

Chemical Analysis Report

NE-DIST-2018-04-18-02

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

Event Description: **LSjR Downtownsalt Boat**

Request ID: **RQ-2018-04-09-53**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256-7577
Attn: Jeremy Parrish

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 23-MAY-2018 15:45



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: Metals, 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: Arlington R Cesery Blvd

Collection Date/Time: 04/17/2018 11:00

Field ID: 20030073

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985454	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P343681	
	SM 2320 B-97	Total Alkalinity	63		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	14		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P344300	
1985458	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.83		mg N/L	P343883	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.32		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P343985	
1985462	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.062		mg P/L	P343675	
1985503	EPA 200.7 Rev. 4.4	Iron	620		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.31		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.99	I	ug/L	P343922	
		Copper	1.47		ug/L	P343922	
		Lead	1.0		ug/L	P343922	
		Nickel	0.51	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Sample Location: Arlington River at Carlton Oaks

Collection Date/Time: 04/17/2018 11:25

Field ID: G2NE1152

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985455	EPA 180.1 Rev. 2.0	Turbidity	9.0		NTU	P343681	
	SM 2320 B-97	Total Alkalinity	65		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	12		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P344300	
1985459	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P343883	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P344203	
1985463	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.061		mg P/L	P343675	
1985504	EPA 200.7 Rev. 4.4	Iron	530		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.23		ug/L	P343922	
		Cadmium	0.049	I	ug/L	P343922	
		Chromium	0.85	I	ug/L	P343922	
		Copper	1.36		ug/L	P343922	
		Lead	0.86		ug/L	P343922	
		Nickel	0.47	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Sample Location: Little Pottsburg CR @ Mouth of W Brnch

Collection Date/Time: 04/17/2018 12:05

Field ID: 20030814

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985456	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P343681	
	SM 2320 B-97	Total Alkalinity	65		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	11		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P344300	
1985460	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P343795	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P343980	
1985464	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.062		mg P/L	P343675	
1985505	EPA 200.7 Rev. 4.4	Iron	540		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.30		ug/L	P343922	
		Cadmium	0.129		ug/L	P343922	
		Chromium	0.91	I	ug/L	P343922	
		Copper	1.42		ug/L	P343922	
		Lead	0.88		ug/L	P343922	
		Nickel	0.48	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Sample Location: Little Pottsburg Creek at Atlantic Blvd

Collection Date/Time: 04/17/2018 11:45

Field ID: 20030679

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985457	EPA 180.1 Rev. 2.0	Turbidity	9.8		NTU	P343681	
	SM 2320 B-97	Total Alkalinity	64		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	13	A	mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P344300	
1985461	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P343795	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.31		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P343980	
1985465	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.060		mg P/L	P343676	
1985506	EPA 200.7 Rev. 4.4	Iron	500		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.24		ug/L	P343922	
		Cadmium	0.043	I	ug/L	P343922	
		Chromium	0.74	I	ug/L	P343922	
		Copper	1.43		ug/L	P343922	
		Lead	0.98		ug/L	P343922	
		Nickel	0.44	I	ug/L	P343922	
		Silver	0.043		ug/L	P343922	

Sample Location: Big Pottsburg Cr Atl Blvd

Collection Date/Time: 04/17/2018 10:15

Field ID: 20030072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985466	EPA 180.1 Rev. 2.0	Turbidity	11	A	NTU	P343682	
	SM 2320 B-97	Total Alkalinity	68		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	16		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P344300	
1985469	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P343795	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P343980	
1985472	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.049		mg P/L	P343676	
1985500	EPA 8321B	2,4-D	0.024		ug/L	P343642	
		Bentazon	0.0095		ug/L	P343642	
		MCP	0.0038	I	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.023		ug/L	P343642	
		Diuron	0.0066	I	ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0092	I	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.095		ug/L	P343642	
		Carbamazepine**	0.0015	I	ug/L	P343642	
		Fluridone**	0.0050		ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.21	I	ug/L	P343548	
1985507	EPA 200.7 Rev. 4.4	Iron	570		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.33		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.89	I	ug/L	P343922	
		Copper	1.65		ug/L	P343922	
		Lead	1.16		ug/L	P343922	
		Nickel	0.62	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Sample Location: Big Pottsburg @ 2000M S Atlantic Blvd

