

Chemical Analysis Report

NE-DIST-2018-01-23-01

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

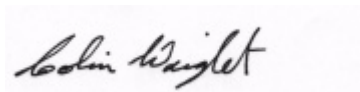
Event Description: **LSJR Coast**
Request ID: **RQ-2018-01-15-25**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

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: Colin Wright, Program Administrator

Date Certified: 14-FEB-2018 10:43

A handwritten signature in black ink, appearing to read "Colin Wright", is written 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: Sisters Creek @ Heckscher Dr.

Collection Date/Time: 01/22/2018 13:05

Field ID: 20030491

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961035	EPA 180.1 Rev. 2.0	Turbidity	6.0	A	NTU	P338648	
	SM 2320 B-97	Total Alkalinity	90		mg CaCO3/L	P338927	
	SM 2540 D-97	TSS	8	I	mg/L	P338979	
	SM 4500 F-C-97	Fluoride	0.75		mg F/L	P339308	
1961037	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P338944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P338904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P338854	
	EPA 365.1 Rev. 2.0	Total-P	0.073		mg P/L	P338834	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P338924	
1961039	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P338657	
1961084	EPA 200.7 Rev. 4.4	Iron	340	I	ug/L	P339023	
	EPA 200.8 Rev. 5.4	Arsenic	2.28		ug/L	P339023	
		Cadmium	0.060	U	ug/L	P339023	
		Chromium	1.2	U	ug/L	P339023	
		Copper	0.68	I	ug/L	P339023	
		Lead	0.35	I	ug/L	P339023	
		Nickel	0.60	U	ug/L	P339023	
		Silver	0.030	U	ug/L	P339023	
		Zinc	3.0	U	ug/L	P339023	

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: Greenfield Creek @ end of Buccaneer

Collection Date/Time: 01/22/2018 12:05

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961041	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P338648	
	SM 2320 B-97	Total Alkalinity	87		mg CaCO3/L	P338927	
	SM 2540 D-97	TSS	10	I	mg/L	P338979	
	SM 4500 F-C-97	Fluoride	0.70		mg F/L	P339308	
1961044	EPA 350.1 Rev. 2.0	Ammonia-N	0.036		mg N/L	P338944	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P338904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P338854	
	EPA 365.1 Rev. 2.0	Total-P	0.080		mg P/L	P338834	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P338924	
1961047	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.052		mg P/L	P338657	
1961080	EPA 8321B	Sucralose**	0.46		ug/L	P338457	
	USGS O-2060-01	2,4-D	0.015		ug/L	P338652	
		Diuron	0.0097		ug/L	P338652	
		Fenuron	0.0080	U	ug/L	P338652	
		Imidacloprid	0.012		ug/L	P338652	MS
		Bentazon	0.0064		ug/L	P338652	
		Linuron	0.0040	U	ug/L	P338652	
		Acetaminophen**	0.0080	U	ug/L	P338652	

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961080	USGS O-2060-01	MCP	0.0020	U	ug/L	P338652	
		Carbamazepine**	0.0012	I	ug/L	P338652	
		Triclopyr**	0.0040	U	ug/L	P338652	
		Primidone**	0.0040	U	ug/L	P338652	
		Fluridone**	0.0023		ug/L	P338652	

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: Greenfield Creek @ Wonderwood Dr.

