

Chemical Analysis Report

WQAP-2017-06-22-02

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

Event Description: **Run 4**
Request ID: **RQ-2017-06-19-29**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 14-JUL-2017 14:40



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 N

Collection Date/Time: 06/21/2017 10:05

Field ID: G5SW0039

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908246	EPA 8321B	Sucralose**	22		ug/L	P327309	
	USGS O-2060-01	2,4-D	0.024		ug/L	P327329	
		Diuron	0.0048		ug/L	P327329	
		Fenuron	0.0098	I	ug/L	P327329	RPD
		Imidacloprid	0.019		ug/L	P327329	MS
		Bentazon	0.063		ug/L	P327329	
		Linuron	0.0040	U	ug/L	P327329	
		Acetaminophen**	0.0080	U	ug/L	P327329	
		MCP	0.0088		ug/L	P327329	
		Carbamazepine**	0.030		ug/L	P327329	
		Triclopyr**	0.0040	U	ug/L	P327329	
		Primidone**	0.035		ug/L	P327329	RPD
		Fluridone**	0.0022		ug/L	P327329	

Ref. Method and Comment:

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

Sample Location: KLOSTERMAN S

Collection Date/Time: 06/21/2017 10:25

Field ID: G5SW0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908247	EPA 8321B	Sucralose**	21		ug/L	P327309	
	USGS O-2060-01	2,4-D	0.030		ug/L	P327329	
		Diuron	0.0047		ug/L	P327329	
		Fenuron	0.0080	U	ug/L	P327329	RPD
		Imidacloprid	0.021		ug/L	P327329	MS
		Bentazon	0.097		ug/L	P327329	
		Linuron	0.0040	U	ug/L	P327329	
		Acetaminophen**	0.0080	U	ug/L	P327329	
		MCP	0.0033	I	ug/L	P327329	
		Carbamazepine**	0.039		ug/L	P327329	
		Triclopyr**	0.0040	U	ug/L	P327329	
		Primidone**	0.072		ug/L	P327329	RPD
		Fluridone**	4.8E-04	I	ug/L	P327329	

Ref. Method and Comment:

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

Sample Location: KLOSTERMAN S

Collection Date/Time: 06/21/2017 10:25

Field ID: G5SW0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908236	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P327357	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P327571	
		Sulfate	40		mg SO4/L	P327569	
	SM 2120 B	Color (true)	91	A	PCU	P327334	
	SM 2320 B-97	Total Alkalinity	157		mg CaCO3/L	P327511	

Field ID: G5SW0040

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908236	SM 2540 C-97	TDS	503		mg/L	P327846	
	SM 2540 D-97	TSS	8	I	mg/L	P327726	
	SM 4500 F-C-97	Fluoride	0.42		mg F/L	P327515	
1908237	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P327370	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P327434	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P327477	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P327400	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P327588	
1908238	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.29		mg P/L	P327352	

Ref. Method and Comment:

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

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: PINELLAS PARK DITCH #5

Collection Date/Time: 06/21/2017 11:20

Field ID: G5SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908248	EPA 8321B	Sucralose**	1.7		ug/L	P327309	
	USGS O-2060-01	2,4-D	0.011		ug/L	P327329	
		Diuron	0.0046		ug/L	P327329	
		Fenuron	0.0080	U	ug/L	P327329	RPD
		Imidacloprid	0.080		ug/L	P327329	MS
		Bentazon	0.023		ug/L	P327329	
		Linuron	0.0040	U	ug/L	P327329	
		Acetaminophen**	0.0080	U	ug/L	P327329	
		MCP	0.0030	I	ug/L	P327329	
		Carbamazepine**	0.0019		ug/L	P327329	
		Triclopyr**	0.0040	U	ug/L	P327329	
		Primidone**	0.0040	U	ug/L	P327329	RPD
		Fluridone**	4.0E-04	U	ug/L	P327329	

Ref. Method and Comment:

EPA 8321B: Accuracy for sucralose 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: P327357

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327370

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327434

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327477

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327400

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327352

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

Reference Method: EPA 8321B
Batch ID: P327309

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P327334

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327511

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P327846

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327726

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327515

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P327588

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

Reference Method: USGS O-2060-01
Batch ID: P327329

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327370

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327434

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327477

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327400

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327352

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

Reference Method: EPA 8321B
Batch ID: P327309

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

Reference Method: SM 2320 B-97
Batch ID: P327511

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P327515

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

Reference Method: SM 5310 B-00
Batch ID: P327588

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P327329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	77.0		P	40 - 150
Acetaminophen	71.4		P	30 - 150
Bentazon	96.4		P	40 - 150
Carbamazepine	82.2		P	40 - 150
Diuron	91.6		P	40 - 150
Fenuron	92.2		P	40 - 150
Fluridone	96.2		P	40 - 150
Imidacloprid	74.2		P	40 - 160
Linuron	76.2		P	40 - 150
MCPP	71.6		P	40 - 150
Primidone	90.8		P	40 - 150
Triclopyr	74.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908465	Sulfate	99.6		P	90 - 110
1908486	Sulfate	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P327571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908465	Chloride	99.3		P	90 - 110
1908486	Chloride	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P327477