Collection Date/Time: 04/17/2018 09:50

Field ID: 20030816

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985467	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P343682	
	SM 2320 B-97	Total Alkalinity	75		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	23		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P344300	

Field ID: 20030816

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985470	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P343795	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P343980	
1985473	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.035		mg P/L	P343676	
1985501	EPA 8321B	2,4-D	0.041		ug/L	P343642	
		Bentazon	0.021		ug/L	P343642	
		MCP	0.0029	I	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.058		ug/L	P343642	
		Diuron	0.023		ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0040	U	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.15		ug/L	P343642	
		Carbamazepine**	0.0029		ug/L	P343642	
		Fluridone**	0.040		ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.13	I	ug/L	P343665	
1985508	EPA 200.7 Rev. 4.4	Iron	700		ug/L	P343922	
		Zinc	5.1	I	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.68		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	1.2	I	ug/L	P343922	
		Copper	2.38		ug/L	P343922	
		Lead	1.86		ug/L	P343922	
		Nickel	1.07		ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

Sample Location: Big Pottsburg Cr Atl Blvd

Collection Date/Time: 04/17/2018 10:30

Field ID: 20030072DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985468	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P343682	
	SM 2320 B-97	Total Alkalinity	67		mg CaCO3/L	P344296	
	SM 2540 D-97	TSS	16		mg/L	P344059	
	SM 4500 F-C-97	Fluoride	0.18		mg F/L	P344300	
1985471	EPA 350.1 Rev. 2.0	Ammonia-N	0.007	Y	mg N/L	P344164	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44	Y	mg N/L	P343795	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.27	Y	mg N/L	P343741	
	EPA 365.1 Rev. 2.0	Total-P	0.11	Y	mg P/L	P343973	
	SM 5310 B-00	Organic Carbon	15	Y	mg C/L	P343980	

Field ID: 20030072DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1985474	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P343676	
1985502	EPA 8321B	2,4-D	0.026		ug/L	P343642	
		Bentazon	0.010		ug/L	P343642	
		MCP	0.0044	I	ug/L	P343642	
		Triclopyr**	0.0040	U	ug/L	P343642	
		Imidacloprid	0.025		ug/L	P343642	
		Diuron	0.0066	I	ug/L	P343642	
		Pyraclostrobin**	0.0020	U	ug/L	P343642	
		Primidone**	0.0040	U	ug/L	P343642	
		Linuron	0.0098	I	ug/L	P343642	
		Acetaminophen**	0.0080	U	ug/L	P343642	
		Fenuron	0.016	U	ug/L	P343642	
		Imazapyr**	0.093		ug/L	P343642	
		Carbamazepine**	0.0018		ug/L	P343642	
		Fluridone**	0.0058		ug/L	P343642	
		Hydrocodone**	8.0E-04	U	ug/L	P343642	
		Sucralose**	0.21	I	ug/L	P343665	
1985509	EPA 200.7 Rev. 4.4	Iron	580		ug/L	P343922	
		Zinc	5.0	U	ug/L	P343922	
	EPA 200.8 Rev. 5.4	Arsenic	1.28		ug/L	P343922	
		Cadmium	0.020	U	ug/L	P343922	
		Chromium	0.98	I	ug/L	P343922	
		Copper	1.55		ug/L	P343922	
		Lead	1.15		ug/L	P343922	
		Nickel	0.57	I	ug/L	P343922	
		Silver	0.010	U	ug/L	P343922	

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: 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.

Non-Conformance Report

NCR ID: 6991

Event(s)

NE-DIST-2018-04-18-02

Job(s)

TLH-2018-04-18-46

Sample(s)

1985471

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with sulfuric acid.
 H2SO4 Lot# SA 7163030 | Expiration Date: 06/12/2018

Authorized by/Date: Joshua Ayres 4/27/2018

Non-Conformance Report

NCR ID: 7008

Event(s)

NE-DIST-2018-04-18-02

Job(s)

TLH-2018-04-18-53

Sample(s)

1985509

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Sample not preserved to pH < 2.

