

Chemical Analysis Report

NW-DIST-2017-09-27-03

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

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

Request ID: **RQ-2017-09-25-20**

Customer: **NW-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208A
Pensacola, FL 32502-5794
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 16-OCT-2017 11:24



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: CINCO BAYOU WEST OF CINCO BRIDGE

Collection Date/Time: 09/26/2017 11:00

Field ID: G3NW0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1931918	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P332343	
	SM 2320 B-97	Total Alkalinity	68		mg CaCO ₃ /L	P332633	
	SM 2540 D-97	TSS	3	U	mg/L	P332918	
	SM 4500 F-C-97	Fluoride	0.56		mg F/L	P332637	
1931920	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P332820	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31	I	mg N/L	P332527	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.014		mg N/L	P332524	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P332464	
	SM 5310 B-00	Organic Carbon	3.5		mg C/L	P332515	
1931922	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P332330	

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: 09/26/2017 11:00

Field ID: G3NW0088

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1931934	EPA 8321B	Sucralose**	0.25		ug/L	P332314	
	USGS O-2060-01	2,4-D	0.0068	I	ug/L	P332316	
		Diuron	0.0045		ug/L	P332316	
		Fenuron	0.0080	U	ug/L	P332316	
		Imidacloprid	0.011		ug/L	P332316	
		Bentazon	0.0011	I	ug/L	P332316	MS
		Linuron	0.0040	U	ug/L	P332316	
		Acetaminophen**	0.0080	U	ug/L	P332316	
		MCP	0.0020	U	ug/L	P332316	
		Carbamazepine**	0.0013	I	ug/L	P332316	
		Triclopyr**	0.0040	U	ug/L	P332316	
		Primidone**	0.0040	U	ug/L	P332316	
		Fluridone**	4.0E-04	U	ug/L	P332316	

Ref. Method and Comment:

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

Sample Location: GARNIER BAY @ PARADISE POINT

Collection Date/Time: 09/26/2017 12:00

Field ID: G3NW0087

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1931919	EPA 180.1 Rev. 2.0	Turbidity	0.80		NTU	P332343	
	SM 2320 B-97	Total Alkalinity	64		mg CaCO ₃ /L	P332633	
	SM 2540 D-97	TSS	3	UA	mg/L	P332918	
	SM 4500 F-C-97	Fluoride	0.52		mg F/L	P332637	
1931921	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P332820	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21	I	mg N/L	P332527	
	EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	0.10		mg N/L	P332524	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P332464	

Field ID: G3NW0087

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1931921	SM 5310 B-00	Organic Carbon	3.0		mg C/L	P332515	
1931923	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P332330	

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P332343

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332527

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332524

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332464

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332330

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

Reference Method: EPA 8321B
Batch ID: P332314

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P332633

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P332918

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P332637

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P332515

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

Reference Method: USGS O-2060-01
Batch ID: P332316

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
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: P332820

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332527

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	106		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332464

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.8		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P332314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.6		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P332633

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

Reference Method: SM 4500 F-C-97
Batch ID: P332637

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P332515

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P332316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.3		P	40 - 150
Acetaminophen	145		P	30 - 150
Bentazon	40.2		P	40 - 150
Carbamazepine	117		P	40 - 150
Diuron	103		P	40 - 150
Fenuron	112		P	40 - 150
Fluridone	110		P	40 - 150
Imidacloprid	102		P	40 - 160
Linuron	107		P	40 - 150
MCP	75.7		P	40 - 150
Primidone	109		P	40 - 150
Triclopyr	72.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332820

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931920	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P332527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932352	Kjeldahl Nitrogen	96.3	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931853	NO2NO3-N	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P332464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931906	Total-P	90.3	91.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931922	O-Phosphate-P	96.7	99.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P332314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1932057	Sucralose	42.3	42.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P332637

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931511	Fluoride	95.9	97.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P332515

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931118	Organic Carbon	92.4	92.5	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P332316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931788	2,4-D	64.1	66.9	P/P	40 - 150
1931788	Acetaminophen	82.5	90.5	P/P	30 - 150
1931788	Bentazon	22.3	29.7	F/F	40 - 150
1931788	Carbamazepine	82.1	84.7	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P332316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1931788	Diuron	57.4	62.9	P/P	40 - 150
1931788	Fenuron	82.6	83.1	P/P	40 - 150
1931788	Fluridone	66.1	58.8	P/P	40 - 150
1931788	Linuron	80.7	85.4	P/P	40 - 150
1931788	MCPD	50.0	51.8	P/P	40 - 150
1931788	Primidone	91.9	91.9	P/P	40 - 150
1931788	Triclopyr	50.6	52.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P332343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931817	Turbidity	7.64	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P332820

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931920	Ammonia-N	0.878	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P332527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932352	Kjeldahl Nitrogen	5.52	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P332524

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931853	NO2NO3-N	0.418	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P332464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931906	Total-P	1.19	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P332330

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P332330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931922	O-Phosphate-P	3.05	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P332314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1932057	Sucralose	0.283	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P332633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931511	Total Alkalinity	0.498	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97
Batch ID: P332637

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931511	Fluoride	0.953	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P332515

