

Chemical Analysis Report

NW-DIST-2017-10-18-01

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

Event Description: **ENR B WBID 778A 786 874A 754 843**

Request ID: **RQ-2017-10-16-22**

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

For additional information please contact
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 14-NOV-2017 10:22

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: Choctawhatchee Bay Lower Section B Background

Collection Date/Time: 10/17/2017 11:20

Field ID: G3NW0089

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937965	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	83		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	3	I	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.76		mg F/L	P334022	
1937972	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P333965	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I	mg N/L	P334064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P333844	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P333885	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P334350	
1937979	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: Choctawhatchee Bay Lower Section B Background

Collection Date/Time: 10/17/2017 11:20

Field ID: G3NW0089

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938002	EPA 8321B	Sucralose**	0.071		ug/L	P333672	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P333573	
		Diuron	8.0E-04	U	ug/L	P333573	
		Fenuron	0.0080	U	ug/L	P333573	
		Imidacloprid	0.0013	IJ	ug/L	P333573	MS
		Bentazon	8.0E-04	UJ	ug/L	P333573	LCS, MS
		Linuron	0.0040	U	ug/L	P333573	
		Acetaminophen**	0.0080	U	ug/L	P333573	
		MCP	0.0020	U	ug/L	P333573	
		Carbamazepine**	4.5E-04	I	ug/L	P333573	
		Triclopyr**	0.0040	U	ug/L	P333573	
		Primidone**	0.0040	U	ug/L	P333573	
		Fluridone**	4.0E-04	U	ug/L	P333573	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

Sample Location: Lake Earl, Center

Collection Date/Time: 10/17/2017 11:50

Field ID: G3NW0090

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937966	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	77		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	3	U	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.60		mg F/L	P334022	
1937973	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P333965	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.48		mg N/L	P334064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P333845	

Field ID: G3NW0090

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937973	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P333885	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P334350	
1937980	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: Poquito Bayou Middle

Collection Date/Time: 10/17/2017 12:10

Field ID: G3NW0086

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937967	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	81		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	3	U	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.73		mg F/L	P334022	
1937974	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P334085	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P334066	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P333845	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P334761	
	SM 5310 B-00	Organic Carbon	2.7		mg C/L	P334350	
1937981	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: Poquito Bayou Middle

Collection Date/Time: 10/17/2017 12:10

Field ID: G3NW0086

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938003	EPA 8321B	Sucralose**	0.070		ug/L	P333672	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P333573	
		Diuron	8.0E-04	U	ug/L	P333573	
		Fenuron	0.0080	U	ug/L	P333573	
		Imidacloprid	0.0069		ug/L	P333573	MS
		Bentazon	8.0E-04	UJ	ug/L	P333573	LCS, MS
		Linuron	0.0040	U	ug/L	P333573	
		Acetaminophen**	0.0080	U	ug/L	P333573	
		MCP	0.0020	U	ug/L	P333573	
		Carbamazepine**	4.8E-04	I	ug/L	P333573	
		Triclopyr**	0.0040	U	ug/L	P333573	
		Primidone**	0.0040	U	ug/L	P333573	
		Fluridone**	4.0E-04	U	ug/L	P333573	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

Sample Location: Garnier Bayou @ Paradise Point

Collection Date/Time: 10/17/2017 12:35

Field ID: G3NW0087

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G3NW0087

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937968	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	80		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	3	I	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.73		mg F/L	P334022	
1937975	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P334085	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P334064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P333845	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P334115	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P334244	
1937982	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: Garnier Bayou @ Paradise Point Duplicate

Collection Date/Time: 10/17/2017 12:40

Field ID: G3NW0087DUPLICATE

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937969	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	82		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	3	U	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.73		mg F/L	P334022	
1937976	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P334085	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30	I	mg N/L	P334064	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P333845	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P334115	
	SM 5310 B-00	Organic Carbon	3.4		mg C/L	P334244	
1937983	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: 10/17/2017 12:45

Field ID: FIELD BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937970	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P333630	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P333853	
	SM 2540 D-97	TSS	2	U	mg/L	P334331	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P333857	
1937977	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P333968	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P333977	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334004	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P333945	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P334243	
1937984	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333655	

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: Cinco Bayou West of Cinco Bridge