Resolution: Sample preserved in the laboratory with nitric acid 04-18-2018 at 11:25
HNO3 Lot# NA7226050 | Expiration Date: 08/14/2018

Authorized by/Date: Joshua Ayres 4/27/2018

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: P343681

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343682

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Component	Result	Code	Units
Iron	30	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344164

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343795

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343883

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343741

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343973

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343675

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343676

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

Reference Method: EPA 8321B
Batch ID: P343548

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343642

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	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P343642

Component	Result	Code	Units
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P343665

Component	Result	Code	Units
Sucralose	0.10	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P344296

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

Reference Method: SM 2540 D-97
Batch ID: P344059

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P344300

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P343980

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

Reference Method: SM 5310 B-00
Batch ID: P343985

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

Reference Method: SM 5310 B-00
Batch ID: P344203

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	96.0		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	100		P	85 - 115
Copper	103		P	85 - 115
Lead	92.3		P	85 - 115
Nickel	106		P	85 - 115
Silver	102		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344164

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: P343795

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343883

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: P343741

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: P343973

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343675

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343676

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P343548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	118		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343642

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	111		P	40 - 150
Acetaminophen	122		P	30 - 150
Bentazon	134		P	30 - 150
Carbamazepine	116		P	40 - 150
Diuron	80.7		P	40 - 150
Fenuron	134		P	40 - 150
Fluridone	58.8		P	40 - 150
Hydrocodone	115		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	129		P	40 - 160
Linuron	81.4		P	40 - 150
MCPP	105		P	40 - 150
Primidone	139		P	40 - 150
Pyraclostrobin	59.7		P	40 - 150
Triclopyr	105		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P343665

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	105		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P344296

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P344300

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.4		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P343985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P344203

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Iron	101		P	80 - 120
1985437	Zinc	99.4		P	80 - 120
1986543	Iron	97.9	97.0	P/P	80 - 120
1986543	Zinc	98.2	98.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985437	Arsenic	105		P	80 - 120
1985437	Cadmium	104		P	80 - 120
1985437	Chromium	99.3		P	80 - 120
1985437	Copper	99.0		P	80 - 120
1985437	Lead	99.2		P	80 - 120
1985437	Nickel	102		P	80 - 120
1985437	Silver	101		P	80 - 120
1986543	Arsenic	96.5	95.5	P/P	80 - 120
1986543	Cadmium	105	104	P/P	80 - 120
1986543	Chromium	98.6	97.9	P/P	80 - 120
1986543	Copper	98.9	99.4	P/P	80 - 120
1986543	Lead	94.2	93.8	P/P	80 - 120
1986543	Nickel	103	103	P/P	80 - 120
1986543	Silver	103	102	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344164

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985369	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985513	Kjeldahl Nitrogen	105	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P343883

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985901	Kjeldahl Nitrogen	102	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P343741

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985458	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P343973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985370	Total-P	98.0	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P343675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985344	O-Phosphate-P	99.5	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P343676

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985465	O-Phosphate-P	98.9	97.5	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P343548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1984992	Sucralose	51.9	48.9	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P343642

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985615	2,4-D	68.9	71.4	P/P	40 - 150
1985615	Acetaminophen	116	120	P/P	30 - 150
1985615	Bentazon	70.5	89.7	P/P	30 - 150
1985615	Carbamazepine	106	110	P/P	40 - 150
1985615	Diuron	73.3	71.4	P/P	40 - 150
1985615	Fenuron	116	125	P/P	40 - 150
1985615	Fluridone	47.0	47.4	P/P	40 - 150
1985615	Hydrocodone	118	115	P/P	40 - 150
1985615	Imazapyr	78.0	82.2	P/P	40 - 150
1985615	Imidacloprid	128	136	P/P	40 - 160
1985615	Linuron	67.8	71.1	P/P	40 - 150
1985615	MCPP	74.6	66.9	P/P	40 - 150
1985615	Primidone	112	122	P/P	40 - 150
1985615	Pyraclostrobin	60.3	53.3	P/P	40 - 150
1985615	Triclopyr	70.9	70.3	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P343665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985613	Sucralose	71.3	65.1	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P344300

