

Chemical Analysis Report

NE-DIST-2018-07-25-01

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

Event Description: **LSJR Coast boat**
Request ID: **RQ-2018-07-16-22**
Customer: **NE-DIST**
Project ID: **SMP**

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

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 16-AUG-2018 16:01



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: GREENFIELD CREEK @ WONDERWOOD DR Collection Date/Time: 07/24/2018 10:05

Field ID: G2NE1137

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010501	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P349129	
	SM 2320 B-97	Total Alkalinity	81	A	mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	16		mg/L	P349373	
	SM 4500 F-C-97	Fluoride	0.49		mg F/L	P349358	
2010506	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P349323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.79		mg N/L	P349376	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.087		mg P/L	P349365	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P349298	
2010511	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.045		mg P/L	P349142	
2010551	EPA 8321B	2,4-D	0.012		ug/L	P349092	
		Sucralose**	0.13		ug/L	P349176	
		Bentazon	0.014		ug/L	P349092	
		MCP	0.0020	U	ug/L	P349092	
		Triclopyr**	0.0040	U	ug/L	P349092	MS
		Imidacloprid	0.020		ug/L	P349092	
		Diuron	0.0051	I	ug/L	P349092	
		Pyraclostrobin**	0.0020	U	ug/L	P349092	
		Primidone**	0.0040	U	ug/L	P349092	
		Linuron	0.0040	U	ug/L	P349092	
		Acetaminophen**	0.0080	U	ug/L	P349092	
		Fenuron	0.016	U	ug/L	P349092	
		Imazapyr**	0.048		ug/L	P349092	
		Carbamazepine**	8.0E-04	U	ug/L	P349092	
		Fluridone**	0.0066		ug/L	P349092	
		Hydrocodone**	8.0E-04	U	ug/L	P349092	
		Naproxen**	0.0080	U	ug/L	P349092	
		Ibuprofen**	0.020	U	ug/L	P349092	

Sample Location: GREENFIELD CREEK @ END OF BUCCANEER Collection Date/Time: 07/24/2018 10:15

Field ID: G2NE1154

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010502	EPA 180.1 Rev. 2.0	Turbidity	10		NTU	P349129	
	SM 2320 B-97	Total Alkalinity	81		mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	16	A	mg/L	P349373	
	SM 4500 F-C-97	Fluoride	0.54		mg F/L	P349358	
2010507	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P349323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P349376	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.10		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.089		mg P/L	P349365	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349298	
2010512	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.047		mg P/L	P349142	
2010552	EPA 8321B	2,4-D	0.038		ug/L	P349092	
		Sucralose**	0.20		ug/L	P349176	
		Bentazon	0.0087		ug/L	P349092	
		MCP	0.0020	U	ug/L	P349092	
		Triclopyr**	0.0040	U	ug/L	P349092	MS
		Imidacloprid	0.012		ug/L	P349092	
		Diuron	0.011		ug/L	P349092	
		Pyraclostrobin**	0.0020	U	ug/L	P349092	
		Primidone**	0.0040	U	ug/L	P349092	
		Linuron	0.0040	U	ug/L	P349092	
		Acetaminophen**	0.0080	U	ug/L	P349092	
		Fenuron	0.016	U	ug/L	P349092	
		Imazapyr**	0.048		ug/L	P349092	
		Carbamazepine**	8.0E-04	U	ug/L	P349092	
		Fluridone**	0.014		ug/L	P349092	
		Hydrocodone**	8.0E-04	U	ug/L	P349092	
		Naproxen**	0.0080	U	ug/L	P349092	
		Ibuprofen**	0.020	U	ug/L	P349092	

Sample Location: SISTERS CREEK @ HECKSCHER DR

Collection Date/Time: 07/24/2018 11:30

Field ID: 20030491

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010498	EPA 180.1 Rev. 2.0	Turbidity	9.0		NTU	P349129	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	16		mg/L	P349373	
	SM 4500 F-C-97	Fluoride	0.61		mg F/L	P349358	
2010499	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P349323	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P349376	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P349365	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P349298	
2010500	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.046		mg P/L	P349142	
2010556	EPA 200.7 Rev. 4.4	Iron	480		ug/L	P349498	
	EPA 200.8 Rev. 5.4	Arsenic	2.04		ug/L	P349498	
		Cadmium	0.060	U	ug/L	P349498	
		Chromium	1.2	U	ug/L	P349498	
		Copper	0.72	I	ug/L	P350102	
		Lead	0.59	I	ug/L	P349498	
		Nickel	5.5		ug/L	P349498	
		Silver	0.030	U	ug/L	P349498	
		Zinc	3.0	U	ug/L	P349498	