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931118	Organic Carbon	0.132	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P332316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1931788	2,4-D	3.28	Spike	P	0 - 30
1931788	Acetaminophen	9.20	Spike	P	0 - 30
1931788	Bentazon	11.2	Spike	P	0 - 30
1931788	Carbamazepine	2.99	Spike	P	0 - 30
1931788	Diuron	6.74	Spike	P	0 - 30
1931788	Fenuron	0.652	Spike	P	0 - 30
1931788	Fluridone	11.1	Spike	P	0 - 30
1931788	Imidacloprid	0.905	Spike	P	0 - 30
1931788	Linuron	5.66	Spike	P	0 - 30
1931788	MCP	3.10	Spike	P	0 - 30
1931788	Primidone	0.0440	Spike	P	0 - 30
1931788	Triclopyr	3.91	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: 1931934
Field Sample ID: G3NW0088

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	60.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	113	P	30 - 160
EPA 8321B	Diuron-d6	86.9	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	81.6	P	40 - 160
USGS O-2060-01	2,4-D-d3	60.0	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	60.3	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	113	P	30 - 160
USGS O-2060-01	Diuron-d6	86.9	P	30 - 160
USGS O-2060-01	Primidone-d5	111	P	30 - 160
USGS O-2060-01	Sucralose-d6	81.6	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A79194
Included Lab Sample IDs: 1931922, 1931923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	96.5	P/P	90 - 110
O-Phosphate-P	99.6	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A79197
Included Lab Sample IDs: 1931918, 1931919

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

Reference Method: SM 5310 B-00
Run ID: A79261
Included Lab Sample IDs: 1931920, 1931921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.8	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A79264
Included Lab Sample IDs: 1931920, 1931921

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A79280
Included Lab Sample IDs: 1931920, 1931921

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A79305

Included Lab Sample IDs: 1931918, 1931919

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: A79305

Included Lab Sample IDs: 1931918, 1931919

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79314

Included Lab Sample IDs: 1931920, 1931921

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79368

Included Lab Sample IDs: 1931920, 1931921

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

Reference Method: USGS O-2060-01

Run ID: A79377

Included Lab Sample IDs: 1931934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.7	99.6	P/P	50 - 150
Acetaminophen	97.6	105	P/P	60 - 150
Bentazon	118	115	P/P	50 - 150
Carbamazepine	106	106	P/P	60 - 150
Diuron	103	105	P/P	60 - 150
Fenuron	99.4	100	P/P	60 - 150
Fluridone	100	102	P/P	60 - 160
Imidacloprid	92.2	93.1	P/P	60 - 150
Linuron	104	103	P/P	60 - 150
MCP	99.8	97.8	P/P	50 - 150
Primidone	99.4	95.3	P/P	60 - 150
Triclopyr	98.9	107	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A79451

Included Lab Sample IDs: 1931934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	81.6	90.4	P/P	60 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					7.64	
EPA 350.1 Rev. 2.0	Ammonia-N	103	105	104			0.878
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	96.3	105			5.52
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	106	107	107			0.418
EPA 365.1 Rev. 2.0	Total-P	95.2	90.3	91.4			1.19
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.8	96.7	99.7			3.05
EPA 8321B	Sucralose	92.6	42.3	42.5			0.283
SM 2320 B-97	Total Alkalinity	102				0.498	
SM 4500 F-C-97	Fluoride	97.7	95.9	97.5			0.953
SM 5310 B-00	Organic Carbon	99.8	92.4	92.5			0.132
USGS O-2060-01	2,4-D	74.3	64.1	66.9			3.28
	Acetaminophen	145	82.5	90.5			9.20
	Bentazon	40.2	22.3	29.7			11.2
	Carbamazepine	117	82.1	84.7			2.99
	Diuron	103	57.4	62.9			6.74
	Fenuron	112	82.6	83.1			0.652
	Fluridone	110	66.1	58.8			11.1
	Imidacloprid	102					0.905
	Linuron	107	80.7	85.4			5.66
	MCPP	75.7	50.0	51.8			3.10
	Primidone	109	91.9	91.9			0.0440
	Triclopyr	72.5	50.6	52.6			3.91

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1931918, 1931919
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1931920, 1931921
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1931920, 1931921
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1931920, 1931921
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1931920, 1931921
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1931922, 1931923
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1931934
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1931918, 1931919
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1931918, 1931919
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1931918, 1931919
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1931920, 1931921
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1931934
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1931934

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	09/27/2017			09/27/2017 17:33	Tanya Welborn	1931918, 1931919
EPA 350.1 Rev. 2.0	09/27/2017			10/05/2017	Sofia Elnemr	1931920, 1931921
EPA 351.2 Rev. 2.0	09/27/2017	10/02/2017	Sofia Elnemr	10/03/2017	Joseph Suarez	1931920, 1931921
EPA 353.2 Rev. 2.0	09/27/2017			10/02/2017	Beverly Y. Sanders	1931920, 1931921
EPA 365.1 Rev. 2.0	09/27/2017	09/29/2017	Sima Feizi	10/02/2017	Lipi Saha	1931920, 1931921
EPA 365.1 Rev. 2.0 dissolved	09/27/2017			09/27/2017 14:49	Megan Treadwell	1931922
	09/27/2017			09/27/2017 15:12	Megan Treadwell	1931923
EPA 8321B	09/27/2017	10/02/2017	Hoor Shaik	10/09/2017	Juyoung Kim	1931934
SM 2320 B-97	09/27/2017			10/03/2017	Dale L. Simmons	1931918, 1931919
SM 2540 D-97	09/27/2017			09/29/2017	Yijie Li	1931918, 1931919
SM 4500 F-C-97	09/27/2017			10/03/2017	Dale L. Simmons	1931918, 1931919
SM 5310 B-00	09/27/2017			09/29/2017	Ping Hua	1931920, 1931921
USGS O-2060-01	09/27/2017	10/02/2017	Hoor Shaik	10/06/2017	Julie Michelle Frank	1931934