

Chemical Analysis Report

CEN-DIST-2017-06-23-01

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

Event Description: **UnBranch 2641 + HA + D&B**
Request ID: **RQ-2017-06-12-46**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Liang Lin, Environmental Administrator

Date Certified: 17-JUL-2017 11:19

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: UNNAMED BRANCH @ 60M UPSTREAM OF AIRORT RD.

Collection Date/Time: 06/22/2017 11:25

Field ID: G5CE0084

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908573	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P327716	
		Sulfate	7.0		mg SO4/L	P327718	
	SM 2120 B	Color (true)	78		PCU	P327422	
	SM 2320 B-97	Total Alkalinity	100		mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	322	A	mg/L	P327834	
	SM 2540 D-97	TSS	3	IA	mg/L	P327876	
	SM 4500 F-C-97	Fluoride	0.058	I	mg F/L	P327621	RPD
1908574	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P327431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P327534	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P327604	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P327584	
1908575	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.050		mg P/L	P327426	
1908583	EPA 8321B	Sucralose**	0.089		ug/L	P327309	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327564	
		Diuron	0.0052		ug/L	P327564	
		Fenuron	0.0080	U	ug/L	P327564	MS, RPD
		Imidacloprid	0.016		ug/L	P327564	
		Bentazon	0.47		ug/L	P327564	
		Linuron	0.0040	U	ug/L	P327564	
		Acetaminophen**	0.0080	U	ug/L	P327564	
		MCP	0.0020	U	ug/L	P327564	
		Carbamazepine**	4.0E-04	U	ug/L	P327564	
		Triclopyr**	0.0040	U	ug/L	P327564	
		Primidone**	0.0040	U	ug/L	P327564	RPD
		Fluridone**	0.022		ug/L	P327564	

Ref. Method and Comment:

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

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: Accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: UNNAMED BRANCH @ 60M UPSTREAM OF AIRORT RD. DUP

Collection Date/Time: 06/22/2017 11:25

Field ID: G5CE0084 DUPLICATE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908570	EPA 180.1 Rev. 2.0	Turbidity	2.5		NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	79		mg Cl/L	P327716	
		Sulfate	7.0		mg SO4/L	P327718	
	SM 2120 B	Color (true)	77		PCU	P327422	
	SM 2320 B-97	Total Alkalinity	101	A	mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	310		mg/L	P327834	
	SM 2540 D-97	TSS	3	I	mg/L	P327876	

Field ID: G5CE0084 DUPLICATE

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908570	SM 4500 F-C-97	Fluoride	0.059	IJ	mg F/L	P327621	RPD
1908571	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P327431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P327439	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.058		mg N/L	P327604	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P327584	
1908572	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P327426	
1908582	EPA 8321B	Sucralose**	0.089		ug/L	P327309	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327564	
		Diuron	0.0046		ug/L	P327564	
		Fenuron	0.0080	U	ug/L	P327564	MS, RPD
		Imidacloprid	0.017		ug/L	P327564	
		Bentazon	0.56		ug/L	P327564	
		Linuron	0.0040	U	ug/L	P327564	
		Acetaminophen**	0.0080	U	ug/L	P327564	
		MCP	0.0020	U	ug/L	P327564	
		Carbamazepine**	4.0E-04	U	ug/L	P327564	
		Triclopyr**	0.0040	U	ug/L	P327564	
		Primidone**	0.0040	U	ug/L	P327564	RPD
		Fluridone**	0.024		ug/L	P327564	

Ref. Method and Comment:

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

SM 4500 F-C-97: Refer to the narrative for an explanation of QC Codes.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: Accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: FIELD BLANK

Collection Date/Time: 06/22/2017 12:10

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908567	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P327716	
		Sulfate	0.20	U	mg SO4/L	P327718	
	SM 2120 B	Color (true)	2.5	U	PCU	P327422	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	15	U	mg/L	P327834	
	SM 2540 D-97	TSS	2	U	mg/L	P327876	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P327621	RPD
1908568	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P327430	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P327437	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327604	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P327584	
1908569	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327426	
1908581	EPA 8321B	Sucralose**	0.010	U	ug/L	P327309	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327564	