Sample Location: SHERMAN CREEK @ CONFL.SANPABLO

Collection Date/Time: 07/24/2018 09:35

Field ID: 20030802

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010503	EPA 180.1 Rev. 2.0	Turbidity	10	A	NTU	P349130	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	19		mg/L	P349373	
	SM 4500 F-C-97	Fluoride	0.59		mg F/L	P349358	
2010508	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P349521	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.78		mg N/L	P349383	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P349381	MS
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349364	
2010513	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.050		mg P/L	P349142	
2010553	EPA 8321B	2,4-D	0.0063	I	ug/L	P349092	
		Sucralose**	0.22		ug/L	P349176	
		Bentazon	0.0052		ug/L	P349092	
		MCP	0.0020	U	ug/L	P349092	
		Triclopyr**	0.0040	U	ug/L	P349092	MS
		Imidacloprid	0.011		ug/L	P349092	
		Diuron	0.0050	I	ug/L	P349092	
		Pyraclostrobin**	0.0020	U	ug/L	P349092	
		Primidone**	0.0040	U	ug/L	P349092	
		Linuron	0.0040	U	ug/L	P349092	
		Acetaminophen**	0.0080	U	ug/L	P349092	
		Fenuron	0.016	U	ug/L	P349092	
		Imazapyr**	0.036		ug/L	P349092	
		Carbamazepine**	8.0E-04	U	ug/L	P349092	
		Fluridone**	0.0028		ug/L	P349092	
		Hydrocodone**	8.0E-04	U	ug/L	P349092	
		Naproxen**	0.0080	U	ug/L	P349092	
		Ibuprofen**	0.020	U	ug/L	P349092	

Sample Location: SHERMAN CR AT BRIDGE

Collection Date/Time: 07/24/2018 09:25

Field ID: 27010002

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010504	EPA 180.1 Rev. 2.0	Turbidity	9.6		NTU	P349130	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	16		mg/L	P349373	
	SM 4500 F-C-97	Fluoride	0.58		mg F/L	P349358	
2010509	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P349521	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P349383	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.093		mg P/L	P349381	MS
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349364	
2010514	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.053		mg P/L	P349142	
2010554	EPA 8321B	2,4-D	0.0064	I	ug/L	P349092	
		Sucralose**	0.24		ug/L	P349176	
		Bentazon	0.0063		ug/L	P349092	
		MCP	0.0020	U	ug/L	P349092	
		Triclopyr**	0.0040	U	ug/L	P349092	MS
		Imidacloprid	0.013		ug/L	P349092	
		Diuron	0.0051	I	ug/L	P349092	
		Pyraclostrobin**	0.0020	U	ug/L	P349092	
		Primidone**	0.0040	U	ug/L	P349092	
		Linuron	0.0040	U	ug/L	P349092	
		Acetaminophen**	0.0080	U	ug/L	P349092	
		Fenuron	0.016	U	ug/L	P349092	
		Imazapyr**	0.040		ug/L	P349092	
		Carbamazepine**	8.0E-04	U	ug/L	P349092	
		Fluridone**	0.0029		ug/L	P349092	
		Hydrocodone**	8.0E-04	U	ug/L	P349092	
		Naproxen**	0.0080	U	ug/L	P349092	
		Ibuprofen**	0.020	U	ug/L	P349092	

Sample Location: HOPKINS @ KINGS RD

Collection Date/Time: 07/24/2018 10:55

Field ID: 20030758

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2010505	EPA 180.1 Rev. 2.0	Turbidity	8.2		NTU	P349130	
	SM 2320 B-97	Total Alkalinity	88		mg CaCO3/L	P349354	
	SM 2540 D-97	TSS	13	A	mg/L	P349374	
	SM 4500 F-C-97	Fluoride	0.49		mg F/L	P349358	
2010510	EPA 350.1 Rev. 2.0	Ammonia-N	0.064		mg N/L	P349521	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P349383	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.088		mg N/L	P349202	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P349381	MS
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349364	
2010515	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.057		mg P/L	P349142	
2010555	EPA 8321B	2,4-D	0.047		ug/L	P349092	
		Sucralose**	0.010	U	ug/L	P349176	
		Bentazon	0.011		ug/L	P349092	
		MCP	0.0024	I	ug/L	P349092	
		Triclopyr**	0.0040	U	ug/L	P349092	MS
		Imidacloprid	0.014		ug/L	P349092	
		Diuron	0.012		ug/L	P349092	
		Pyraclostrobin**	0.0020	U	ug/L	P349092	
		Primidone**	0.0040	U	ug/L	P349092	
		Linuron	0.0040	U	ug/L	P349092	
		Acetaminophen**	0.0080	U	ug/L	P349092	
		Fenuron	0.016	U	ug/L	P349092	
		Imazapyr**	0.058		ug/L	P349092	
		Carbamazepine**	8.0E-04	U	ug/L	P349092	
		Fluridone**	0.020		ug/L	P349092	
		Hydrocodone**	8.0E-04	U	ug/L	P349092	
		Naproxen**	0.0080	U	ug/L	P349092	
		Ibuprofen**	0.020	U	ug/L	P349092	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349129

