

Chemical Analysis Report

NW-DIST-2017-10-20-01

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

Event Description: **ENR D WBID 548GB 738 429**
Request ID: **RQ-2017-10-16-23**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 22-NOV-2017 10:15

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: 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: Dead River above Yellow River

Collection Date/Time: 10/19/2017 11:10

Field ID: G4NW0408

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939040	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P333792	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P333850	
		Sulfate	0.83		mg SO4/L	P333852	
	SM 2120 B	Color (true)	92		PCU	P333799	
	SM 2320 B-97	Total Alkalinity	8.1		mg CaCO3/L	P334018	
	SM 2540 C-97	TDS	35		mg/L	P334383	
	SM 2540 D-97	TSS	4	I	mg/L	P334372	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334462	
1939041	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P334165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P334174	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.074		mg N/L	P334099	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P334044	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P334357	
1939042	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P333816	MS

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: Blackwater Bay west of Escribano Point

Collection Date/Time: 10/19/2017 12:35

Field ID: G4NW0401

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939028	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P333791	
	SM 2320 B-97	Total Alkalinity	43		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	4	I	mg/L	P334377	
	SM 4500 F-C-97	Fluoride	0.37		mg F/L	P334022	
1939032	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P334163	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35	I	mg N/L	P334176	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.067		mg N/L	P334182	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P333999	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P334350	
1939036	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P333817	

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: Blackwater Bay west of Escribano Point

Collection Date/Time: 10/19/2017 12:35

Field ID: G4NW0401

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939052	EPA 8321B	Sucralose**	0.030	IJ	ug/L	P334171	MS
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335524	
		Diuron	8.0E-04	U	ug/L	P333766	
		Fenuron	0.0080	UQ	ug/L	P335524	
		Imidacloprid	0.0028	I	ug/L	P333766	MS
		Bentazon	8.0E-04	UQ	ug/L	P335524	

Field ID: G4NW0401

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939052	USGS O-2060-01	Linuron	0.0040	U	ug/L	P333766	
		Acetaminophen**	0.0080	U	ug/L	P333766	
		MCPP	0.0020	UQ	ug/L	P335524	
		Carbamazepine**	4.7E-04	IQ	ug/L	P335524	
		Triclopyr**	0.0040	UQ	ug/L	P335524	
		Primidone**	0.0040	U	ug/L	P333766	
		Fluridone**	4.0E-04	U	ug/L	P333766	

Ref. Method and Comment:

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

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

USGS O-2060-01: MS accuracy for fluridone could not be assessed due to high concentration of parameter in the spiked sample. Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

Sample Location: Blackwater Bay west of Escribano Point

Collection Date/Time: 10/19/2017 12:40

Field ID: G4NW0401DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939029	EPA 180.1 Rev. 2.0	Turbidity	2.5	A	NTU	P333792	
	SM 2320 B-97	Total Alkalinity	42		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	4	I	mg/L	P334377	
	SM 4500 F-C-97	Fluoride	0.36		mg F/L	P334022	
1939033	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P334163	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36	I	mg N/L	P334176	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.075		mg N/L	P334182	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P333999	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P334350	
1939037	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333817	

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: Field Blank

Collection Date/Time: 10/19/2017 12:45

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939030	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P333792	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P333927	
	SM 2540 D-97	TSS	2	U	mg/L	P334375	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P333928	
1939034	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P334165	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P334174	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334099	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P334044	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P334357	
1939038	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333816	MS

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: Texar Bayou

Collection Date/Time: 10/19/2017 14:05

Field ID: G4NW0402

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939031	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P333792	
	SM 2320 B-97	Total Alkalinity	55		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	4	IA	mg/L	P334377	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P334022	
1939035	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P334265	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I	mg N/L	P334176	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.20		mg N/L	P334182	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P334043	
	SM 5310 B-00	Organic Carbon	3.3		mg C/L	P334350	
1939039	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333817	

