

Chemical Analysis Report

WQAP-2017-03-29-01

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

Event Description: **RUN 17 w/Klosterman**

Request ID: **RQ-2017-03-27-64**

Customer: **WQAP**

Project ID: **SMP**

Send Reports to:
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13051 N. Telecom Parkway
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Date Certified: 20-APR-2017 16:10



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: KLOSTERMAN

Collection Date/Time: 03/28/2017 10:15

Field ID: G5SW0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884236	EPA 180.1 Rev. 2.0	Turbidity	8.4		NTU	P322465	
	EPA 300.0 Rev. 2.1	Chloride	2.5E+03		mg Cl/L	P323034	
		Sulfate	430		mg SO4/L	P323037	
	SM 2120 B	Color (true)	61		PCU	P322434	
	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P322916	
	SM 2540 C-97	TDS	4.63E+03		mg/L	P322830	
	SM 2540 D-97	TSS	18		mg/L	P323019	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P322919	
1884237	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P322499	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.2		mg N/L	P322630	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P322651	
	EPA 365.1 Rev. 2.0	Total-P	0.50		mg P/L	P322703	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P322511	
1884238	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.16		mg P/L	P322446	

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 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: KLOSTERMAN

Collection Date/Time: 03/28/2017 10:15

Field ID: G5SW0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884246	EPA 8321B	Sucralose**	23		ug/L	P322428	
	USGS O-2060-01	2,4-D	0.28		ug/L	P322532	
		Diuron	0.0072	I	ug/L	P322532	MS
		Fenuron	0.0080	U	ug/L	P322532	
		Imidacloprid	0.023		ug/L	P322532	
		Bentazon	0.32		ug/L	P322532	
		Linuron	0.0040	U	ug/L	P322532	
		Acetaminophen**	0.010	U	ug/L	P322532	
		MCP	0.11		ug/L	P322532	
		Carbamazepine**	0.046		ug/L	P322532	
		Triclopyr**	0.010	U	ug/L	P322532	
		Primidone**	0.10		ug/L	P322532	
		Fluridone**	0.0021		ug/L	P322532	MS

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample. Results confirmed in re-extraction.

USGS O-2060-01: Results confirmed in re-extraction.

Sample Location: BLANK

Collection Date/Time: 03/28/2017 10:30

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884247	EPA 8321B	Sucralose**	0.010	U	ug/L	P322428	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P322532	

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884247	USGS O-2060-01	Diuron	0.0040	U	ug/L	P322532	MS
		Fenuron	0.0080	U	ug/L	P322532	
		Imidacloprid	0.0040	U	ug/L	P322532	
		Bentazon	0.0040	U	ug/L	P322532	
		Linuron	0.0040	U	ug/L	P322532	
		Acetaminophen**	0.010	U	ug/L	P322532	
		MCP	0.0040	U	ug/L	P322532	
		Carbamazepine**	4.0E-04	U	ug/L	P322532	
		Triclopyr**	0.010	U	ug/L	P322532	
		Primidone**	0.0080	U	ug/L	P322532	
		Fluridone**	4.0E-04	U	ug/L	P322532	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: KLOSTERMAN duplicate

Collection Date/Time: 03/28/2017 10:20

Field ID: G5SW0039

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1884256	EPA 8321B	Sucralose**	30		ug/L	P322428	MS
	USGS O-2060-01	2,4-D	0.26		ug/L	P322532	
		Diuron	0.0071	I	ug/L	P322532	
		Fenuron	0.0080	U	ug/L	P322532	
		Imidacloprid	0.019		ug/L	P322532	
		Bentazon	0.31		ug/L	P322532	
		Linuron	0.0040	U	ug/L	P322532	
		Acetaminophen**	0.010	U	ug/L	P322532	
		MCP	0.12		ug/L	P322532	
		Carbamazepine**	0.041		ug/L	P322532	
		Triclopyr**	0.010	U	ug/L	P322532	
		Primidone**	0.094		ug/L	P322532	
		Fluridone**	0.0016		ug/L	P322532	