Collection Date/Time: 01/22/2018 11:45

Field ID: G2NE1137

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961042	EPA 180.1 Rev. 2.0	Turbidity	4.8		NTU	P338648	
	SM 2320 B-97	Total Alkalinity	91		mg CaCO3/L	P338927	
	SM 2540 D-97	TSS	6	I	mg/L	P338979	
	SM 4500 F-C-97	Fluoride	0.70		mg F/L	P339308	
1961045	EPA 350.1 Rev. 2.0	Ammonia-N	0.046		mg N/L	P339039	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P338904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P338854	
	EPA 365.1 Rev. 2.0	Total-P	0.071		mg P/L	P338834	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P338924	
1961048	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.052		mg P/L	P338657	
1961081	EPA 8321B	Sucralose**	0.54		ug/L	P338457	
	USGS O-2060-01	2,4-D	0.014		ug/L	P338652	
		Diuron	0.010		ug/L	P338652	
		Fenuron	0.0080	U	ug/L	P338652	
		Imidacloprid	0.011		ug/L	P338652	MS
		Bentazon	0.0093		ug/L	P338652	
		Linuron	0.0040	U	ug/L	P338652	
		Acetaminophen**	0.0080	U	ug/L	P338652	
		MCP	0.0020	U	ug/L	P338652	
		Carbamazepine**	9.7E-04	I	ug/L	P338652	
		Triclopyr**	0.0040	U	ug/L	P338652	
		Primidone**	0.0040	U	ug/L	P338652	
		Fluridone**	0.0047		ug/L	P338652	

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: Sherman Creek @ confl. Sanpablo

Collection Date/Time: 01/22/2018 12:45

Field ID: 20030802

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961043	EPA 180.1 Rev. 2.0	Turbidity	5.3		NTU	P338648	
	SM 2320 B-97	Total Alkalinity	92		mg CaCO3/L	P338927	
	SM 2540 D-97	TSS	9	I	mg/L	P338979	
	SM 4500 F-C-97	Fluoride	0.83		mg F/L	P339308	

Field ID: 20030802

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961046	EPA 350.1 Rev. 2.0	Ammonia-N	0.030		mg N/L	P339039	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P338904	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P338854	
	EPA 365.1 Rev. 2.0	Total-P	0.068		mg P/L	P338834	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P339032	
1961049	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P338657	
1961082	EPA 8321B	Sucralose**	0.40		ug/L	P338457	
	USGS O-2060-01	2,4-D	0.013		ug/L	P338652	
		Diuron	0.0079	I	ug/L	P338652	
		Fenuron	0.0080	U	ug/L	P338652	
		Imidacloprid	0.0094		ug/L	P338652	MS
		Bentazon	0.0058		ug/L	P338652	
		Linuron	0.0040	U	ug/L	P338652	
		Acetaminophen**	0.0080	U	ug/L	P338652	
		MCP	0.0020	U	ug/L	P338652	
		Carbamazepine**	8.8E-04	I	ug/L	P338652	
		Triclopyr**	0.0040	U	ug/L	P338652	
		Primidone**	0.0040	U	ug/L	P338652	
		Fluridone**	0.0017		ug/L	P338652	

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: Sherman Creek @ A1A Bridge

Collection Date/Time: 01/22/2018 12:35

Field ID: 27010002

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961083	EPA 8321B	Sucralose**	0.42		ug/L	P338457	
	USGS O-2060-01	2,4-D	0.012		ug/L	P338652	
		Diuron	0.0087		ug/L	P338652	
		Fenuron	0.0080	U	ug/L	P338652	
		Imidacloprid	0.0095		ug/L	P338652	MS
		Bentazon	0.0053		ug/L	P338652	
		Linuron	0.0040	U	ug/L	P338652	
		Acetaminophen**	0.0080	U	ug/L	P338652	
		MCP	0.0020	U	ug/L	P338652	
		Carbamazepine**	0.0011	I	ug/L	P338652	
		Triclopyr**	0.0040	U	ug/L	P338652	
		Primidone**	0.0040	U	ug/L	P338652	
		Fluridone**	0.0017		ug/L	P338652	

Sample Location: Blank 01222018

Collection Date/Time: 01/22/2018 13:00

Field ID: BLANK01222018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961036	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P338648	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P338925	

Field ID: BLANK01222018

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1961036	SM 2540 D-97	TSS	2	U	mg/L	P338978	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P339357	
1961038	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P339036	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P338826	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P338715	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P338797	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P339030	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P338655	
1961040	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P338723	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P338723	
		Cadmium	0.020	U	ug/L	P338723	
		Chromium	0.40	U	ug/L	P338723	
		Copper	0.20	U	ug/L	P338723	
		Lead	0.050	U	ug/L	P338723	
		Nickel	0.20	U	ug/L	P338723	
		Silver	0.010	U	ug/L	P338723	
		Zinc	1.0	U	ug/L	P339084	