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349130

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349498

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349498

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350102

Component	Result	Code	Units
Copper	0.20	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349323

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349521

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349376

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349383

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349202

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349365

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349381

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349142

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

Reference Method: EPA 8321B
Batch ID: P349092

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	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	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: P349176

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P349176

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P349354

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

Reference Method: SM 2540 D-97
Batch ID: P349373

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P349374

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P349358

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349298

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

Reference Method: SM 5310 B-00
Batch ID: P349364

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: P349498

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349498

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.0		P	85 - 115
Cadmium	98.1		P	85 - 115
Chromium	95.2		P	85 - 115
Lead	95.8		P	85 - 115
Nickel	99.6		P	85 - 115
Silver	101		P	85 - 115
Zinc	97.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	90.9		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349323

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349521

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: P349376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349383

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349202

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349365

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349381

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349142

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

Reference Method: EPA 8321B
Batch ID: P349092

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	91.9		P	40 - 150
Acetaminophen	87.4		P	30 - 150
Bentazon	96.2		P	30 - 150
Carbamazepine	81.8		P	40 - 150
Diuron	62.4		P	40 - 150
Fenuron	96.0		P	40 - 150
Fluridone	78.7		P	40 - 150
Hydrocodone	84.3		P	40 - 150
Ibuprofen	58.9		P	40 - 150
Imazapyr	98.7		P	40 - 150
Imidacloprid	104		P	40 - 160
Linuron	69.0		P	40 - 150
MCPP	93.3		P	40 - 150
Naproxen	84.9		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	70.2		P	40 - 150
Triclopyr	95.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P349176

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	106		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P349354

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P349358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P349358

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.2		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P349364

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010697	Iron	103	105	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349498

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010697	Arsenic	103	105	P/P	70 - 130
2010697	Cadmium	92.4	92.7	P/P	70 - 130
2010697	Chromium	83.1	85.8	P/P	70 - 130
2010697	Lead	109	108	P/P	70 - 130
2010697	Nickel	90.8	90.8	P/P	70 - 130
2010697	Silver	91.5	90.4	P/P	70 - 130
2010697	Zinc	89.1	89.7	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010556	Copper	84.1	87.8	P/P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349323

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010382	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010508	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010101	Kjeldahl Nitrogen	97.2	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349383

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010710	Kjeldahl Nitrogen	100	94.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010499	NO2NO3-N	101	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349365

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010499	Total-P	92.6	94.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010711	Total-P	85.8	87.2	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010514	O-Phosphate-P	97.1	97.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P349092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010342	2,4-D	136	120	P/P	40 - 150
2010342	Acetaminophen	74.0	75.0	P/P	30 - 150
2010342	Bentazon	65.3	58.1	P/P	30 - 150
2010342	Carbamazepine	56.9	51.6	P/P	40 - 150
2010342	Diuron	53.2	52.3	P/P	40 - 150
2010342	Fenuron	69.4	74.3	P/P	40 - 150
2010342	Fluridone	65.7	60.8	P/P	40 - 150
2010342	Hydrocodone	80.2	71.5	P/P	40 - 150
2010342	Ibuprofen	81.6	70.5	P/P	40 - 150
2010342	Imazapyr	79.3	97.1	P/P	40 - 150
2010342	Imidacloprid	128	117	P/P	40 - 160
2010342	Linuron	65.5	60.5	P/P	40 - 150
2010342	MCP	143	136	P/P	40 - 150
2010342	Naproxen	95.6	98.2	P/P	40 - 150
2010342	Primidone	75.4	74.7	P/P	40 - 150
2010342	Pyraclostrobin	71.3	68.6	P/P	40 - 150
2010342	Triclopyr	161	154	F/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P349176

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010469	Sucralose	60.6	73.9	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P349358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010501	Fluoride	94.0	94.8	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P349298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010343	Organic Carbon	93.5	91.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P349364