Collection Date/Time: 10/17/2017 13:00

Field ID: G3NW0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1937971	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P333630	
	SM 2320 B-97	Total Alkalinity	69		mg CaCO3/L	P334019	
	SM 2540 D-97	TSS	4	I	mg/L	P334334	
	SM 4500 F-C-97	Fluoride	0.58		mg F/L	P334022	
1937978	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P334085	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28	I	mg N/L	P334260	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P333845	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P333885	
	SM 5310 B-00	Organic Carbon	4.4		mg C/L	P334244	
1937985	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P333659	

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: Cinco Bayou West of Cinco Bridge

Collection Date/Time: 10/17/2017 13:00

Field ID: G3NW0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1938004	EPA 8321B	Sucralose**	0.16		ug/L	P333672	
	USGS O-2060-01	2,4-D	0.0020	I	ug/L	P333573	
		Diuron	0.0022	I	ug/L	P333573	
		Fenuron	0.020	I	ug/L	P333573	
		Imidacloprid	0.014		ug/L	P333573	MS
		Bentazon	8.0E-04	UJ	ug/L	P333573	LCS, MS
		Linuron	0.0040	U	ug/L	P333573	
		Acetaminophen**	0.0080	U	ug/L	P333573	
		MCP	0.0020	U	ug/L	P333573	
		Carbamazepine**	0.0017		ug/L	P333573	
		Triclopyr**	0.0040	U	ug/L	P333573	
		Primidone**	0.0040	U	ug/L	P333573	
		Fluridone**	9.2E-04	I	ug/L	P333573	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P333630

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P333965

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333968

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334085

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333977

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334260

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333844

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333845

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334004

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: P333885

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333945

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334115

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334761

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333655

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333659

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

Reference Method: EPA 8321B
Batch ID: P333672

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P333853

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

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

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P334331

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334334

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P333857

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 5310 B-00
Batch ID: P334243

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

Reference Method: SM 5310 B-00
Batch ID: P334244

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

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

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

Reference Method: USGS O-2060-01
Batch ID: P333573

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	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
MCP	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P333573

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 350.1 Rev. 2.0
Batch ID: P333965

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333968

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334085

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	95.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333977

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334066

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334260

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333844

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333845

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334004

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: P333885

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	105		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333945

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334115

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: P334761

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333655

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333659

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P333672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	81.5		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P333853

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: P333857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.9		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 5310 B-00
Batch ID: P334243

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.5		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P334244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

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

Reference Method: USGS O-2060-01
Batch ID: P333573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	72.0		P	40 - 150
Acetaminophen	121		P	30 - 150
Bentazon	24.3		F	30 - 150
Carbamazepine	123		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P333573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	113		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	106		P	40 - 150
Imidacloprid	101		P	40 - 160
Linuron	109		P	40 - 150
MCPP	66.1		P	40 - 150
Primidone	102		P	40 - 150
Triclopyr	67.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937858	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937887	Ammonia-N	95.7	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937974	Ammonia-N	98.3	95.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937885	Kjeldahl Nitrogen	103	108	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937972	Kjeldahl Nitrogen	92.9	96.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938425	Kjeldahl Nitrogen	93.7	94.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1939376	Kjeldahl Nitrogen	89.4	94.1	F/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333844

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1936843	NO2NO3-N	104	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937973	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334004

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937886	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937924	Total-P	99.4	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333945

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938066	Total-P	98.1	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334115

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938931	Total-P	98.8	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334761

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937978	Total-P	94.8	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333655

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937838	O-Phosphate-P	93.9	98.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P333659

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937862	O-Phosphate-P	94.2	98.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P333672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937810	Sucralose	54.8	53.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P333857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938061	Fluoride	96.6	97.8	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 5310 B-00
Batch ID: P334243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937788	Organic Carbon	94.4	98.1	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P334244

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1937858	Organic Carbon	93.3	94.6	P/P	85 - 115

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: USGS O-2060-01
Batch ID: P333573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938002	2,4-D	57.3	57.6	P/P	40 - 150
1938002	Acetaminophen	104	103	P/P	30 - 150
1938002	Bentazon	16.1	14.4	F/F	30 - 150
1938002	Carbamazepine	135	138	P/P	40 - 150
1938002	Diuron	102	108	P/P	40 - 150
1938002	Fenuron	101	110	P/P	40 - 150
1938002	Fluridone	105	107	P/P	40 - 150
1938002	Imidacloprid	162	164	F/F	40 - 160
1938002	Linuron	105	106	P/P	40 - 150
1938002	MCP	47.1	49.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P333573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1938002	Primidone	120	109	P/P	40 - 150
1938002	Triclopyr	48.3	45.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P333630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937882	Turbidity	0.389	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937858	Ammonia-N	1.06	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P333968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937887	Ammonia-N	2.61	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937974	Ammonia-N	2.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P333977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937885	Kjeldahl Nitrogen	3.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937972	Kjeldahl Nitrogen	2.89	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938425	Kjeldahl Nitrogen	0.997	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1939376	Kjeldahl Nitrogen	2.86	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333844