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985334	Fluoride	94.5	96.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P343980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985460	Organic Carbon	94.6	93.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P343985

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985338	Organic Carbon	99.3	107	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P344203

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1985459	Organic Carbon	95.6	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985354	Turbidity	13.3	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P343682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985466	Turbidity	1.79	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Iron	0.921	Spike	P	0 - 20
1986543	Zinc	0.224	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P343922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1986543	Arsenic	1.02	Spike	P	0 - 20
1986543	Cadmium	0.835	Spike	P	0 - 20
1986543	Chromium	0.662	Spike	P	0 - 20
1986543	Copper	0.470	Spike	P	0 - 20
1986543	Lead	0.493	Spike	P	0 - 20
1986543	Nickel	0.571	Spike	P	0 - 20
1986543	Silver	1.03	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P344164

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985369	Ammonia-N	0.285	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985513	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P343883

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985901	Kjeldahl Nitrogen	0.740	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P343741

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985458	NO2NO3-N	0.391	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P343973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985370	Total-P	0.751	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985344	O-Phosphate-P	0.909	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P343676

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985465	O-Phosphate-P	0.883	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P343548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1984992	Sucralose	5.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985615	2,4-D	3.61	Spike	P	0 - 30
1985615	Acetaminophen	3.23	Spike	P	0 - 30
1985615	Bentazon	24.0	Spike	P	0 - 30
1985615	Carbamazepine	3.79	Spike	P	0 - 30
1985615	Diuron	2.69	Spike	P	0 - 30
1985615	Fenuron	7.51	Spike	P	0 - 30
1985615	Fluridone	0.994	Spike	P	0 - 30
1985615	Hydrocodone	2.47	Spike	P	0 - 30
1985615	Imazapyr	5.21	Spike	P	0 - 30
1985615	Imidacloprid	5.51	Spike	P	0 - 30
1985615	Linuron	4.75	Spike	P	0 - 30
1985615	MCP	10.8	Spike	P	0 - 30
1985615	Primidone	9.12	Spike	P	0 - 30
1985615	Pyraclostrobin	12.3	Spike	P	0 - 30
1985615	Triclopyr	0.844	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P343665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985613	Sucralose	7.89	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P344296

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985334	Total Alkalinity	0.474	Sample	P	0 - 1.6

Reference Method: SM 2540 D-97
Batch ID: P344059

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985457	TSS	6.25	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P344300

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985334	Fluoride	1.94	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P343980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985460	Organic Carbon	0.578	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P343985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985338	Organic Carbon	4.38	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P344203

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1985459	Organic Carbon	0.274	Spike	P	0 - 20

* 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: 1985500
Field Sample ID: 20030072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	84.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	121	P	30 - 160
EPA 8321B	Diuron-d6	73.4	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	62.0	P	40 - 160

Lab Sample ID: 1985501
Field Sample ID: 20030816

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	134	P	30 - 160
EPA 8321B	Carbamazepine-d10	127	P	30 - 160
EPA 8321B	Diuron-d6	77.9	P	30 - 160
EPA 8321B	Primidone-d5	143	P	30 - 160
EPA 8321B	Sucralose-d6	57.5	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1985502
Field Sample ID: 20030072DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	117	P	30 - 160
EPA 8321B	Carbamazepine-d10	122	P	30 - 160
EPA 8321B	Diuron-d6	85.1	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	50.8	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A83323

Included Lab Sample IDs: 1985462, 1985463, 1985464, 1985465, 1985472, 1985473, 1985474

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	101	P/P	90 - 110
O-Phosphate-P	102	101	P/P	90 - 110
O-Phosphate-P	99.4	99.4	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A83324

Included Lab Sample IDs: 1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A83333

Included Lab Sample IDs: 1985500

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	96.2	94.5	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A83343

Included Lab Sample IDs: 1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A83370