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: Texar Bayou

Collection Date/Time: 10/19/2017 14:05

Field ID: G4NW0402

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1939053	EPA 8321B	Sucralose**	0.044		ug/L	P334171	MS
	USGS O-2060-01	2,4-D	0.0031	IQ	ug/L	P335524	
		Diuron	0.0047		ug/L	P333766	
		Fenuron	0.0080	UQ	ug/L	P335524	
		Imidacloprid	0.012		ug/L	P333766	MS
		Bentazon	0.0030	IQ	ug/L	P335524	
		Linuron	0.0040	U	ug/L	P333766	
		Acetaminophen**	0.0080	U	ug/L	P333766	
		MCP	0.0020	UQ	ug/L	P335524	
		Carbamazepine**	6.6E-04	IQ	ug/L	P335524	
		Triclopyr**	0.0040	UQ	ug/L	P335524	
		Primidone**	0.0040	U	ug/L	P333766	
		Fluridone**	4.0E-04	U	ug/L	P333766	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

USGS O-2060-01: MS accuracy for fluridone could not be assessed due to high concentration of parameter in the spiked sample. Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P333791

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P333792

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333850

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333852

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334163

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334165

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334174

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334176

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334099

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334182

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333999

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334043

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334044

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333816

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333817

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

Reference Method: EPA 8321B
Batch ID: P334171

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P333799

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P333927

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

Reference Method: SM 2320 B-97
Batch ID: P334018

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P334019

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

Reference Method: SM 2540 C-97
Batch ID: P334383

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334372

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334375

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334377

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P334022

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P334350

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

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P334357

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

Reference Method: USGS O-2060-01
Batch ID: P333766

Component	Result	Code	Units
Acetaminophen	0.0080	U	ug/L
Diuron	8.0E-04	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335524

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333850

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333852

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334163

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334165

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	107		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334265

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334174

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: P334176

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334099

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: P334182

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333999

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334043

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334044

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333816

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333817

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

Reference Method: EPA 8321B
Batch ID: P334171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	94.2		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P333927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P334018

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P334019

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P334022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P334350

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P334357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.3		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P333766

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	80.5		P	30 - 150
Diuron	57.6		P	40 - 150
Fluridone	103		P	40 - 150
Imidacloprid	105		P	40 - 160
Linuron	111		P	40 - 150
Primidone	102		P	40 - 150

Reference Method: USGS O-2060-01
 Batch ID: P335524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.0		P	40 - 150
Bentazon	82.6		P	30 - 150
Carbamazepine	101		P	40 - 150
Fenuron	98.2		P	40 - 150
MCP	56.7		P	40 - 150
Triclopyr	61.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P333850

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938883	Chloride	96.1		P	90 - 110
1939076	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P333852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938883	Sulfate	95.7		P	90 - 110
1939076	Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P334163

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939032	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P334165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939041	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334265

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939606	Ammonia-N	108	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938993	Kjeldahl Nitrogen	96.7	94.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938931	Kjeldahl Nitrogen	96.1	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334099

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938952	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939100	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937005	Total-P	97.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334043

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939035	Total-P	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939078	Total-P	103	99.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938914	O-Phosphate-P	87.3	90.5	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939039	O-Phosphate-P	94.3	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P334171

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939052	Sucralose	36.0	37.6	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938577	Fluoride	96.8	98.0	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P334022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936842	Fluoride	96.7	98.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939076	Fluoride	98.6	102	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P334350

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937858	Organic Carbon	94.6	95.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P334357

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938951	Organic Carbon	93.8	94.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P333766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938977	Acetaminophen	95.0	107	P/P	30 - 150
1938977	Diuron	72.4	72.9	P/P	40 - 150
1938977	Imidacloprid	225	233	F/F	40 - 160
1938977	Linuron	97.9	103	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P333766

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938977	Primidone	97.8	107	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939073	2,4-D	57.5	55.7	P/P	40 - 150
1939073	Bentazon	61.8	56.7	P/P	30 - 150
1939073	Carbamazepine	75.4	72.0	P/P	40 - 150
1939073	Fenuron	80.2	70.6	P/P	40 - 150
1939073	MCP	47.1	40.2	P/P	40 - 150
1939073	Triclopyr	45.6	43.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938912	Turbidity	5.19	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333792