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1936843	NO2NO3-N	0.598	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P333845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937973	NO2NO3-N	0.468	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334004

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937886	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333885

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937924	Total-P	8.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P333945

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938066	Total-P	2.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334115

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938931	Total-P	1.35	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P334761

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937978	Total-P	0.362	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P333655

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937838	O-Phosphate-P	3.89	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P333659

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937862	O-Phosphate-P	4.87	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P333672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937810	Sucralose	2.12	Spike	P	0 - 30

Reference Method: SM 2320 B-97

Batch ID: P333853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Total Alkalinity	0.354	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 4500 F-C-97

Batch ID: P333857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938061	Fluoride	0.940	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

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
 Batch ID: P334243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937788	Organic Carbon	2.52	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P334244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1937858	Organic Carbon	1.28	Spike	P	0 - 20

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: USGS O-2060-01
 Batch ID: P333573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1938002	2,4-D	0.627	Spike	P	0 - 30
1938002	Acetaminophen	0.988	Spike	P	0 - 30
1938002	Bentazon	11.0	Spike	P	0 - 30
1938002	Carbamazepine	1.93	Spike	P	0 - 30
1938002	Diuron	5.10	Spike	P	0 - 30
1938002	Fenuron	8.58	Spike	P	0 - 30
1938002	Fluridone	2.53	Spike	P	0 - 30
1938002	Imidacloprid	1.12	Spike	P	0 - 30
1938002	Linuron	0.284	Spike	P	0 - 30
1938002	MCP	4.48	Spike	P	0 - 30
1938002	Primidone	9.77	Spike	P	0 - 30
1938002	Triclopyr	6.20	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: 1938002
 Field Sample ID: G3NW0089

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	147	P	30 - 160
EPA 8321B	Diuron-d6	112	P	30 - 160
EPA 8321B	Primidone-d5	124	P	30 - 160
EPA 8321B	Sucralose-d6	45.8	P	40 - 160
USGS O-2060-01	2,4-D-d3	54.4	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1938002
 Field Sample ID: G3NW0089

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	Acetaminophen-d4	113	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	147	P	30 - 160
USGS O-2060-01	Diuron-d6	112	P	30 - 160
USGS O-2060-01	Primidone-d5	124	P	30 - 160
USGS O-2060-01	Sucralose-d6	45.8	P	40 - 160

Lab Sample ID: 1938003
 Field Sample ID: G3NW0086

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	114	P	30 - 160
EPA 8321B	Carbamazepine-d10	141	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Primidone-d5	125	P	30 - 160
EPA 8321B	Sucralose-d6	45.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	57.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	114	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	141	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Primidone-d5	125	P	30 - 160
USGS O-2060-01	Sucralose-d6	45.6	P	40 - 160

Lab Sample ID: 1938004
 Field Sample ID: G3NW0088

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	138	P	30 - 160
EPA 8321B	Diuron-d6	96.8	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	49.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	54.0	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	105	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	138	P	30 - 160
USGS O-2060-01	Diuron-d6	96.8	P	30 - 160
USGS O-2060-01	Primidone-d5	111	P	30 - 160
USGS O-2060-01	Sucralose-d6	49.2	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
 Run ID: A79644
 Included Lab Sample IDs: 1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79656

Included Lab Sample IDs: 1937979, 1937980, 1937981, 1937982, 1937983, 1937984, 1937985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.5	95.6	P/P	90 - 110
O-Phosphate-P	99.3	96.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79729

