2018	05/03/2018 13:30	Adrian Shelby	05/04/2018 15:54	Joseph Suarez	1989063
	05/02/2018	05/03/2018 13:30	Adrian Shelby	05/04/2018 15:56	Joseph Suarez	1989066
	05/02/2018	05/03/2018 13:30	Adrian Shelby	05/04/2018 15:58	Joseph Suarez	1989069
	05/02/2018	05/03/2018 13:30	Adrian Shelby	05/04/2018 15:59	Joseph Suarez	1989073
	05/02/2018	05/03/2018 13:30	Adrian Shelby	05/04/2018 16:01	Joseph Suarez	1989074
EPA 353.2 Rev. 2.0	05/02/2018			05/07/2018 12:59	Lauren Bottorf	1989063
	05/02/2018			05/07/2018 13:05	Lauren Bottorf	1989073
	05/02/2018			05/07/2018 13:07	Lauren Bottorf	1989074
	05/02/2018			05/07/2018 13:08	Lauren Bottorf	1989066
	05/02/2018			05/07/2018 13:09	Lauren Bottorf	1989069
EPA 365.1 Rev. 2.0	05/02/2018	05/03/2018 13:11	Sima Feizi	05/04/2018 11:05	Beverly Y. Sanders	1989069
	05/02/2018	05/03/2018 13:11	Sima Feizi	05/04/2018 11:06	Beverly Y. Sanders	1989073
	05/02/2018	05/03/2018 13:11	Sima Feizi	05/04/2018 11:07	Beverly Y. Sanders	1989074
	05/02/2018	05/03/2018 13:11	Sima Feizi	05/07/2018 11:46	Beverly Y. Sanders	1989063
	05/02/2018	05/03/2018 13:11	Sima Feizi	05/07/2018 11:47	Beverly Y. Sanders	1989066
EPA 365.1 Rev. 2.0 dissolved	05/02/2018			05/02/2018 14:52	Megan Treadwell	1989064
	05/02/2018			05/02/2018 15:04	Megan Treadwell	1989067
	05/02/2018			05/02/2018 17:04	Megan Treadwell	1989070
	05/02/2018			05/02/2018 17:10	Megan Treadwell	1989075
	05/02/2018			05/02/2018 17:11	Megan Treadwell	1989076

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/02/2018	05/03/2018 10:00	Hoor Shaik	05/06/2018 17:47	Juyoung Kim	1989090
	05/02/2018	05/03/2018 10:00	Hoor Shaik	05/07/2018 04:11	Juyoung Kim	1989091
	05/02/2018	05/03/2018 10:00	Hoor Shaik	05/09/2018 01:44	Juyoung Kim	1989090
	05/02/2018	05/03/2018 10:00	Hoor Shaik	05/09/2018 11:32	Juyoung Kim	1989091
	05/02/2018	05/03/2018 17:00	Hoor Shaik	05/04/2018 00:59	Juyoung Kim	1989090
	05/02/2018	05/03/2018 17:00	Hoor Shaik	05/04/2018 01:36	Juyoung Kim	1989091
SM 2320 B-97	05/02/2018			05/12/2018 06:37	Dale L. Simmons	1989062
	05/02/2018			05/12/2018 06:46	Dale L. Simmons	1989065
	05/02/2018			05/12/2018 06:53	Dale L. Simmons	1989068
	05/02/2018			05/12/2018 07:02	Dale L. Simmons	1989071
	05/02/2018			05/12/2018 07:10	Dale L. Simmons	1989072
SM 2540 D-97	05/02/2018			05/05/2018 23:12	Yijie Li	1989062, 1989065, 1989068, 1989071, 1989072
SM 4500 F-C-97	05/02/2018			05/08/2018 17:39	Dale L. Simmons	1989062
	05/02/2018			05/08/2018 18:26	Dale L. Simmons	1989065
	05/02/2018			05/08/2018 18:30	Dale L. Simmons	1989068
	05/02/2018			05/08/2018 18:34	Dale L. Simmons	1989071
	05/02/2018			05/08/2018 18:37	Dale L. Simmons	1989072
SM 5310 B-00	05/02/2018			05/05/2018 10:25	Julia Storbeck	1989063
	05/02/2018			05/10/2018 06:40	Megan Treadwell	1989066
	05/02/2018			05/10/2018 06:55	Megan Treadwell	1989069
	05/02/2018			05/11/2018 04:04	Julia Storbeck	1989073
	05/02/2018			05/11/2018 04:18	Julia Storbeck	1989074