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908581	USGS O-2060-01	Diuron	8.0E-04	U	ug/L	P327564	
		Fenuron	0.0080	U	ug/L	P327564	MS, RPD
		Imidacloprid	8.0E-04	U	ug/L	P327564	
		Bentazon	8.0E-04	U	ug/L	P327564	
		Linuron	0.0040	U	ug/L	P327564	
		Acetaminophen**	0.0080	U	ug/L	P327564	
		MCP	0.0020	U	ug/L	P327564	
		Carbamazepine**	4.0E-04	U	ug/L	P327564	
		Triclopyr**	0.0040	U	ug/L	P327564	
		Primidone**	0.0040	U	ug/L	P327564	RPD
		Fluridone**	4.0E-04	U	ug/L	P327564	
1908584	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P327482	
		Iron	30	U	ug/L	P327482	
		Magnesium	0.040	U	mg/L	P327482	
		Potassium	0.30	U	mg/L	P327482	
		Sodium	0.50	U	mg/L	P327482	
		Zinc	5.0	U	ug/L	P327482	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P327482	
		Cadmium	0.020	U	ug/L	P327482	
		Chromium	0.40	U	ug/L	P327482	
		Copper	0.52	I	ug/L	P327482	
		Lead	0.050	U	ug/L	P327482	
		Nickel	0.20	U	ug/L	P327482	
		Silver	0.010	U	ug/L	P327482	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 EPA 351.2 Rev. 2.0: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.
 SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
 EPA 8321B: Accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.
 EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 07/05/2017.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P327419

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327482

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327482

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	0.34		ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327430

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327437

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327439

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327534

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327470

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

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

Reference Method: EPA 8321B
Batch ID: P327309

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P327422

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327618

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

Reference Method: SM 2540 C-97
Batch ID: P327834

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327876

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327621

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
 Batch ID: P327584

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

Reference Method: USGS O-2060-01
 Batch ID: P327564

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	100		P	85 - 115
Sodium	101		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P327482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.2		P	85 - 115
Cadmium	99.2		P	85 - 115
Chromium	95.0		P	85 - 115
Copper	96.7		P	85 - 115
Lead	96.4		P	85 - 115
Nickel	97.8		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327716

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327430

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327437

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327439

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327534

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

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: P327470

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.9		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P327309

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	83.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P327618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P327621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327564

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.8		P	40 - 150
Acetaminophen	49.8		P	30 - 150
Bentazon	88.2		P	40 - 150
Carbamazepine	92.4		P	40 - 150
Diuron	95.2		P	40 - 150
Fenuron	82.0		P	40 - 150
Fluridone	96.0		P	40 - 150
Imidacloprid	77.8		P	40 - 160
Linuron	78.4		P	40 - 150
MCPP	84.6		P	40 - 150
Primidone	51.8		P	40 - 150
Triclopyr	79.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908126	Calcium	108		P	80 - 120
1908126	Iron	111		P	80 - 120
1908126	Magnesium	113		P	80 - 120
1908126	Potassium	104		P	80 - 120
1908126	Sodium	103		P	80 - 120
1908126	Zinc	105		P	80 - 120
1908510	Calcium	110		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908510	Iron	110	109	P/P	80 - 120
1908510	Magnesium	107		P	80 - 120
1908510	Potassium	103	104	P/P	80 - 120
1908510	Sodium	106		P	80 - 120
1908510	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908126	Arsenic	99.8		P	80 - 120
1908126	Cadmium	99.0		P	80 - 120
1908126	Chromium	93.8		P	80 - 120
1908126	Copper	96.6		P	80 - 120
1908126	Lead	97.4		P	80 - 120
1908126	Nickel	97.0		P	80 - 120
1908126	Silver	101		P	80 - 120
1908510	Arsenic	103	104	P/P	80 - 120
1908510	Cadmium	103	102	P/P	80 - 120
1908510	Chromium	94.5	94.5	P/P	80 - 120
1908510	Copper	96.1	97.6	P/P	80 - 120
1908510	Lead	99.4	98.7	P/P	80 - 120
1908510	Nickel	97.1	98.5	P/P	80 - 120
1908510	Silver	101	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908525	Chloride	96.7		P	90 - 110
1908634	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908525	Sulfate	99.2		P	90 - 110
1908634	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327430

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908428	Ammonia-N	99.8	99.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908501	Ammonia-N	94.6	93.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908571	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P327534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908795	Kjeldahl Nitrogen	100	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P327604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908516	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P327470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908637	Total-P	102	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908517	O-Phosphate-P	97.0	97.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97
 Batch ID: P327621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908570	Fluoride	96.4	100	P/P	91 - 105