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P338648

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P338723

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P339023

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P338723

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338723

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339023

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
Zinc	1.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Component	Result	Code	Units
Zinc	1.0	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338944

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339036

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339039

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338826

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338904

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: P338715

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338854

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338834

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338655

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338657

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

Reference Method: EPA 8321B
Batch ID: P338457

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P338925

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

Reference Method: SM 2320 B-97
Batch ID: P338927

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P338978

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P338979

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P339308

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P339357

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P338924

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

Reference Method: SM 5310 B-00
Batch ID: P339030

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

Reference Method: SM 5310 B-00
Batch ID: P339032

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

Reference Method: USGS O-2060-01
Batch ID: P338652

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	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P338652

Component	Result	Code	Units
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: P338723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339023

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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	107		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	104		P	85 - 115
Copper	104		P	85 - 115
Lead	101		P	85 - 115
Nickel	106		P	85 - 115
Silver	99.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339023

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	101		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	103		P	85 - 115
Copper	97.7		P	85 - 115
Lead	103		P	85 - 115
Nickel	99.6		P	85 - 115
Silver	97.3		P	85 - 115
Zinc	98.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Zinc	97.8		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338944

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: P339036

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339039

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338826

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.5		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338904

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338715

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338854

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: P338797

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338834

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338655

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338657

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

Reference Method: EPA 8321B
Batch ID: P338457

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	97.4		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P338925

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P338927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.5		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P339308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P339357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P338924

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.7		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P339030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.8		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P339032

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338652

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	73.4		P	40 - 150
Acetaminophen	101		P	30 - 150
Bentazon	80.2		P	30 - 150
Carbamazepine	101		P	40 - 150
Diuron	86.8		P	40 - 150
Fenuron	120		P	40 - 150
Fluridone	118		P	40 - 150
Imidacloprid	111		P	40 - 160
Linuron	102		P	40 - 150
MCP	74.7		P	40 - 150
Primidone	120		P	40 - 150
Triclopyr	77.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960974	Iron	101		P	80 - 120
1961028	Iron	103	104	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961911	Iron	102	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960974	Arsenic	106		P	80 - 120
1960974	Cadmium	101		P	80 - 120
1960974	Chromium	98.8		P	80 - 120
1960974	Copper	98.1		P	80 - 120
1960974	Lead	101		P	80 - 120
1960974	Nickel	98.4		P	80 - 120
1960974	Silver	96.7		P	80 - 120
1961028	Arsenic	103	104	P/P	80 - 120
1961028	Cadmium	101	101	P/P	80 - 120
1961028	Chromium	100	99.5	P/P	80 - 120
1961028	Copper	98.5	98.5	P/P	80 - 120
1961028	Lead	99.7	99.5	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961028	Nickel	101	101	P/P	80 - 120
1961028	Silver	98.4	98.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961911	Arsenic	103	108	P/P	70 - 130
1961911	Cadmium	88.7	94.1	P/P	70 - 130
1961911	Chromium	85.9	88.1	P/P	70 - 130
1961911	Copper	90.4	95.4	P/P	70 - 130
1961911	Lead	113	111	P/P	70 - 130
1961911	Nickel	96.8	102	P/P	70 - 130
1961911	Silver	84.2	89.4	P/P	70 - 130
1961911	Zinc	82.1	86.4	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1958726	Zinc	94.4		P	80 - 120
1960539	Zinc	99.1	99.8	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338944

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960070	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961167	Ammonia-N	97.9	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961164	Ammonia-N	102	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338826

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960984	Kjeldahl Nitrogen	97.0	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961045	Kjeldahl Nitrogen	103	98.3	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338715

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960984	NO2NO3-N	105	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338854

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961037	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338797

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961111	Total-P	101	96.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338834

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960635	Total-P	92.7	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960999	O-Phosphate-P	100	99.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961039	O-Phosphate-P	97.0	101	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P338457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960487	Sucralose	97.9	93.1	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P339308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961888	Fluoride	96.5	97.9	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P339357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961110	Fluoride	96.5	97.1	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P338924