Included Lab Sample IDs: 1937972, 1937973, 1937974, 1937975, 1937976, 1937978

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

Reference Method: SM 2320 B-97

Run ID: A79730

Included Lab Sample IDs: 1937970

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

Reference Method: SM 4500 F-C-97

Run ID: A79730

Included Lab Sample IDs: 1937970

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79772

Included Lab Sample IDs: 1937972, 1937973, 1937977

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79778

Included Lab Sample IDs: 1937972, 1937973, 1937978

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79783

Included Lab Sample IDs: 1937977

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A79792

Included Lab Sample IDs: 1937965, 1937966, 1937967, 1937968, 1937969, 1937971

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

Reference Method: SM 4500 F-C-97

Run ID: A79792

Included Lab Sample IDs: 1937965, 1937966, 1937967, 1937968, 1937969, 1937971

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79802

Included Lab Sample IDs: 1937977

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79814

Included Lab Sample IDs: 1937974, 1937975, 1937976, 1937978

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

Reference Method: USGS O-2060-01

Run ID: A79847

Included Lab Sample IDs: 1938002, 1938003, 1938004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	101	98.0	P/P	50 - 150
2,4-D	89.2	95.4	P/P	50 - 150
Acetaminophen	107	110	P/P	60 - 150
Acetaminophen	109	103	P/P	60 - 150
Bentazon	90.8	93.8	P/P	50 - 150
Bentazon	92.6	95.8	P/P	50 - 150
Carbamazepine	110	110	P/P	60 - 150
Carbamazepine	111	111	P/P	60 - 150
Diuron	110	106	P/P	60 - 150
Diuron	113	107	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fenuron	108	106	P/P	60 - 150
Fluridone	108	109	P/P	60 - 160
Fluridone	110	113	P/P	60 - 160
Imidacloprid	98.1	107	P/P	60 - 150
Imidacloprid	98.7	101	P/P	60 - 150
Linuron	106	113	P/P	60 - 150
Linuron	110	122	P/P	60 - 150
MCPP	92.9	92.6	P/P	50 - 150
MCPP	97.9	99.7	P/P	50 - 150
Primidone	104	103	P/P	60 - 150
Primidone	94.4	93.8	P/P	60 - 150
Triclopyr	101	87.2	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79847

Included Lab Sample IDs: 1938002, 1938003, 1938004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	96.1	94.0	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79856

Included Lab Sample IDs: 1937977

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79864

Included Lab Sample IDs: 1937975, 1937976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79871

Included Lab Sample IDs: 1937975, 1937976, 1937977, 1937978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.0	93.4	P/P	90 - 110
Organic Carbon	96.8	97.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79896

Included Lab Sample IDs: 1937972, 1937973, 1937974, 1937975, 1937976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.9	99.4	P/P	90 - 110
Kjeldahl Nitrogen	96.9	95.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A79911

Included Lab Sample IDs: 1937972, 1937973, 1937974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.2	93.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A79920

Included Lab Sample IDs: 1938002, 1938003, 1938004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	114	112	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79961

Included Lab Sample IDs: 1937978

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79961

Included Lab Sample IDs: 1937978

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.0	91.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80097

Included Lab Sample IDs: 1937974

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.5	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				0.389	
EPA 350.1 Rev. 2.0	Ammonia-N	98.3	103 102			1.06
	Ammonia-N	96.6	95.7 98.9			2.61
	Ammonia-N	95.4	98.3 95.6			2.62
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	103 108			3.15
	Kjeldahl Nitrogen	106	92.9 96.0			2.89
	Kjeldahl Nitrogen	106	93.7 94.8			0.997
	Kjeldahl Nitrogen	96.4	89.4 94.1			2.86
EPA 353.2 Rev. 2.0	NO2NO3-N	103	104 102			0.598
	NO2NO3-N	103	103 103			0.468
	NO2NO3-N	102	102 102			0.0
EPA 365.1 Rev. 2.0	Total-P	105	99.4 109			8.30
	Total-P	96.9	98.1 101			2.38
	Total-P	103	98.8 97.2			1.35
	Total-P	101	94.8 95.2			0.362
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	93.9 98.5			3.89
	O-Phosphate-P	99.1	94.2 98.9			4.87
EPA 8321B	Sucralose	81.5	54.8 53.2			2.12
SM 2320 B-97	Total Alkalinity	101			0.354	
	Total Alkalinity	102			0.267	
SM 4500 F-C-97	Fluoride	95.9	96.6 97.8			0.940
	Fluoride	96.0	96.7 98.1			0.986
SM 5310 B-00	Organic Carbon	97.5	94.4 98.1			2.52
	Organic Carbon	96.4	93.3 94.6			1.28
	Organic Carbon	97.6	94.6 95.4			0.737
USGS O-2060-01	2,4-D	72.0	57.3 57.6			0.627
	Acetaminophen	121	104 103			0.988
	Bentazon	24.3	16.1 14.4			11.0
	Carbamazepine	123	135 138			1.93
	Diuron	113	102 108			5.10
	Fenuron	112	101 110			8.58
	Fluridone	106	105 107			2.53