Reference Method: USGS O-2060-01
 Batch ID: P327564

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908555	2,4-D	113	106	P/P	40 - 150
1908555	Acetaminophen	84.8	84.8	P/P	30 - 150
1908555	Bentazon	43.8	48.2	P/P	40 - 150
1908555	Carbamazepine	99.2	103	P/P	40 - 150
1908555	Diuron	60.4	68.4	P/P	40 - 150
1908555	Fenuron	159	87.6	F/P	40 - 150
1908555	Fluridone	50.6	57.4	P/P	40 - 150
1908555	Imidacloprid	68.4	107	P/P	40 - 160
1908555	Linuron	61.4	63.6	P/P	40 - 150
1908555	MCP	79.0	74.6	P/P	40 - 150
1908555	Primidone	58.6	89.8	P/P	40 - 150
1908555	Triclopyr	95.8	79.4	P/P	40 - 150

Quality Assurance Report Precision

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P327419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908522	Turbidity	1.56	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P327482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908510	Calcium	0.865	Spike	P	0 - 20
1908510	Iron	0.223	Spike	P	0 - 20
1908510	Magnesium	0.413	Spike	P	0 - 20
1908510	Potassium	0.428	Spike	P	0 - 20
1908510	Sodium	0.601	Spike	P	0 - 20
1908510	Zinc	0.491	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P327482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908510	Arsenic	0.937	Spike	P	0 - 20
1908510	Cadmium	0.173	Spike	P	0 - 20
1908510	Chromium	0.0337	Spike	P	0 - 20
1908510	Copper	1.59	Spike	P	0 - 20
1908510	Lead	0.697	Spike	P	0 - 20
1908510	Nickel	1.43	Spike	P	0 - 20
1908510	Silver	0.127	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908525	Chloride	0.168	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908525	Sulfate	0.661	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P327430

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908428	Ammonia-N	0.259	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908501	Ammonia-N	0.680	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908527	Kjeldahl Nitrogen	2.94	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908571	Kjeldahl Nitrogen	0.570	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908795	Kjeldahl Nitrogen	0.899	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908516	NO2NO3-N	1.39	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908637	Total-P	6.64	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908517	O-Phosphate-P	0.821	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P327309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908246	Sucralose	4.67	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
 Batch ID: P327422

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908634	Color (true)	3.79	Sample	P	0 - 20

Reference Method: SM 2320 B-97
 Batch ID: P327618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908570	Total Alkalinity	0.482	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
 Batch ID: P327834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908573	TDS	2.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P327621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908570	Fluoride	3.23	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P327584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908500	Organic Carbon	0.0915	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P327564

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908555	2,4-D	5.29	Spike	P	0 - 30
1908555	Acetaminophen	0.0	Spike	P	0 - 30
1908555	Bentazon	2.18	Spike	P	0 - 30
1908555	Carbamazepine	3.76	Spike	P	0 - 30
1908555	Diuron	9.50	Spike	P	0 - 30
1908555	Fenuron	46.9	Spike	F	0 - 30
1908555	Fluridone	8.74	Spike	P	0 - 30
1908555	Imidacloprid	7.29	Spike	P	0 - 30
1908555	Linuron	3.52	Spike	P	0 - 30
1908555	MCP	5.73	Spike	P	0 - 30
1908555	Primidone	42.0	Spike	F	0 - 30
1908555	Triclopyr	18.7	Spike	P	0 - 30

* 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: 1908581
 Field Sample ID: FIELD BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	130	P	40 - 160
USGS O-2060-01	2,4-D-d3	72.0	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	69.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	118	P	30 - 160
USGS O-2060-01	Diuron-d6	118	P	30 - 160
USGS O-2060-01	Primidone-d5	72.5	P	30 - 150

Lab Sample ID: 1908582
 Field Sample ID: G5CE0084 DUPLICATE

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	135	P	40 - 160
USGS O-2060-01	2,4-D-d3	100	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	74.4	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	109	P	30 - 160
USGS O-2060-01	Diuron-d6	74.6	P	30 - 160
USGS O-2060-01	Primidone-d5	66.7	P	30 - 150

Lab Sample ID: 1908583
 Field Sample ID: G5CE0084

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	134	P	40 - 160
USGS O-2060-01	2,4-D-d3	91.0	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	85.3	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	107	P	30 - 160
USGS O-2060-01	Diuron-d6	66.2	P	30 - 160
USGS O-2060-01	Primidone-d5	75.9	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A77312
 Included Lab Sample IDs: 1908567, 1908570, 1908573

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

Reference Method: SM 2120 B
 Run ID: A77313
 Included Lab Sample IDs: 1908567, 1908570, 1908573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	98.8	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Run ID: A77317
 Included Lab Sample IDs: 1908569, 1908572, 1908575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77317

