

Chemical Analysis Report

SO-DIST-2017-03-14-01

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

Event Description: **SMP: Upper Lemon Bay**

Request ID: **RQ-2017-03-13-50**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: Ben Paswater

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 05-APR-2017 13:22



NON-CONFORMANCE REPORT INCLUDED

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: LEMON BAY NEAR INDIAN MOUND PARK

Collection Date/Time: 03/13/2017 11:45

Field ID: G2SD031317-1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879838	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P321563	
	SM 2320 B-97	Total Alkalinity	141		mg CaCO3/L	P321701	
	SM 2540 D-97	TSS	4	I	mg/L	P322180	
	SM 4500 F-C-97	Fluoride	1.3		mg F/L	P321706	
1879839	EPA 350.1 Rev. 2.0	Ammonia-N	0.013	Y	mg N/L	P321644	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4	Y	mg N/L	P321709	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	IY	mg N/L	P321736	
	EPA 365.1 Rev. 2.0	Total-P	0.029	Y	mg P/L	P321601	
	SM 5310 B-00	Organic Carbon	16	Y	mg C/L	P321640	
1879840	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P321540	

Ref. Method and Comment:

EPA 350.1 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 351.2 Rev. 2.0: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 353.2 Rev. 2.0: NO2NO3-N: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

EPA 365.1 Rev. 2.0: Total-P: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

SM 5310 B-00: The sample was received unpreserved: pH > 2. Sample preserved in laboratory.

Sample Location: WHIDDEN CREEK MIDDLE POINT

Collection Date/Time: 03/13/2017 13:20

Field ID: G2SD031317-2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1879844	EPA 8321B	Sucralose**	0.038	I	ug/L	P321383	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P321386	
		Diuron	0.0040	U	ug/L	P321386	
		Fenuron	0.0080	U	ug/L	P321386	
		Imidacloprid	0.0040	U	ug/L	P321386	
		Bentazon	0.0040	U	ug/L	P321386	
		Linuron	0.0040	UJ	ug/L	P321386	CCV
		Acetaminophen**	0.0040	U	ug/L	P321386	
		MCP	0.0040	U	ug/L	P321386	MS
		Carbamazepine**	4.0E-04	U	ug/L	P321386	
		Triclopyr**	0.010	U	ug/L	P321386	
		Primidone**	0.0080	U	ug/L	P321386	
		Fluridone**	4.0E-04	U	ug/L	P321386	MS, RPD

Ref. Method and Comment:

USGS O-2060-01: MS accuracy for 2,4-D, bentazon and triclopyr could not be assessed due to high concentration of parameter in the spiked sample.

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

Non-Conformance Report

NCR ID: 6305

Event(s)

SO-DIST-2017-03-14-01

Job(s)

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample(s) not preserved to pH<2.
1879839

Non-Conformance Report

NCR ID: 6305

Event(s) **Job(s)** **Sample(s)** **Test(s)**
Resolution: Sample preserved in lab on 03-14-2017 at 10:48 with Sulfuric Acid

Authorised by/Date: Ramsey K. White 3/20/2017

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry Colin Wright (850) 245-8085
Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P321563

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P321644

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P321709

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

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P321736

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P321601

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P321540

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

Reference Method: EPA 8321B

Batch ID: P321383

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P321701

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

Reference Method: SM 2540 D-97
Batch ID: P322180

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P321706

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P321640

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

Reference Method: USGS O-2060-01
Batch ID: P321386

Component	Result	Code	Units
2,4-D	0.0040	U	ug/L
Acetaminophen	0.0040	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 350.1 Rev. 2.0
Batch ID: P321644