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960172	Organic Carbon	93.4	94.3	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P339030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1960984	Organic Carbon	101	102	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P339032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961046	Organic Carbon	94.0	96.8	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P338652

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1961018	2,4-D	66.3	70.6	P/P	40 - 150
1961018	Acetaminophen	126	129	P/P	30 - 150
1961018	Bentazon	48.0	53.8	P/P	30 - 150
1961018	Carbamazepine	101	105	P/P	40 - 150
1961018	Diuron	90.3	94.6	P/P	40 - 150
1961018	Fenuron	97.6	102	P/P	40 - 150
1961018	Fluridone	93.3	109	P/P	40 - 150
1961018	Imidacloprid	161	152	F/P	40 - 160
1961018	Linuron	100	105	P/P	40 - 150
1961018	MCP	54.1	59.0	P/P	40 - 150
1961018	Primidone	126	134	P/P	40 - 150
1961018	Triclopyr	52.7	58.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P338648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961035	Turbidity	0.503	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P338723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961028	Iron	0.811	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961911	Iron	0.709	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P338723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961028	Arsenic	0.543	Spike	P	0 - 20
1961028	Cadmium	0.200	Spike	P	0 - 20
1961028	Chromium	0.692	Spike	P	0 - 20
1961028	Copper	0.0537	Spike	P	0 - 20
1961028	Lead	0.175	Spike	P	0 - 20
1961028	Nickel	0.389	Spike	P	0 - 20
1961028	Silver	0.253	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961911	Arsenic	5.23	Spike	P	0 - 20
1961911	Cadmium	5.92	Spike	P	0 - 20
1961911	Chromium	2.54	Spike	P	0 - 20
1961911	Copper	5.13	Spike	P	0 - 20
1961911	Lead	1.07	Spike	P	0 - 20
1961911	Nickel	5.60	Spike	P	0 - 20
1961911	Silver	6.05	Spike	P	0 - 20
1961911	Zinc	5.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339084

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960539	Zinc	0.631	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P338944

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960070	Ammonia-N	0.389	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961167	Ammonia-N	2.11	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961164	Ammonia-N	0.0940	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960984	Kjeldahl Nitrogen	0.331	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P338904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961045	Kjeldahl Nitrogen	3.68	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338715

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960984	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P338854

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961037	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338797

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961111	Total-P	4.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P338834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960635	Total-P	2.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960999	O-Phosphate-P	0.903	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P338657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961039	O-Phosphate-P	2.46	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P338457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960487	Sucralose	4.82	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P338925

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961484	Total Alkalinity	2.76	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P338927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1959556	Total Alkalinity	0.0367	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P339308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961888	Fluoride	0.993	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P339357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961110	Fluoride	0.519	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P338924

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960172	Organic Carbon	0.720	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P339030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1960984	Organic Carbon	0.731	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P339032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961046	Organic Carbon	2.26	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P338652

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1961018	2,4-D	5.02	Spike	P	0 - 30
1961018	Acetaminophen	1.96	Spike	P	0 - 30
1961018	Bentazon	8.95	Spike	P	0 - 30
1961018	Carbamazepine	4.08	Spike	P	0 - 30
1961018	Diuron	4.67	Spike	P	0 - 30
1961018	Fenuron	4.52	Spike	P	0 - 30
1961018	Fluridone	9.64	Spike	P	0 - 30
1961018	Imidacloprid	5.57	Spike	P	0 - 30
1961018	Linuron	4.58	Spike	P	0 - 30
1961018	MCP	8.58	Spike	P	0 - 30
1961018	Primidone	6.61	Spike	P	0 - 30
1961018	Triclopyr	9.47	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: 1961080
Field Sample ID: G2NE1154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	109	P	30 - 160
EPA 8321B	Diuron-d6	93.4	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	93.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	110	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	119	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	109	P	30 - 160
USGS O-2060-01	Diuron-d6	93.4	P	30 - 160
USGS O-2060-01	Primidone-d5	112	P	30 - 160
USGS O-2060-01	Sucralose-d6	93.6	P	40 - 160