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P322465

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P323034

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323037

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322499

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322446

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

Reference Method: EPA 8321B
Batch ID: P322428

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P322434

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P322916

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P322830

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P323019

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P322919

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P322511

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

Reference Method: USGS O-2060-01
Batch ID: P322532

Component	Result	Code	Units
2,4-D	0.0040	U	ug/L
Acetaminophen	0.010	U	ug/L
Bentazon	0.0040	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Triclopyr	0.010	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323034

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323037

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322499

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322446

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

Reference Method: EPA 8321B
Batch ID: P322428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	69.6		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P322916

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

Reference Method: SM 4500 F-C-97
Batch ID: P322919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P322511

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P322532

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	91.2		P	40 - 140
Acetaminophen	86.4		P	40 - 140
Bentazon	110		P	40 - 140
Carbamazepine	114		P	40 - 140
Diuron	76.8		P	40 - 140
Fenuron	97.6		P	40 - 140
Fluridone	85.6		P	40 - 140
Imidacloprid	88.4		P	40 - 160
Linuron	132		P	40 - 140
MCPP	85.6		P	40 - 140
Primidone	97.2		P	40 - 140
Triclopyr	88.0		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323034

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884764	Chloride	106		P	90 - 110
1884769	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323037

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884764	Sulfate	104		P	90 - 110
1884769	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322499

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884237	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884197	Kjeldahl Nitrogen	93.1	94.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884125	NO2NO3-N	101	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884666	Total-P	93.0	94.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322446

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884122	O-Phosphate-P	98.6	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P322428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884451	Sucralose	83.0	88.0	P/P	40 - 140

Reference Method: SM 5310 B-00
Batch ID: P322511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884008	Organic Carbon	103		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P322532

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1884218	2,4-D	134	127	P/P	40 - 140
1884218	Acetaminophen	59.6	58.8	P/P	40 - 140
1884218	Carbamazepine	59.6	60.8	P/P	40 - 140
1884218	Diuron	33.2	39.6	F/F	40 - 140
1884218	Fenuron	47.6	46.8	P/P	40 - 140
1884218	Fluridone	32.0	32.4	F/F	40 - 140
1884218	Imidacloprid	102	111	P/P	40 - 160
1884218	Linuron	62.4	78.8	P/P	40 - 140
1884218	MCP	131	120	P/P	40 - 140
1884218	Primidone	90.0	76.0	P/P	40 - 140
1884218	Triclopyr	137	120	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P322465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884259	Turbidity	3.36	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P323034

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884764	Chloride	0.740	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P322499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884237	Ammonia-N	0.483	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P322630

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884197	Kjeldahl Nitrogen	1.40	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P322651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884125	NO2NO3-N	0.445	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P322703

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884666	Total-P	1.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P322446

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884122	O-Phosphate-P	2.34	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P322428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884451	Sucralose	2.51	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P322434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884164	Color (true)	0.137	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P322916

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884321	Total Alkalinity	0.157	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P322830

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884163	TDS	0.772	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P323019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884163	TSS	9.23	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P322919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884321	Fluoride	0.520	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P322511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884008	Organic Carbon	0.0989	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P322532

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1884218	2,4-D	5.21	Spike	P	0 - 30
1884218	Acetaminophen	1.35	Spike	P	0 - 30
1884218	Bentazon	2.90	Spike	P	0 - 30
1884218	Carbamazepine	1.99	Spike	P	0 - 30
1884218	Diuron	17.6	Spike	P	0 - 30
1884218	Fenuron	1.69	Spike	P	0 - 30
1884218	Fluridone	0.897	Spike	P	0 - 30
1884218	Imidacloprid	8.27	Spike	P	0 - 30
1884218	Linuron	23.2	Spike	P	0 - 30
1884218	MCP	8.92	Spike	P	0 - 30
1884218	Primidone	16.9	Spike	P	0 - 30
1884218	Triclopyr	13.4	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: 1884246
Field Sample ID: G5SW0039