Included Lab Sample IDs: 1985501, 1985502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	115	94.1	P/P	60 - 150
Sucralose	94.1	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83400

Included Lab Sample IDs: 1985460, 1985461, 1985469, 1985470, 1985471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A83417

Included Lab Sample IDs: 1985458, 1985459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.4	99.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83430

Included Lab Sample IDs: 1985460, 1985461, 1985469, 1985470, 1985471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.9	97.2	P/P	90 - 110
Organic Carbon	98.5	96.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A83431

Included Lab Sample IDs: 1985458

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	104	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A83434

Included Lab Sample IDs: 1985503, 1985504, 1985505, 1985506, 1985507, 1985508, 1985509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	96.0	95.7	P/P	90 - 110
Iron	97.4	96.0	P/P	90 - 110
Zinc	101	103	P/P	90 - 110
Zinc	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A83447

Included Lab Sample IDs: 1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	102	105	P/P	90 - 110
Total-P	105	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A83491

Included Lab Sample IDs: 1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00
Run ID: A83500
Included Lab Sample IDs: 1985459

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	97.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A83523
Included Lab Sample IDs: 1985503, 1985504, 1985505, 1985506, 1985507, 1985508, 1985509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	101	102	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Copper	105	105	P/P	90 - 110
Copper	105	104	P/P	90 - 110
Lead	101	101	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Nickel	104	105	P/P	90 - 110
Nickel	105	104	P/P	90 - 110
Silver	102	103	P/P	90 - 110
Silver	102	102	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A83541
Included Lab Sample IDs: 1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.9	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A83541
Included Lab Sample IDs: 1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A83552
Included Lab Sample IDs: 1985503, 1985504, 1985505, 1985506, 1985507, 1985508, 1985509

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.4	96.8	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A83600
Included Lab Sample IDs: 1985500, 1985501, 1985502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	123	119	P/P	50 - 150
Acetaminophen	137	121	P/P	60 - 150
Bentazon	142	141	P/P	50 - 150
Carbamazepine	127	137	P/P	60 - 150
Diuron	127	135	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A83600

Included Lab Sample IDs: 1985500, 1985501, 1985502

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fenuron	126	132	P/P	60 - 150
Fluridone	112	108	P/P	60 - 160
Hydrocodone	120	116	P/P	60 - 150
Imazapyr	109	126	P/P	50 - 150
Imidacloprid	122	120	P/P	60 - 150
Linuron	129	126	P/P	60 - 150
MCP	128	124	P/P	50 - 150
Primidone	135	116	P/P	60 - 150
Pyraclostrobin	106	101	P/P	60 - 150
Triclopyr	131	127	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				13.3	
	Turbidity				1.79	
EPA 200.7 Rev. 4.4	Iron	103	101 97.9 97.0			0.921
	Zinc	101	99.4 98.2 98.0			0.224
EPA 200.8 Rev. 5.4	Arsenic	96.0	105 96.5 95.5			1.02
	Cadmium	103	104 105 104			0.835
	Chromium	100	99.3 98.6 97.9			0.662
	Copper	103	99.0 98.9 99.4			0.470
	Lead	92.3	99.2 94.2 93.8			0.493
	Nickel	106	102 103 103			0.571
	Silver	102	101 103 102			1.03
EPA 350.1 Rev. 2.0	Ammonia-N	102	102 103			0.285
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107	105 103			1.08
	Kjeldahl Nitrogen	102	102 100			0.740
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	100	98.0			0.391
EPA 365.1 Rev. 2.0	Total-P	105	98.0 97.2			0.751
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	99.5 98.6			0.909
	O-Phosphate-P	98.7	98.9 97.5			0.883
EPA 8321B	2,4-D	111	68.9 71.4			3.61
	Acetaminophen	122	116 120			3.23
	Bentazon	134	70.5 89.7			24.0
	Carbamazepine	116	106 110			3.79
	Diuron	80.7	73.3 71.4			2.69
	Fenuron	134	116 125			7.51
	Fluridone	58.8	47.0 47.4			0.994
	Hydrocodone	115	118 115			2.47
	Imazapyr	107	78.0 82.2			5.21
	Imidacloprid	129	128 136			5.51
	Linuron	81.4	67.8 71.1			4.75
	MCP	105	74.6 66.9			10.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Primidone	139	112	122		9.12
	Pyraclostrobin	59.7	60.3	53.3		12.3
	Sucralose	118	51.9	48.9		5.19
	Sucralose	105	71.3	65.1		7.89
	Triclopyr	105	70.9	70.3		0.844
SM 2320 B-97	Total Alkalinity	101			0.474	
SM 2540 D-97	TSS				6.25	
SM 4500 F-C-97	Fluoride	95.4	94.5	96.7		1.94
SM 5310 B-00	Organic Carbon	95.0	94.6	93.6		0.578
	Organic Carbon	99.2	99.3	107		4.38
	Organic Carbon	95.4	95.6	95.0		0.274