Lab Sample ID: 1961081
Field Sample ID: G2NE1137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	123	P	30 - 160
EPA 8321B	Carbamazepine-d10	116	P	30 - 160
EPA 8321B	Diuron-d6	98.0	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1961081
Field Sample ID: G2NE1137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	106	P	40 - 160
USGS O-2060-01	2,4-D-d3	112	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	123	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	116	P	30 - 160
USGS O-2060-01	Diuron-d6	98.0	P	30 - 160
USGS O-2060-01	Primidone-d5	112	P	30 - 160
USGS O-2060-01	Sucralose-d6	106	P	40 - 160

Lab Sample ID: 1961082
Field Sample ID: 20030802

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	108	P	30 - 160
EPA 8321B	Diuron-d6	89.0	P	30 - 160
EPA 8321B	Primidone-d5	116	P	30 - 160
EPA 8321B	Sucralose-d6	93.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	116	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	118	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	108	P	30 - 160
USGS O-2060-01	Diuron-d6	89.0	P	30 - 160
USGS O-2060-01	Primidone-d5	116	P	30 - 160
USGS O-2060-01	Sucralose-d6	93.1	P	40 - 160

Lab Sample ID: 1961083
Field Sample ID: 27010002

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	114	P	30 - 160
EPA 8321B	Diuron-d6	91.0	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	40 - 160
USGS O-2060-01	2,4-D-d3	105	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	105	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	114	P	30 - 160
USGS O-2060-01	Diuron-d6	91.0	P	30 - 160
USGS O-2060-01	Primidone-d5	106	P	30 - 160
USGS O-2060-01	Sucralose-d6	104	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A81610
Included Lab Sample IDs: 1961035, 1961036, 1961041, 1961042, 1961043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A81611

Included Lab Sample IDs: 1961039, 1961040, 1961047, 1961048, 1961049

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.9	99.2	P/P	90 - 110
O-Phosphate-P	99.2	98.8	P/P	90 - 110
O-Phosphate-P	99.5	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81625

Included Lab Sample IDs: 1961038

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A81658

Included Lab Sample IDs: 1961085

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A81666

Included Lab Sample IDs: 1961037, 1961044, 1961045, 1961046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A81671

Included Lab Sample IDs: 1961080, 1961081, 1961082, 1961083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	78.1	91.0	P/P	50 - 150
2,4-D	91.0	89.0	P/P	50 - 150
Acetaminophen	104	113	P/P	60 - 150
Bentazon	109	108	P/P	50 - 150
Bentazon	97.8	109	P/P	50 - 150
Carbamazepine	114	112	P/P	60 - 150
Diuron	117	117	P/P	60 - 150
Fenuron	113	110	P/P	60 - 150
Fluridone	124	121	P/P	60 - 160
Imidacloprid	104	106	P/P	60 - 150
Linuron	118	110	P/P	60 - 150
MCPP	91.5	97.8	P/P	50 - 150
MCPP	97.8	97.5	P/P	50 - 150
Primidone	108	114	P/P	60 - 150
Triclopyr	92.4	98.7	P/P	50 - 150
Triclopyr	98.7	105	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81683

Included Lab Sample IDs: 1961085

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	105	104	P/P	90 - 110
Cadmium	99.2	100	P/P	90 - 110
Chromium	101	103	P/P	90 - 110
Copper	104	103	P/P	90 - 110
Lead	99.5	99.3	P/P	90 - 110
Nickel	104	103	P/P	90 - 110
Silver	101	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A81689

Included Lab Sample IDs: 1961035, 1961036, 1961041, 1961042, 1961043

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.2	99.3	P/P	90 - 110
Total Alkalinity	99.4	97.3	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A81692

Included Lab Sample IDs: 1961037, 1961044, 1961045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81694

Included Lab Sample IDs: 1961038

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81704

Included Lab Sample IDs: 1961037, 1961044

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A81706

Included Lab Sample IDs: 1961037, 1961044, 1961045, 1961046

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81718

Included Lab Sample IDs: 1961038

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A81724

Included Lab Sample IDs: 1961037, 1961044, 1961045, 1961046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	108	P/P	90 - 110
Kjeldahl Nitrogen	108	108	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A81725