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Imidacloprid	101	162	164		1.12
	Linuron	109	105	106		0.284
	MCPP	66.1	47.1	49.3		4.48
	Primidone	102	120	109		9.77
	Triclopyr	67.8	48.3	45.4		6.20

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1937972, 1937973, 1937974, 1937975, 1937976, 1937977, 1937978
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1937972, 1937973, 1937974, 1937975, 1937976, 1937977, 1937978
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1937972, 1937973, 1937974, 1937975, 1937976, 1937977, 1937978
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1937972, 1937973, 1937974, 1937975, 1937976, 1937977, 1937978
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1937979, 1937980, 1937981, 1937982, 1937983, 1937984, 1937985
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1938002, 1938003, 1938004
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1937972, 1937973, 1937974, 1937975, 1937976, 1937977, 1937978
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1938002, 1938003, 1938004
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1938002, 1938003, 1938004

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	10/18/2017			10/18/2017 16:16	DeAsia Armster	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
EPA 350.1 Rev. 2.0	10/18/2017			10/24/2017	Sofia Elnemr	1937972, 1937973, 1937977
	10/18/2017			10/25/2017	Sofia Elnemr	1937974, 1937975, 1937976, 1937978
EPA 351.2 Rev. 2.0	10/18/2017	10/25/2017	Adrian Shelby	10/26/2017	Joseph Suarez	1937977
	10/18/2017	10/26/2017	Adrian Shelby	10/27/2017	Joseph Suarez	1937972, 1937973, 1937974, 1937975, 1937976
	10/18/2017	10/30/2017	Adrian Shelby	10/31/2017	Joseph Suarez	1937978
EPA 353.2 Rev. 2.0	10/18/2017			10/23/2017	Beverly Y. Sanders	1937972, 1937973, 1937974, 1937975, 1937976, 1937978
	10/18/2017			10/25/2017	Beverly Y. Sanders	1937977
EPA 365.1 Rev. 2.0	10/18/2017	10/23/2017	Sima Feizi	10/24/2017	Lipi Saha	1937972, 1937973, 1937978
	10/18/2017	10/24/2017	Sima Feizi	10/25/2017	Lipi Saha	1937977
	10/18/2017	10/26/2017	Sima Feizi	10/27/2017	Lipi Saha	1937975, 1937976
	10/18/2017	11/06/2017	Sima Feizi	11/07/2017	Lipi Saha	1937974
EPA 365.1 Rev. 2.0 dissolved	10/18/2017			10/18/2017 16:25	Megan Treadwell	1937983
	10/18/2017			10/18/2017 16:26	Megan Treadwell	1937984
	10/18/2017			10/18/2017 16:27	Megan Treadwell	1937985
	10/18/2017			10/18/2017 16:34	Megan Treadwell	1937982
	10/18/2017			10/18/2017 16:35	Megan Treadwell	1937981
	10/18/2017			10/18/2017 16:36	Megan Treadwell	1937980
	10/18/2017			10/18/2017 16:37	Megan Treadwell	1937979
EPA 8321B	10/18/2017	10/25/2017	Juyoung Kim	10/26/2017	Juyoung Kim	1938002, 1938003, 1938004
SM 2320 B-97	10/18/2017			10/21/2017	Dale L. Simmons	1937970
	10/18/2017			10/25/2017	Dale L. Simmons	1937965, 1937966, 1937967, 1937968, 1937969, 1937971
SM 2540 D-97	10/18/2017			10/20/2017	Yijie Li	1937965, 1937966, 1937967, 1937968, 1937969, 1937970, 1937971
SM 4500 F-C-97	10/18/2017			10/21/2017	Dale L. Simmons	1937970
	10/18/2017			10/25/2017	Dale L. Simmons	1937965, 1937966, 1937967, 1937968, 1937969, 1937971
SM 5310 B-00	10/18/2017			10/27/2017	Ping Hua	1937977
	10/18/2017			10/28/2017	Ping Hua	1937975, 1937976, 1937978
	10/18/2017			10/31/2017	Ping Hua	1937972, 1937973, 1937974
USGS O-2060-01	10/18/2017	10/19/2017	Hoor Shaik	10/25/2017	Julie Michelle Frank	1938002, 1938003, 1938004