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908123	NO2NO3-N	93.4	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P327400

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908174	Total-P	98.6	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327352

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908175	O-Phosphate-P	94.1	95.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P327515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908024	Fluoride	95.8	97.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327588

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908237	Organic Carbon	94.2	92.9	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908457	2,4-D	113	87.6	P/P	40 - 150
1908457	Acetaminophen	75.6	92.6	P/P	30 - 150
1908457	Bentazon	93.8	75.6	P/P	40 - 150
1908457	Carbamazepine	114	111	P/P	40 - 150
1908457	Diuron	79.4	79.0	P/P	40 - 150
1908457	Fenuron	110	78.4	P/P	40 - 150
1908457	Fluridone	56.0	53.8	P/P	40 - 150
1908457	Imidacloprid	171	160	F/P	40 - 160
1908457	Linuron	60.8	62.6	P/P	40 - 150
1908457	MCP	78.2	75.0	P/P	40 - 150
1908457	Primidone	102	42.8	P/P	40 - 150
1908457	Triclopyr	89.8	82.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P327357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908110	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908465	Sulfate	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908465	Chloride	1.07	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908129	Ammonia-N	0.129	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908368	Kjeldahl Nitrogen	0.198	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327477

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908123	NO2NO3-N	0.866	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327400

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908174	Total-P	0.106	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327352

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908175	O-Phosphate-P	0.810	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P327309

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

Reference Method: SM 2120 B
Batch ID: P327334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908236	Color (true)	2.04	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908024	Total Alkalinity	2.49	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P327846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908173	TDS	1.16	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908024	Fluoride	1.52	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327588

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908237	Organic Carbon	0.682	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P327329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908457	2,4-D	11.4	Spike	P	0 - 30
1908457	Acetaminophen	20.2	Spike	P	0 - 30
1908457	Bentazon	16.6	Spike	P	0 - 30
1908457	Carbamazepine	2.49	Spike	P	0 - 30
1908457	Diuron	0.304	Spike	P	0 - 30
1908457	Fenuron	33.2	Spike	F	0 - 30
1908457	Fluridone	2.77	Spike	P	0 - 30
1908457	Imidacloprid	3.72	Spike	P	0 - 30
1908457	Linuron	2.92	Spike	P	0 - 30
1908457	MCP	3.71	Spike	P	0 - 30
1908457	Primidone	81.9	Spike	F	0 - 30
1908457	Triclopyr	9.08	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: 1908246
Field Sample ID: G5SW0039

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	142	P	40 - 160
USGS O-2060-01	2,4-D-d3	120	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	89.8	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	96.9	P	30 - 160
USGS O-2060-01	Diuron-d6	72.3	P	30 - 160
USGS O-2060-01	Primidone-d5	55.6	P	30 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1908247
Field Sample ID: G5SW0040

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	109	P	40 - 160
USGS O-2060-01	2,4-D-d3	93.6	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	76.4	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	102	P	30 - 160
USGS O-2060-01	Diuron-d6	66.6	P	30 - 160
USGS O-2060-01	Primidone-d5	77.9	P	30 - 150

Lab Sample ID: 1908248
Field Sample ID: G5SW0118

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	146	P	40 - 160
USGS O-2060-01	2,4-D-d3	98.9	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	78.3	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	111	P	30 - 160
USGS O-2060-01	Diuron-d6	77.0	P	30 - 160
USGS O-2060-01	Primidone-d5	92.6	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A77279
Included Lab Sample IDs: 1908236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.0	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A77286
Included Lab Sample IDs: 1908236

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A77289
Included Lab Sample IDs: 1908237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A77298
Included Lab Sample IDs: 1908238

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77334

Included Lab Sample IDs: 1908237

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77340

Included Lab Sample IDs: 1908237

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77352

Included Lab Sample IDs: 1908236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.7	P/P	90 - 110
Sulfate	98.5	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77355

Included Lab Sample IDs: 1908236

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

Reference Method: SM 4500 F-C-97

Run ID: A77355

Included Lab Sample IDs: 1908236

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.6	100	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77379

Included Lab Sample IDs: 1908237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.7	92.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77414

Included Lab Sample IDs: 1908246, 1908247, 1908248

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	90.0	P/P	60 - 160
Sucralose	71.2	141	P/P	60 - 160
Sucralose	80.0	98.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77436