Included Lab Sample IDs: 1961080, 1961081, 1961082, 1961083

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	108	102	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A81738

Included Lab Sample IDs: 1961038, 1961046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	97.8	P/P	90 - 110
Organic Carbon	98.6	99.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A81740

Included Lab Sample IDs: 1961038, 1961045, 1961046

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A81771

Included Lab Sample IDs: 1961084

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	98.8	97.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A81833

Included Lab Sample IDs: 1961085

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

Reference Method: SM 4500 F-C-97

Run ID: A81839

Included Lab Sample IDs: 1961035, 1961041, 1961042, 1961043

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97
 Run ID: A81863
 Included Lab Sample IDs: 1961036

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

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A81882
 Included Lab Sample IDs: 1961084

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.1	99.0	P/P	90 - 110
Cadmium	92.9	96.0	P/P	90 - 110
Copper	94.5	98.1	P/P	90 - 110
Lead	100	97.0	P/P	90 - 110
Nickel	94.9	98.3	P/P	90 - 110
Silver	94.0	96.8	P/P	90 - 110
Zinc	94.0	97.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
 Run ID: A81914
 Included Lab Sample IDs: 1961084

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	98.0	98.3	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						0.503	
EPA 200.7 Rev. 4.4	Iron	104	101	103	104			0.811
	Iron	103	102	101				0.709
EPA 200.8 Rev. 5.4	Arsenic	107	106	103	104			0.543
	Arsenic	101	103	108				5.23
	Cadmium	100	101	101	101			0.200
	Cadmium	102	88.7	94.1				5.92
	Chromium	104	98.8	100	99.5			0.692
	Chromium	103	85.9	88.1				2.54
	Copper	104	98.1	98.5	98.5			0.0537
	Copper	97.7	90.4	95.4				5.13
	Lead	101	101	99.7	99.5			0.175
	Lead	103	113	111				1.07
	Nickel	106	98.4	101	101			0.389
	Nickel	99.6	96.8	102				5.60
	Silver	99.6	96.7	98.4	98.6			0.253
	Silver	97.3	84.2	89.4				6.05
	Zinc	98.0	82.1	86.4				5.05
	Zinc	97.8	94.4	99.1	99.8			0.631

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	103	103		0.389
	Ammonia-N	100	97.9	101		2.11
	Ammonia-N	101	102	102		0.0940
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.5	97.0	96.6		0.331
	Kjeldahl Nitrogen	98.1	103	98.3		3.68
EPA 353.2 Rev. 2.0	NO2NO3-N	104	105	105		0.0
	NO2NO3-N	102	100	100		0.0
EPA 365.1 Rev. 2.0	Total-P	98.9	101	96.6		4.47
	Total-P	97.8	92.7	95.3		2.48
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	100	99.2		0.903
	O-Phosphate-P	102	97.0	101		2.46
EPA 8321B	Sucralose	97.4	97.9	93.1		4.82
SM 2320 B-97	Total Alkalinity	99.4			2.76	
	Total Alkalinity	99.5			0.0367	
SM 4500 F-C-97	Fluoride	96.6	96.5	97.9		0.993
	Fluoride	97.5	96.5	97.1		0.519
SM 5310 B-00	Organic Carbon	96.7	93.4	94.3		0.720
	Organic Carbon	97.8	101	102		0.731
	Organic Carbon	98.8	94.0	96.8		2.26
USGS O-2060-01	2,4-D	73.4	70.6	66.3		5.02
	Acetaminophen	101	126	129		1.96
	Bentazon	80.2	53.8	48.0		8.95
	Carbamazepine	101	101	105		4.08
	Diuron	86.8	90.3	94.6		4.67
	Fenuron	120	97.6	102		4.52
	Fluridone	118	93.3	109		9.64
	Imidacloprid	111	161	152		5.57
	Linuron	102	100	105		4.58
	MCPP	74.7	59.0	54.1		8.58
	Primidone	120	126	134		6.61
	Triclopyr	77.7	58.0	52.7		9.47