Included Lab Sample IDs: 1908569, 1908572, 1908575

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77320

Included Lab Sample IDs: 1908568, 1908571, 1908574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.4	97.0	P/P	90 - 110
Ammonia-N	96.7	96.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77352

Included Lab Sample IDs: 1908567, 1908570, 1908573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.3	P/P	90 - 110
Chloride	99.3	99.7	P/P	90 - 110
Sulfate	103	97.9	P/P	90 - 110
Sulfate	97.9	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77363

Included Lab Sample IDs: 1908571, 1908574

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77365

Included Lab Sample IDs: 1908568

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	98.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77373

Included Lab Sample IDs: 1908584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	106	P/P	95 - 105
Iron	103	103	P/P	95 - 105
Magnesium	103	102	P/P	95 - 105
Potassium	101	99.8	P/P	95 - 105
Sodium	101	103	P/P	95 - 105
Zinc	101	101	P/P	95 - 105

Reference Method: SM 5310 B-00

Run ID: A77378

Included Lab Sample IDs: 1908568, 1908571, 1908574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A77378

Included Lab Sample IDs: 1908568, 1908571, 1908574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.4	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77384

Included Lab Sample IDs: 1908568, 1908571, 1908574

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

Reference Method: SM 2320 B-97

Run ID: A77390

Included Lab Sample IDs: 1908567, 1908570, 1908573

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

Reference Method: SM 4500 F-C-97

Run ID: A77390

Included Lab Sample IDs: 1908567, 1908570, 1908573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.3	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77414

Included Lab Sample IDs: 1908581, 1908582, 1908583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	71.2	141	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77447

Included Lab Sample IDs: 1908568, 1908571

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	101	P/P	90 - 110
Kjeldahl Nitrogen	106	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77467

Included Lab Sample IDs: 1908574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77530

Included Lab Sample IDs: 1908584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.6	99.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77530

Included Lab Sample IDs: 1908584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	99.5	98.3	P/P	90 - 110
Chromium	95.9	93.3	P/P	90 - 110
Copper	98.2	98.8	P/P	90 - 110
Lead	96.1	96.3	P/P	90 - 110
Nickel	98.1	97.8	P/P	90 - 110
Silver	95.5	94.9	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A77687

Included Lab Sample IDs: 1908581, 1908582, 1908583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.0	94.0	P/P	50 - 150
Acetaminophen	82.0	72.4	P/P	60 - 150
Bentazon	86.4	102	P/P	50 - 150
Carbamazepine	94.4	94.8	P/P	60 - 150
Diuron	98.0	95.2	P/P	60 - 150
Fenuron	80.8	82.0	P/P	60 - 150
Fluridone	122	107	P/P	60 - 160
Imidacloprid	85.6	76.0	P/P	60 - 150
Linuron	88.0	86.0	P/P	60 - 150
MCPP	74.8	78.8	P/P	50 - 150
Primidone	81.2	74.0	P/P	60 - 150
Triclopyr	80.4	74.8	P/P	50 - 150

Reference Method: USGS O-2060-01

Run ID: A77714

Included Lab Sample IDs: 1908582, 1908583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	121	113	P/P	50 - 150

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.56	
EPA 200.7 Rev. 4.4	Calcium	105	108 110			0.865
	Iron	105	111 110 109			0.223
	Magnesium	103	113 107			0.413
	Potassium	100	104 103 104			0.428
	Sodium	101	103 106			0.601
	Zinc	103	105 102 102			0.491
EPA 200.8 Rev. 5.4	Arsenic	99.2	99.8 103 104			0.937
	Cadmium	99.2	99.0 103 102			0.173