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	67.0	P	40 - 150
USGS O-2060-01	2,4-D-d3	103	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	42.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	58.2	P	40 - 160
USGS O-2060-01	Diuron-d6	42.8	P	40 - 150
USGS O-2060-01	Primidone-d5	45.4	P	40 - 150

Lab Sample ID: 1884247
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	67.0	P	40 - 150
USGS O-2060-01	2,4-D-d3	93.6	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	112	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	111	P	40 - 160
USGS O-2060-01	Diuron-d6	82.2	P	40 - 150
USGS O-2060-01	Primidone-d5	111	P	40 - 150

Lab Sample ID: 1884256
Field Sample ID: G5SW0039

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	82.0	P	40 - 150
USGS O-2060-01	2,4-D-d3	98.4	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	54.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	62.2	P	40 - 160
USGS O-2060-01	Diuron-d6	42.6	P	40 - 150
USGS O-2060-01	Primidone-d5	54.2	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A75443
Included Lab Sample IDs: 1884236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.2	102	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75452
Included Lab Sample IDs: 1884238

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.5	99.2	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75456
Included Lab Sample IDs: 1884236

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A75456

Included Lab Sample IDs: 1884236

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A75470

Included Lab Sample IDs: 1884237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A75475

Included Lab Sample IDs: 1884237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.2	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A75484

Included Lab Sample IDs: 1884246, 1884247, 1884256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	102	100	P/P	60 - 150
Sucralose	63.4	102	P/P	60 - 150
Sucralose	85.5	86.6	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A75520

Included Lab Sample IDs: 1884237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75555

Included Lab Sample IDs: 1884237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.7	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75582

Included Lab Sample IDs: 1884237

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

Reference Method: SM 2320 B-97

Run ID: A75625

Included Lab Sample IDs: 1884236

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

Reference Method: SM 2320 B-97
Run ID: A75625
Included Lab Sample IDs: 1884236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A75625
Included Lab Sample IDs: 1884236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.6	95.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A75672
Included Lab Sample IDs: 1884236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	104	98.9	P/P	90 - 110

Reference Method: USGS O-2060-01
Run ID: A75682
Included Lab Sample IDs: 1884246, 1884247, 1884256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	103	109	P/P	60 - 150
Acetaminophen	115	103	P/P	60 - 150
Carbamazepine	112	120	P/P	60 - 150
Carbamazepine	132	112	P/P	60 - 150
Diuron	104	108	P/P	60 - 150
Diuron	108	121	P/P	60 - 150
Fenuron	104	113	P/P	60 - 150
Fenuron	113	114	P/P	60 - 150
Fluridone	108	117	P/P	60 - 150
Fluridone	117	110	P/P	60 - 150
Imidacloprid	116	98.8	P/P	60 - 150
Imidacloprid	98.8	94.0	P/P	60 - 150
Linuron	107	105	P/P	60 - 150
Linuron	86.4	107	P/P	60 - 150
Primidone	83.6	94.4	P/P	60 - 150
Primidone	94.4	108	P/P	60 - 150

Reference Method: USGS O-2060-01
Run ID: A75705
Included Lab Sample IDs: 1884247, 1884256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	127	129	P/P	50 - 150
Bentazon	90.8	101	P/P	50 - 150
MCP	123	119	P/P	50 - 150
Triclopyr	111	106	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A75723

Included Lab Sample IDs: 1884236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.3	98.9	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A75741

Included Lab Sample IDs: 1884246

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	116	119	P/P	50 - 150
Bentazon	85.6	94.4	P/P	50 - 150
MCP	122	93.8	P/P	50 - 150
Triclopyr	115	111	P/P	50 - 150