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1961035, 1961036, 1961041, 1961042, 1961043
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1961084, 1961085
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1961084, 1961085
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1961037, 1961038, 1961044, 1961045, 1961046
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1961037, 1961038, 1961044, 1961045, 1961046
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1961037, 1961038, 1961044, 1961045, 1961046
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1961037, 1961038, 1961044, 1961045, 1961046
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1961039, 1961040, 1961047, 1961048, 1961049
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1961080, 1961081, 1961082, 1961083
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1961035, 1961036, 1961041, 1961042, 1961043

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1961035, 1961036, 1961041, 1961042, 1961043
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1961035, 1961036, 1961041, 1961042, 1961043
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1961037, 1961038, 1961044, 1961045, 1961046
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1961080, 1961081, 1961082, 1961083
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1961080, 1961081, 1961082, 1961083

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	01/23/2018			01/23/2018 15:16	DeAsia Armster	1961035, 1961036, 1961041, 1961042, 1961043
EPA 200.7 Rev. 4.4	01/23/2018	01/24/2018	Elliott D. Healy	01/25/2018	Betina Topolski	1961085
	01/23/2018	01/30/2018	Elliott D. Healy	01/31/2018	Betina Topolski	1961084
EPA 200.8 Rev. 5.4	01/23/2018	01/24/2018	Elliott D. Healy	01/26/2018	Nadine Brooks	1961085
	01/23/2018	01/30/2018	Elliott D. Healy	02/06/2018	Nadine Brooks	1961084
	01/23/2018	01/30/2018	Elliott D. Healy	02/07/2018	Nadine Brooks	1961084
	01/23/2018	01/31/2018	Elliott D. Healy	02/02/2018	Nadine Brooks	1961085
EPA 350.1 Rev. 2.0	01/23/2018			01/26/2018	Ping Hua	1961037, 1961044
	01/23/2018			01/30/2018	Julia Storbeck	1961038, 1961045, 1961046
EPA 351.2 Rev. 2.0	01/23/2018	01/26/2018	Adrian Shelby	01/29/2018	Joseph Suarez	1961038
	01/23/2018	01/29/2018	Adrian Shelby	01/30/2018	Joseph Suarez	1961037, 1961044, 1961045, 1961046
EPA 353.2 Rev. 2.0	01/23/2018			01/24/2018	Lauren Bottorf	1961038
	01/23/2018			01/26/2018	Beverly Y. Sanders	1961037, 1961044, 1961045, 1961046
EPA 365.1 Rev. 2.0	01/23/2018	01/25/2018	Sima Feizi	01/26/2018	Lipi Saha	1961038
	01/23/2018	01/26/2018	Sima Feizi	01/29/2018	Lipi Saha	1961037, 1961044, 1961045, 1961046
EPA 365.1 Rev. 2.0 dissolved	01/23/2018			01/23/2018 15:26	Megan Treadwell	1961039
	01/23/2018			01/23/2018 16:34	Megan Treadwell	1961040
	01/23/2018			01/23/2018 16:39	Megan Treadwell	1961047
	01/23/2018			01/23/2018 16:40	Megan Treadwell	1961048, 1961049
EPA 8321B	01/23/2018	01/25/2018	Juyoung Kim	01/26/2018	Juyoung Kim	1961080, 1961081, 1961082, 1961083
SM 2320 B-97	01/23/2018			01/27/2018	Lauren Bottorf	1961035, 1961036, 1961041, 1961042, 1961043
SM 2540 D-97	01/23/2018			01/24/2018	Yijie Li	1961035, 1961036, 1961041, 1961042, 1961043
SM 4500 F-C-97	01/23/2018			02/03/2018	Dale L. Simmons	1961035, 1961041, 1961042, 1961043
	01/23/2018			02/05/2018	Dale L. Simmons	1961036
SM 5310 B-00	01/23/2018			01/27/2018	Megan Treadwell	1961037, 1961044, 1961045
	01/23/2018			01/29/2018	Megan Treadwell	1961038
	01/23/2018			01/30/2018	Megan Treadwell	1961046
USGS O-2060-01	01/23/2018	01/24/2018	Hoor Shaik	01/25/2018	Julie Michelle Frank	1961080, 1961081, 1961082, 1961083