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939029	Turbidity	1.61	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P333850

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939076	Chloride	0.122	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939032	Ammonia-N	0.520	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939041	Ammonia-N	2.51	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334265

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939606	Ammonia-N	0.415	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938993	Kjeldahl Nitrogen	0.991	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938931	Kjeldahl Nitrogen	5.38	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334099

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938952	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939100	NO2NO3-N	0.394	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937005	Total-P	2.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334043

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939035	Total-P	0.406	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939078	Total-P	3.47	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938914	O-Phosphate-P	3.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939039	O-Phosphate-P	1.89	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P334171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939052	Sucralose	4.46	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P333799

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938990	Color (true)	4.07	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P333927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938577	Total Alkalinity	0.118	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P334018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939076	Total Alkalinity	0.334	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P334019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937855	Total Alkalinity	0.267	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P334383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938991	TDS	3.86	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P333928

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938577	Fluoride	0.982	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P334022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936842	Fluoride	0.986	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P334462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939076	Fluoride	2.95	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P334350

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937858	Organic Carbon	0.737	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P334357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938951	Organic Carbon	0.186	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P333766

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938977	Acetaminophen	11.5	Spike	P	0 - 30
1938977	Diuron	0.533	Spike	P	0 - 30
1938977	Fluridone	7.15	Spike	P	0 - 30
1938977	Imidacloprid	2.69	Spike	P	0 - 30
1938977	Linuron	5.06	Spike	P	0 - 30
1938977	Primidone	7.79	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P335524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939073	2,4-D	3.20	Spike	P	0 - 30
1939073	Bentazon	8.59	Spike	P	0 - 30
1939073	Carbamazepine	4.70	Spike	P	0 - 30
1939073	Fenuron	12.7	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P335524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939073	MCP	15.7	Spike	P	0 - 30
1939073	Triclopyr	3.84	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: 1939052
Field Sample ID: G4NW0401

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	92.4	P	30 - 160
EPA 8321B	Primidone-d5	129	P	30 - 160
EPA 8321B	Sucralose-d6	43.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	79.7	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	113	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	107	P	30 - 160
USGS O-2060-01	Diuron-d6	92.4	P	30 - 160
USGS O-2060-01	Primidone-d5	129	P	30 - 160
USGS O-2060-01	Sucralose-d6	43.2	P	40 - 160

Lab Sample ID: 1939053
Field Sample ID: G4NW0402

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	114	P	30 - 160
EPA 8321B	Diuron-d6	104	P	30 - 160
EPA 8321B	Primidone-d5	139	P	30 - 160
EPA 8321B	Sucralose-d6	42.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	68.4	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	113	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	114	P	30 - 160
USGS O-2060-01	Diuron-d6	104	P	30 - 160
USGS O-2060-01	Primidone-d5	139	P	30 - 160
USGS O-2060-01	Sucralose-d6	42.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79698
Included Lab Sample IDs: 1939028, 1939029, 1939030, 1939031, 1939040

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79698

Included Lab Sample IDs: 1939028, 1939029, 1939030, 1939031, 1939040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A79699

Included Lab Sample IDs: 1939040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	99.6	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79712

Included Lab Sample IDs: 1939036, 1939037, 1939038, 1939039, 1939042

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	94.2	97.8	P/P	90 - 110
O-Phosphate-P	97.8	98.6	P/P	90 - 110
O-Phosphate-P	98.6	102	P/P	90 - 110
O-Phosphate-P	98.6	96.3	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A79726

Included Lab Sample IDs: 1939040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	103	101	P/P	90 - 110
Sulfate	102	99.8	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A79765

Included Lab Sample IDs: 1939030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.6	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79765

Included Lab Sample IDs: 1939030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A79792