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321709

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P321736

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P321601

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P321540

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

Reference Method: EPA 8321B
 Batch ID: P321383

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	98.9		P	40 - 140

Reference Method: SM 2320 B-97
 Batch ID: P321701

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

Reference Method: SM 4500 F-C-97
 Batch ID: P321706

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.1		P	92 - 103

Reference Method: SM 5310 B-00
 Batch ID: P321640

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

Reference Method: USGS O-2060-01
 Batch ID: P321386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.4		P	40 - 140
Acetaminophen	97.2		P	40 - 140
Bentazon	72.4		P	40 - 140
Carbamazepine	116		P	40 - 140
Diuron	98.0		P	40 - 140
Fenuron	90.0		P	40 - 140
Fluridone	70.0		P	40 - 140
Imidacloprid	85.6		P	40 - 160
Linuron	66.4		P	40 - 140
MCPP	118		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P321386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	80.4		P	40 - 140
Triclopyr	86.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P321644

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879747	Ammonia-N	98.1	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P321709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879849	Kjeldahl Nitrogen	96.8	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P321736

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879746	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P321601

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879746	Total-P	99.5	99.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P321540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879748	O-Phosphate-P	102	99.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P321383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879896	Sucralose	84.1	87.1	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P321706

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879745	Fluoride	97.0	97.8	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P321640

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879687	Organic Carbon	92.8	93.5	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P321386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1879826	Acetaminophen	49.6	43.2	P/P	40 - 140
1879826	Carbamazepine	50.4	53.2	P/P	40 - 140
1879826	Diuron	53.2	55.2	P/P	40 - 140
1879826	Fenuron	42.0	42.4	P/P	40 - 140
1879826	Fluridone	5.17	10.0	F/F	40 - 140
1879826	Imidacloprid	103	111	P/P	40 - 160
1879826	Linuron	66.0	55.2	P/P	40 - 140
1879826	MCP	144	143	F/F	40 - 140
1879826	Primidone	54.8	48.8	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P321563

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879737	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P321644

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879747	Ammonia-N	0.750	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P321709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879849	Kjeldahl Nitrogen	3.11	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P321736

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879746	NO ₂ NO ₃ -N	0.345	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P321601

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879746	Total-P	0.246	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P321540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879748	O-Phosphate-P	2.49	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P321383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879896	Sucralose	3.44	Spike	P	0 - 30

Reference Method: SM 2320 B-97

Batch ID: P321701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879745	Total Alkalinity	0.544	Sample	P	0 - 4.8

Reference Method: SM 2540 D-97

Batch ID: P322180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879745	TSS	7.69	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97

Batch ID: P321706

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879745	Fluoride	0.470	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00

Batch ID: P321640

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879687	Organic Carbon	0.546	Spike	P	0 - 20

Reference Method: USGS O-2060-01

Batch ID: P321386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879826	2,4-D	1.22	Spike	P	0 - 30
1879826	Acetaminophen	13.8	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P321386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1879826	Bentazon	8.83	Spike	P	0 - 30
1879826	Carbamazepine	5.41	Spike	P	0 - 30
1879826	Diuron	3.69	Spike	P	0 - 30
1879826	Fenuron	0.948	Spike	P	0 - 30
1879826	Fluridone	41.8	Spike	F	0 - 30
1879826	Imidacloprid	7.11	Spike	P	0 - 30
1879826	Linuron	17.8	Spike	P	0 - 30
1879826	MCPD	1.11	Spike	P	0 - 30
1879826	Primidone	11.6	Spike	P	0 - 30
1879826	Triclopyr	7.79	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: 1879844
Field Sample ID: G2SD031317-2

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	79.5	P	40 - 150
USGS O-2060-01	2,4-D-d3	107	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	67.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	91.2	P	40 - 160
USGS O-2060-01	Diuron-d6	101	P	40 - 150
USGS O-2060-01	Primidone-d5	120	P	40 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A75093
Included Lab Sample IDs: 1879840

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A75104
Included Lab Sample IDs: 1879838

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

Reference Method: SM 5310 B-00
Run ID: A75134
Included Lab Sample IDs: 1879839

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

Reference Method: SM 5310 B-00
Run ID: A75134
Included Lab Sample IDs: 1879839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A75135
Included Lab Sample IDs: 1879844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	116	P/P	60 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A75137
Included Lab Sample IDs: 1879839