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1985503, 1985504, 1985505, 1985506, 1985507, 1985508, 1985509
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1985503, 1985504, 1985505, 1985506, 1985507, 1985508, 1985509
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1985462, 1985463, 1985464, 1985465, 1985472, 1985473, 1985474
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1985500, 1985501, 1985502
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1985458, 1985459, 1985460, 1985461, 1985469, 1985470, 1985471

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	04/18/2018			04/18/2018 16:38	William L. Brown IV	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
EPA 200.7 Rev. 4.4	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 16:25	Martin Acosta	1985503
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 16:38	Martin Acosta	1985504
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 16:52	Martin Acosta	1985505
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 17:28	Martin Acosta	1985506
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 17:43	Martin Acosta	1985507
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 17:57	Martin Acosta	1985508
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/24/2018 18:03	Martin Acosta	1985509
EPA 200.8 Rev. 5.4	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 01:20	Robert K Palmer	1985503
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 01:59	Robert K Palmer	1985504
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 02:08	Robert K Palmer	1985505
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 02:18	Robert K Palmer	1985506
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 02:28	Robert K Palmer	1985507
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 02:37	Robert K Palmer	1985508
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/28/2018 02:47	Robert K Palmer	1985509
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:32	Robert K Palmer	1985503
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:37	Robert K Palmer	1985504
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:41	Robert K Palmer	1985505
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:46	Robert K Palmer	1985506
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:50	Robert K Palmer	1985507
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:55	Robert K Palmer	1985508
	04/18/2018	04/23/2018 17:50	Elliott D. Healy	04/30/2018 11:59	Robert K Palmer	1985509
EPA 350.1 Rev. 2.0	04/18/2018			04/24/2018 11:31	Ping Hua	1985458
	04/18/2018			04/24/2018 11:32	Ping Hua	1985459
	04/18/2018			04/24/2018 11:34	Ping Hua	1985460
	04/18/2018			04/24/2018 11:35	Ping Hua	1985461
	04/18/2018			04/24/2018 11:37	Ping Hua	1985469
	04/18/2018			04/24/2018 11:38	Ping Hua	1985470
	04/18/2018			04/24/2018 11:40	Ping Hua	1985471
EPA 351.2 Rev. 2.0	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 14:01	Joseph Suarez	1985460
	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 14:02	Joseph Suarez	1985461
	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 14:04	Joseph Suarez	1985469
	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 14:05	Joseph Suarez	1985470
	04/18/2018	04/20/2018 10:50	Adrian Shelby	04/23/2018 14:07	Joseph Suarez	1985471
	04/18/2018	04/23/2018 11:15	Adrian Shelby	04/24/2018 11:43	Joseph Suarez	1985458
	04/18/2018	04/23/2018 11:15	Adrian Shelby	04/24/2018 11:45	Joseph Suarez	1985459
EPA 353.2 Rev. 2.0	04/18/2018			04/19/2018 12:27	Lauren Bottorf	1985458
	04/18/2018			04/19/2018 12:34	Lauren Bottorf	1985469
	04/18/2018			04/19/2018 12:35	Lauren Bottorf	1985471