Included Lab Sample IDs: 1939028, 1939029, 1939031, 1939040

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	103	P/P	90 - 110
Total Alkalinity	99.7	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A79792

Included Lab Sample IDs: 1939028, 1939029, 1939031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79823

Included Lab Sample IDs: 1939034, 1939041

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79843

Included Lab Sample IDs: 1939032, 1939033, 1939034, 1939041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.7	P/P	90 - 110
Ammonia-N	99.6	100	P/P	90 - 110
Ammonia-N	99.7	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79849

Included Lab Sample IDs: 1939032, 1939033, 1939035

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79852

Included Lab Sample IDs: 1939032, 1939033, 1939034, 1939035, 1939041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	90 - 110
Total-P	103	98.0	P/P	90 - 110
Total-P	97.5	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79878

Included Lab Sample IDs: 1939035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79897

Included Lab Sample IDs: 1939032, 1939033, 1939034, 1939035, 1939041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	102	P/P	90 - 110
Kjeldahl Nitrogen	100	100	P/P	90 - 110
Kjeldahl Nitrogen	102	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79905

Included Lab Sample IDs: 1939052, 1939053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	117	118	P/P	60 - 150
Diuron	113	112	P/P	60 - 150
Fluridone	124	120	P/P	60 - 160
Imidacloprid	114	103	P/P	60 - 150
Linuron	119	118	P/P	60 - 150
Primidone	111	118	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A79911

Included Lab Sample IDs: 1939032, 1939033, 1939035

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.6	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79914

Included Lab Sample IDs: 1939034, 1939041

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.6	97.2	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79949

Included Lab Sample IDs: 1939040

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

Reference Method: EPA 8321B

Run ID: A79950

Included Lab Sample IDs: 1939052, 1939053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	87.6	92.0	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A80386

Included Lab Sample IDs: 1939052, 1939053

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	102	P/P	50 - 150
Bentazon	122	125	P/P	50 - 150
Carbamazepine	124	127	P/P	60 - 150
Fenuron	125	126	P/P	60 - 150
MCP	102	102	P/P	50 - 150
Triclopyr	99.5	101	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					5.19	
	Turbidity					1.61	
EPA 300.0 Rev. 2.1	Chloride	100	98.3	96.1		0.122	
	Sulfate	99.0	97.0	95.7			
EPA 350.1 Rev. 2.0	Ammonia-N	103	105	104			0.520
	Ammonia-N	107	103	106			2.51
	Ammonia-N	104	108	109			0.415
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.7	94.9			0.991
	Kjeldahl Nitrogen	99.6	96.1	103			5.38
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	104			0.0
	NO2NO3-N	103	104	103			0.394
EPA 365.1 Rev. 2.0	Total-P	103	97.7	100			2.32
	Total-P	104	103	103			0.406
	Total-P	104	103	99.1			3.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.6	87.3	90.5			3.60
	O-Phosphate-P	102	94.3	96.1			1.89
EPA 8321B	Sucralose	94.2	36.0	37.6			4.46
SM 2120 B	Color (true)					4.07	
SM 2320 B-97	Total Alkalinity	102				0.118	
	Total Alkalinity	101				0.334	
	Total Alkalinity	102				0.267	
SM 2540 C-97	TDS					3.86	
SM 4500 F-C-97	Fluoride	99.8	96.8	98.0			0.982
	Fluoride	96.0	96.7	98.1			0.986
	Fluoride	99.1	98.6	102			2.95
SM 5310 B-00	Organic Carbon	97.6	94.6	95.4			0.737
	Organic Carbon	96.3	93.8	94.1			0.186
USGS O-2060-01	2,4-D	78.0	57.5	55.7			3.20
	Acetaminophen	80.5	95.0	107			11.5
	Bentazon	82.6	61.8	56.7			8.59
	Carbamazepine	101	75.4	72.0			4.70
	Diuron	57.6	72.4	72.9			0.533
	Fenuron	98.2	80.2	70.6			12.7
	Fluridone	103					7.15
	Imidacloprid	105	225	233			2.69
	Linuron	111	97.9	103			5.06
	MCP	56.7	47.1	40.2			15.7
	Primidone	102	97.8	107			7.79
	Triclopyr	61.8	45.6	43.9			3.84