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

Reference Method: SM 2320 B-97
Run ID: A75152
Included Lab Sample IDs: 1879838

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

Reference Method: SM 4500 F-C-97
Run ID: A75152
Included Lab Sample IDs: 1879838

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

Reference Method: USGS O-2060-01
Run ID: A75159
Included Lab Sample IDs: 1879844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	103	102	P/P	60 - 150
Carbamazepine	141	149	P/P	60 - 150
Diuron	137	123	P/P	60 - 150
Fenuron	127	121	P/P	60 - 150
Fluridone	96.0	91.6	P/P	60 - 150
Imidacloprid	134	120	P/P	60 - 150
Linuron	169*	176*	F/F	60 - 150
Primidone	124	117	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A75166
Included Lab Sample IDs: 1879839

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A75175

Included Lab Sample IDs: 1879839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	96.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A75215

Included Lab Sample IDs: 1879839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.1	102	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A75269

Included Lab Sample IDs: 1879844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	108	119	P/P	50 - 150
Bentazon	99.4	98.2	P/P	50 - 150
MCP	104	117	P/P	50 - 150
Triclopyr	95.6	99.4	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 350.1 Rev. 2.0	Ammonia-N	98.5	98.1 98.9			0.750
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	103	96.8 101			3.11
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	99.5	102 102			0.345
EPA 365.1 Rev. 2.0	Total-P	102	99.5 99.8			0.246
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	102 99.0			2.49
EPA 8321B	Sucralose	98.9	84.1 87.1			3.44
SM 2320 B-97	Total Alkalinity	104			0.544	
SM 2540 D-97	TSS				7.69	
SM 4500 F-C-97	Fluoride	97.1	97.0 97.8			0.470
SM 5310 B-00	Organic Carbon	94.0	92.8 93.5			0.546
USGS O-2060-01	2,4-D	88.4				1.22
	Acetaminophen	97.2	49.6 43.2			13.8
	Bentazon	72.4				8.83
	Carbamazepine	116	50.4 53.2			5.41
	Diuron	98.0	53.2 55.2			3.69
	Fenuron	90.0	42.0 42.4			0.948
	Fluridone	70.0	5.17 10.0			41.8
	Imidacloprid	85.6	103 111			7.11
	Linuron	66.4	66.0 55.2			17.8
	MCP	118	143 144			1.11
	Primidone	80.4	54.8 48.8			11.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	Precision	
				LCS	SMP
USGS O-2060-01	Triclopyr	86.4			MS
					7.79

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1879838
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1879839
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1879839
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1879839
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1879839
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1879840
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1879844
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1879838
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1879838
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1879838
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1879839
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1879844
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1879844

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	03/14/2017			03/14/2017 16:51	Blanca Fach	1879838
EPA 350.1 Rev. 2.0	03/14/2017			03/15/2017	Sofia Elnemr	1879839
EPA 351.2 Rev. 2.0	03/14/2017	03/17/2017	Adrian Shelby	03/21/2017	Joseph Suarez	1879839
EPA 353.2 Rev. 2.0	03/14/2017			03/17/2017	Beverly Y. Sanders	1879839
EPA 365.1 Rev. 2.0	03/14/2017	03/15/2017	Vijayalakshmi Reddy	03/17/2017	Lipi Saha	1879839
EPA 365.1 Rev. 2.0 dissolved	03/14/2017			03/14/2017 15:53	Ping Hua	1879840
EPA 8321B	03/14/2017	03/15/2017	Mohammad Ghaffari	03/15/2017	Mohammad Ghaffari	1879844
SM 2320 B-97	03/14/2017			03/16/2017	Dale L. Simmons	1879838
SM 2540 D-97	03/14/2017			03/17/2017	Yijie Li	1879838
SM 4500 F-C-97	03/14/2017			03/16/2017	Dale L. Simmons	1879838
SM 5310 B-00	03/14/2017			03/16/2017	Julia Storbeck	1879839
USGS O-2060-01	03/14/2017	03/15/2017	Hoor Shaik	03/18/2017	Juyoung Kim	1879844
	03/14/2017	03/15/2017	Hoor Shaik	03/22/2017	Juyoung Kim	1879844