Included Lab Sample IDs: 1908237

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	95.4	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A77687

Included Lab Sample IDs: 1908246, 1908247, 1908248

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.2	92.0	P/P	50 - 150
Acetaminophen	82.4	84.4	P/P	60 - 150
Bentazon	95.2	111	P/P	50 - 150
Carbamazepine	85.6	83.2	P/P	60 - 150
Diuron	99.2	110	P/P	60 - 150
Fenuron	89.6	84.0	P/P	60 - 150
Fluridone	104	102	P/P	60 - 160
Imidacloprid	80.8	87.6	P/P	60 - 150
Linuron	100	90.8	P/P	60 - 150
MCPP	75.2	72.4	P/P	50 - 150
Primidone	71.2	64.0	P/P	60 - 150
Triclopyr	80.8	79.2	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				0.0	
EPA 300.0 Rev. 2.1	Chloride	98.8	99.3 101		1.07	
	Sulfate	98.8	99.6 99.7		1.11	
EPA 350.1 Rev. 2.0	Ammonia-N	102				0.129
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100				0.198
EPA 353.2 Rev. 2.0	NO2NO3-N	104	93.4 94.4			0.866
EPA 365.1 Rev. 2.0	Total-P	98.2	98.6 98.5			0.106
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.8	94.1 95.4			0.810
EPA 8321B	Sucralose	83.0				4.67
SM 2120 B	Color (true)				2.04	
SM 2320 B-97	Total Alkalinity	103			2.49	
SM 2540 C-97	TDS				1.16	
SM 4500 F-C-97	Fluoride	94.5	95.8 97.6			1.52
SM 5310 B-00	Organic Carbon	94.0	94.2 92.9			0.682
USGS O-2060-01	2,4-D	77.0	113 87.6			11.4
	Acetaminophen	71.4	75.6 92.6			20.2
	Bentazon	96.4	93.8 75.6			16.6
	Carbamazepine	82.2	114 111			2.49
	Diuron	91.6	79.4 79.0			0.304
	Fenuron	92.2	110 78.4			33.2
	Fluridone	96.2	56.0 53.8			2.77

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
USGS O-2060-01	Imidacloprid	74.2	171	160		3.72
	Linuron	76.2	60.8	62.6		2.92
	MCPP	71.6	78.2	75.0		3.71
	Primidone	90.8	102	42.8		81.9
	Triclopyr	74.0	89.8	82.0		9.08

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1908236
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1908236
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1908236
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1908237
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1908237
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1908237
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1908237
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1908238
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1908246, 1908247, 1908248
SM 2120 B / E31780	True Color measured at 450 nm	1908236
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1908236
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1908236
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1908236
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1908236
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1908237
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1908246, 1908247, 1908248
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1908246, 1908247, 1908248

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/22/2017			06/22/2017 16:55	DeAsia Armster	1908236
EPA 300.0 Rev. 2.1	06/22/2017			06/27/2017	Ping Hua	1908236
EPA 350.1 Rev. 2.0	06/22/2017			06/22/2017	Sofia Elnemr	1908237
EPA 351.2 Rev. 2.0	06/22/2017	06/26/2017	Adrian Shelby	06/29/2017	Joseph Suarez	1908237
EPA 353.2 Rev. 2.0	06/22/2017			06/26/2017	Beverly Y. Sanders	1908237
EPA 365.1 Rev. 2.0	06/22/2017	06/23/2017	Vijayalakshmi Reddy	06/26/2017	Lipi Saha	1908237
EPA 365.1 Rev. 2.0 dissolved	06/22/2017			06/22/2017 16:58	Anthony C. Onicha	1908238
EPA 8321B	06/22/2017	06/28/2017	Mohammad Ghaffari	06/28/2017	Mohammad Ghaffari	1908248
	06/22/2017	06/28/2017	Mohammad Ghaffari	06/29/2017	Mohammad Ghaffari	1908246, 1908247
SM 2120 B	06/22/2017			06/22/2017 14:51	Tanya Welborn	1908236
SM 2320 B-97	06/22/2017			06/27/2017	Dale L. Simmons	1908236
SM 2540 C-97	06/22/2017			06/26/2017	Sima Feizi	1908236
SM 2540 D-97	06/22/2017			06/26/2017	Sima Feizi	1908236
SM 4500 F-C-97	06/22/2017			06/27/2017	Dale L. Simmons	1908236
SM 5310 B-00	06/22/2017			06/27/2017	Sofia Elnemr	1908237
USGS O-2060-01	06/22/2017	06/27/2017	Fe-Val Siddell	07/09/2017	Juyoung Kim	1908246, 1908247, 1908248