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1939028, 1939029, 1939030, 1939031, 1939040
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1939040
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1939040
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1939032, 1939033, 1939034, 1939035, 1939041
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1939032, 1939033, 1939034, 1939035, 1939041

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1939032, 1939033, 1939034, 1939035, 1939041
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1939032, 1939033, 1939034, 1939035, 1939041
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1939036, 1939037, 1939038, 1939039, 1939042
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1939052, 1939053
SM 2120 B / E31780	True Color measured at 450 nm	1939040
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1939028, 1939029, 1939030, 1939031, 1939040
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1939040
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1939028, 1939029, 1939030, 1939031, 1939040
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1939028, 1939029, 1939030, 1939031, 1939040
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1939032, 1939033, 1939034, 1939035, 1939041
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1939052, 1939053
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1939052, 1939053

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	10/20/2017			10/20/2017 15:20	DeAsia Armster	1939028, 1939029, 1939030, 1939031, 1939040
EPA 300.0 Rev. 2.1	10/20/2017			10/21/2017	Julia Storbeck	1939040
EPA 350.1 Rev. 2.0	10/20/2017			10/26/2017	Sofia Elnemr	1939032, 1939033, 1939034, 1939041
	10/20/2017			10/27/2017	Sofia Elnemr	1939035
EPA 351.2 Rev. 2.0	10/20/2017	10/27/2017	Adrian Shelby	10/30/2017	Tanya Welborn	1939032, 1939033, 1939034, 1939035, 1939041
EPA 353.2 Rev. 2.0	10/20/2017			10/26/2017	Beverly Y. Sanders	1939034, 1939041
	10/20/2017			10/27/2017	Beverly Y. Sanders	1939032, 1939033, 1939035
EPA 365.1 Rev. 2.0	10/20/2017	10/25/2017	Sima Feizi	10/27/2017	Lipi Saha	1939032, 1939033, 1939034, 1939035, 1939041
EPA 365.1 Rev. 2.0 dissolved	10/20/2017			10/20/2017 15:29	Megan Treadwell	1939039
	10/20/2017			10/20/2017 16:03	Megan Treadwell	1939036
	10/20/2017			10/20/2017 16:04	Megan Treadwell	1939037
	10/20/2017			10/20/2017 16:19	Megan Treadwell	1939042
	10/20/2017			10/20/2017 16:35	Megan Treadwell	1939038
EPA 8321B	10/20/2017	10/27/2017	Julie Michelle Frank	10/28/2017	Juyoung Kim	1939052, 1939053
SM 2120 B	10/20/2017			10/20/2017 15:03	Tanya Welborn	1939040
SM 2320 B-97	10/20/2017			10/24/2017	Dale L. Simmons	1939030, 1939040
	10/20/2017			10/25/2017	Dale L. Simmons	1939028, 1939029, 1939031
SM 2540 C-97	10/20/2017			10/25/2017	Yijie Li	1939040
SM 2540 D-97	10/20/2017			10/25/2017	Yijie Li	1939028, 1939029, 1939030, 1939031, 1939040
SM 4500 F-C-97	10/20/2017			10/24/2017	Dale L. Simmons	1939028, 1939029, 1939030, 1939031
	10/20/2017			10/31/2017	Dale L. Simmons	1939040
SM 5310 B-00	10/20/2017			10/30/2017	Ping Hua	1939034, 1939041
	10/20/2017			10/31/2017	Ping Hua	1939032, 1939033, 1939035
USGS O-2060-01	10/20/2017	10/25/2017	Hoor Shaik	10/30/2017	Julie Michelle Frank	1939052, 1939053
	10/20/2017	11/16/2017	Hoor Shaik	11/19/2017	Julie Michelle Frank	1939052, 1939053