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 200.8 Rev. 5.4	Chromium	95.0	93.8	94.5	94.5		0.0337
	Copper	96.7	96.6	96.1	97.6		1.59
	Lead	96.4	97.4	99.4	98.7		0.697
	Nickel	97.8	97.0	97.1	98.5		1.43
	Silver	100	101	101	101		0.127
EPA 300.0 Rev. 2.1	Chloride	98.1	96.7	98.6		0.168	
	Sulfate	97.3	99.2	99.2		0.661	
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.8	99.6			0.259
	Ammonia-N	99.4	94.6	93.8			0.680
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102					2.94
	Kjeldahl Nitrogen	108	101	102			0.570
	Kjeldahl Nitrogen	102	100	99.4			0.899
EPA 353.2 Rev. 2.0	NO2NO3-N	102	105	104			1.39
EPA 365.1 Rev. 2.0	Total-P	99.3	102	95.1			6.64
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9	97.0	97.8			0.821
EPA 8321B	Sucralose	83.0					4.67
SM 2120 B	Color (true)					3.79	
SM 2320 B-97	Total Alkalinity	104				0.482	
SM 2540 C-97	TDS					2.80	
SM 4500 F-C-97	Fluoride	95.8	96.4	100			3.23
SM 5310 B-00	Organic Carbon	94.6					0.0915
USGS O-2060-01	2,4-D	78.8	113	106			5.29
	Acetaminophen	49.8	84.8	84.8			0.0
	Bentazon	88.2	43.8	48.2			2.18
	Carbamazepine	92.4	99.2	103			3.76
	Diuron	95.2	60.4	68.4			9.50
	Fenuron	82.0	159	87.6			46.9
	Fluridone	96.0	50.6	57.4			8.74
	Imidacloprid	77.8	68.4	107			7.29
	Linuron	78.4	61.4	63.6			3.52
	MCPP	84.6	79.0	74.6			5.73
	Primidone	51.8	58.6	89.8			42.0
	Triclopyr	79.0	95.8	79.4			18.7

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1908567, 1908570, 1908573
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1908584
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1908584
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1908567, 1908570, 1908573
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1908567, 1908570, 1908573
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1908568, 1908571, 1908574
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1908568, 1908571, 1908574
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1908568, 1908571, 1908574
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1908568, 1908571, 1908574

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1908569, 1908572, 1908575
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1908581, 1908582, 1908583
SM 2120 B / E31780	True Color measured at 450 nm	1908567, 1908570, 1908573
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1908567, 1908570, 1908573
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1908567, 1908570, 1908573
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1908567, 1908570, 1908573
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1908567, 1908570, 1908573
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1908568, 1908571, 1908574
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1908581, 1908582, 1908583
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1908581, 1908582, 1908583

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/23/2017			06/23/2017 15:11	DeAsia Armster	1908567, 1908570, 1908573
EPA 200.7 Rev. 4.4	06/23/2017	06/26/2017	Elliott D. Healy	06/27/2017	Betina Topolski	1908584
EPA 200.8 Rev. 5.4	06/23/2017	06/26/2017	Elliott D. Healy	07/05/2017	Nadine Brooks	1908584
EPA 300.0 Rev. 2.1	06/23/2017			06/28/2017	Ping Hua	1908567, 1908570, 1908573
EPA 350.1 Rev. 2.0	06/23/2017			06/23/2017	Sofia Elnemr	1908568, 1908571, 1908574
EPA 351.2 Rev. 2.0	06/23/2017	06/26/2017	Adrian Shelby	06/30/2017	Joseph Suarez	1908568, 1908571
	06/23/2017	06/27/2017	Adrian Shelby	06/30/2017	Joseph Suarez	1908574
EPA 353.2 Rev. 2.0	06/23/2017			06/28/2017	Beverly Y. Sanders	1908568, 1908571, 1908574
EPA 365.1 Rev. 2.0	06/23/2017	06/26/2017	Vijayalakshmi Reddy	06/27/2017	Lipi Saha	1908568, 1908571, 1908574
EPA 365.1 Rev. 2.0 dissolved	06/23/2017			06/23/2017 15:31	Anthony C. Onicha	1908569
	06/23/2017			06/23/2017 15:32	Anthony C. Onicha	1908572, 1908575
EPA 8321B	06/23/2017	06/28/2017	Mohammad Ghaffari	06/28/2017	Mohammad Ghaffari	1908581, 1908582, 1908583
SM 2120 B	06/23/2017			06/23/2017 15:13	Tanya Welborn	1908567, 1908570
	06/23/2017			06/23/2017 15:14	Tanya Welborn	1908573
SM 2320 B-97	06/23/2017			06/28/2017	Dale L. Simmons	1908567, 1908570, 1908573
SM 2540 C-97	06/23/2017			06/28/2017	Yijie Li	1908567, 1908570, 1908573
SM 2540 D-97	06/23/2017			06/28/2017	Yijie Li	1908567, 1908570, 1908573
SM 4500 F-C-97	06/23/2017			06/27/2017	Dale L. Simmons	1908570
	06/23/2017			06/28/2017	Dale L. Simmons	1908567, 1908573
SM 5310 B-00	06/23/2017			06/27/2017	Ping Hua	1908568, 1908571, 1908574
USGS O-2060-01	06/23/2017	06/28/2017	Hoor Shaik	07/10/2017	Juyoung Kim	1908581, 1908582, 1908583
	06/23/2017	06/28/2017	Hoor Shaik	07/11/2017	Juyoung Kim	1908582, 1908583