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				3.36	
EPA 300.0 Rev. 2.1	Chloride	105	106 105		0.740	
	Sulfate	103	104 104			
EPA 350.1 Rev. 2.0	Ammonia-N	105	103 102			0.483
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	93.1 94.9			1.40
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	101 101			0.445
EPA 365.1 Rev. 2.0	Total-P	103	93.0 94.3			1.41
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.6 102			2.34
EPA 8321B	Sucralose	69.6	83.0 88.0			2.51
SM 2120 B	Color (true)				0.137	
SM 2320 B-97	Total Alkalinity	104			0.157	
SM 2540 C-97	TDS				0.772	
SM 2540 D-97	TSS				9.23	
SM 4500 F-C-97	Fluoride	94.5				0.520
SM 5310 B-00	Organic Carbon	102	103			0.0989
USGS O-2060-01	2,4-D	91.2	134 127			5.21
	Acetaminophen	86.4	59.6 58.8			1.35
	Bentazon	110				2.90
	Carbamazepine	114	59.6 60.8			1.99
	Diuron	76.8	33.2 39.6			17.6
	Fenuron	97.6	47.6 46.8			1.69
	Fluridone	85.6	32.0 32.4			0.897
	Imidacloprid	88.4	102 111			8.27
	Linuron	132	62.4 78.8			23.2
	MCP	85.6	131 120			8.92
	Primidone	97.2	90.0 76.0			16.9
	Triclopyr	88.0	137 120			13.4

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1884236
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1884236
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1884236
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1884237
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1884237
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1884237
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1884237
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1884238
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1884246, 1884247, 1884256
SM 2120 B / E31780	True Color measured at 450 nm	1884236
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1884236
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1884236
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1884236
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1884236
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1884237
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1884246, 1884247, 1884256
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1884246, 1884247, 1884256

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	03/29/2017			03/29/2017 17:01	Blanca Fach	1884236
EPA 300.0 Rev. 2.1	03/29/2017			04/08/2017	Ping Hua	1884236
	03/29/2017			04/10/2017	Ping Hua	1884236
EPA 350.1 Rev. 2.0	03/29/2017			03/30/2017	Julie Michelle Frank	1884237
EPA 351.2 Rev. 2.0	03/29/2017	04/03/2017	Adrian Shelby	04/04/2017	Joseph Suarez	1884237
EPA 353.2 Rev. 2.0	03/29/2017			04/03/2017	Beverly Y. Sanders	1884237
EPA 365.1 Rev. 2.0	03/29/2017	04/04/2017	Adrian Shelby	04/05/2017	Lipi Saha	1884237
EPA 365.1 Rev. 2.0 dissolved	03/29/2017			03/29/2017 15:33	Anthony C. Onicha	1884238
EPA 8321B	03/29/2017	03/30/2017	Mohammad Ghaffari	03/30/2017	Mohammad Ghaffari	1884246, 1884247, 1884256
SM 2120 B	03/29/2017			03/29/2017 18:07	Julie Michelle Frank	1884236
SM 2320 B-97	03/29/2017			04/06/2017	Dale L. Simmons	1884236
SM 2540 C-97	03/29/2017			03/31/2017	Yijie Li	1884236
SM 2540 D-97	03/29/2017			03/31/2017	Yijie Li	1884236
SM 4500 F-C-97	03/29/2017			04/06/2017	Dale L. Simmons	1884236
SM 5310 B-00	03/29/2017			03/30/2017	Julie Michelle Frank	1884237
USGS O-2060-01	03/29/2017	03/31/2017	Hoor Shaik	04/07/2017	Juyoung Kim	1884246
	03/29/2017	03/31/2017	Hoor Shaik	04/08/2017	Juyoung Kim	1884247, 1884256
	03/29/2017	03/31/2017	Hoor Shaik	04/09/2017	Juyoung Kim	1884247, 1884256
	03/29/2017	03/31/2017	Hoor Shaik	04/12/2017	Juyoung Kim	1884246