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	04/18/2018			04/19/2018 12:36	Lauren Bottorf	1985459
	04/18/2018			04/19/2018 12:38	Lauren Bottorf	1985460
	04/18/2018			04/19/2018 12:39	Lauren Bottorf	1985461
	04/18/2018			04/19/2018 12:40	Lauren Bottorf	1985470
EPA 365.1 Rev. 2.0	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:03	Beverly Y. Sanders	1985458
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:04	Beverly Y. Sanders	1985459
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:05	Beverly Y. Sanders	1985460
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:06	Beverly Y. Sanders	1985461
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:08	Beverly Y. Sanders	1985469
	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:11	Beverly Y. Sanders	1985470
EPA 365.1 Rev. 2.0 dissolved	04/18/2018	04/24/2018 15:27	Sima Feizi	04/25/2018 09:12	Beverly Y. Sanders	1985471
	04/18/2018			04/18/2018 15:27	Megan Treadwell	1985465
	04/18/2018			04/18/2018 15:55	Megan Treadwell	1985462
	04/18/2018			04/18/2018 15:56	Megan Treadwell	1985464
	04/18/2018			04/18/2018 15:57	Megan Treadwell	1985472
	04/18/2018			04/18/2018 15:58	Megan Treadwell	1985473
EPA 8321B	04/18/2018			04/18/2018 15:59	Megan Treadwell	1985474
	04/18/2018			04/18/2018 16:09	Megan Treadwell	1985463
	04/18/2018	04/18/2018 12:00	Hoor Shaik	04/18/2018 19:37	S. M. Reddy	1985500
	04/18/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 17:24	S. M. Reddy	1985501
	04/18/2018	04/19/2018 12:30	Hoor Shaik	04/19/2018 17:56	S. M. Reddy	1985502
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 13:09	Julie Michelle Frank	1985500
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 13:43	Julie Michelle Frank	1985501
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/22/2018 14:18	Julie Michelle Frank	1985502
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/23/2018 04:44	Julie Michelle Frank	1985500
	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/23/2018 05:19	Julie Michelle Frank	1985501
SM 2320 B-97	04/18/2018	04/20/2018 10:00	Hoor Shaik	04/23/2018 05:54	Julie Michelle Frank	1985502
	04/18/2018			04/27/2018 23:13	Dale L. Simmons	1985467
	04/18/2018			04/27/2018 23:43	Dale L. Simmons	1985454
	04/18/2018			04/27/2018 23:53	Dale L. Simmons	1985455
	04/18/2018			04/28/2018 00:03	Dale L. Simmons	1985456
	04/18/2018			04/28/2018 00:13	Dale L. Simmons	1985457
	04/18/2018			04/28/2018 00:23	Dale L. Simmons	1985466
	04/18/2018			04/28/2018 00:33	Dale L. Simmons	1985468
	04/18/2018			04/21/2018 23:06	Yijie Li	1985454, 1985455, 1985456, 1985457, 1985466, 1985467, 1985468
	04/18/2018					
SM 4500 F-C-97	04/18/2018			04/27/2018 23:13	Dale L. Simmons	1985467
	04/18/2018			04/27/2018 23:43	Dale L. Simmons	1985454
	04/18/2018			04/27/2018 23:53	Dale L. Simmons	1985455
	04/18/2018			04/28/2018 00:03	Dale L. Simmons	1985456

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	04/18/2018			04/28/2018 00:13	Dale L. Simmons	1985457
	04/18/2018			04/28/2018 00:23	Dale L. Simmons	1985466
	04/18/2018			04/28/2018 00:33	Dale L. Simmons	1985468
SM 5310 B-00	04/18/2018			04/23/2018 16:53	Megan Treadwell	1985460
	04/18/2018			04/23/2018 18:08	Megan Treadwell	1985461
	04/18/2018			04/23/2018 18:39	Megan Treadwell	1985469
	04/18/2018			04/23/2018 18:54	Megan Treadwell	1985470
	04/18/2018			04/23/2018 19:37	Megan Treadwell	1985471
	04/18/2018			04/24/2018 08:19	Megan Treadwell	1985458
	04/18/2018			04/25/2018 13:44	Megan Treadwell	1985459