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010509	Organic Carbon	95.2	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349129

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010222	Turbidity	2.62	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349130

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010503	Turbidity	7.10	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010697	Iron	1.74	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349498

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010697	Arsenic	1.14	Spike	P	0 - 20
2010697	Cadmium	0.338	Spike	P	0 - 20
2010697	Chromium	3.29	Spike	P	0 - 20
2010697	Lead	0.795	Spike	P	0 - 20
2010697	Nickel	0.0799	Spike	P	0 - 20
2010697	Silver	1.21	Spike	P	0 - 20
2010697	Zinc	0.635	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010556	Copper	4.19	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349323

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010382	Ammonia-N	1.20	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010508	Ammonia-N	0.595	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010101	Kjeldahl Nitrogen	2.91	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349383

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010710	Kjeldahl Nitrogen	5.03	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010499	NO2NO3-N	0.946	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349365

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010499	Total-P	1.36	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010711	Total-P	1.55	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010514	O-Phosphate-P	0.133	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P349092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010342	2,4-D	12.6	Spike	P	0 - 30
2010342	Acetaminophen	1.31	Spike	P	0 - 30
2010342	Bentazon	10.8	Spike	P	0 - 30
2010342	Carbamazepine	9.90	Spike	P	0 - 30
2010342	Diuron	1.71	Spike	P	0 - 30
2010342	Fenuron	6.74	Spike	P	0 - 30
2010342	Fluridone	7.85	Spike	P	0 - 30
2010342	Hydrocodone	11.5	Spike	P	0 - 30
2010342	Ibuprofen	14.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P349092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010342	Imazapyr	9.50	Spike	P	0 - 30
2010342	Imidacloprid	8.02	Spike	P	0 - 30
2010342	Linuron	7.94	Spike	P	0 - 30
2010342	MCPP	5.05	Spike	P	0 - 30
2010342	Naproxen	2.67	Spike	P	0 - 30
2010342	Primidone	0.991	Spike	P	0 - 30
2010342	Pyraclostrobin	3.92	Spike	P	0 - 30
2010342	Triclopyr	4.33	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P349176

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010469	Sucralose	19.7	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P349354

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010501	Total Alkalinity	0.00756	Sample	P	0 - 1.6

Reference Method: SM 2540 D-97
Batch ID: P349373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010502	TSS	4.88	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P349374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010505	TSS	3.08	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P349358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010501	Fluoride	0.483	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010343	Organic Carbon	1.52	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P349364

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010509	Organic Carbon	0.957	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: 2010551
Field Sample ID: G2NE1137

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.4	P	30 - 160
EPA 8321B	Diuron-d6	75.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.1	P	40 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	99.6	P	40 - 160

Lab Sample ID: 2010552
Field Sample ID: G2NE1154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	116	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.2	P	30 - 160
EPA 8321B	Diuron-d6	73.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.6	P	40 - 160
EPA 8321B	Primidone-d5	102	P	30 - 160
EPA 8321B	Sucralose-d6	95.4	P	40 - 160

Lab Sample ID: 2010553
Field Sample ID: 20030802

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	105	P	30 - 160
EPA 8321B	Acetaminophen-d4	92.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.9	P	30 - 160
EPA 8321B	Diuron-d6	84.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.7	P	40 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	79.2	P	40 - 160

Lab Sample ID: 2010554
Field Sample ID: 27010002

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.4	P	30 - 160
EPA 8321B	Diuron-d6	80.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.0	P	40 - 160
EPA 8321B	Primidone-d5	117	P	30 - 160
EPA 8321B	Sucralose-d6	118	P	40 - 160

Lab Sample ID: 2010555
Field Sample ID: 20030758

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	126	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.4	P	30 - 160
EPA 8321B	Diuron-d6	74.9	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2010555
Field Sample ID: 20030758

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Ibuprofen-d3	78.7	P	40 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	85.1	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A85472

Included Lab Sample IDs: 2010498, 2010501, 2010502, 2010503, 2010504, 2010505

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A85473

Included Lab Sample IDs: 2010500, 2010511, 2010512, 2010513, 2010514, 2010515

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.1	96.1	P/P	90 - 110
O-Phosphate-P	97.6	98.1	P/P	90 - 110
O-Phosphate-P	98.6	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A85494

Included Lab Sample IDs: 2010499, 2010506, 2010507, 2010508, 2010509, 2010510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A85527

Included Lab Sample IDs: 2010499, 2010506, 2010507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	96.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85536

Included Lab Sample IDs: 2010499, 2010506, 2010507

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

Reference Method: SM 2320 B-97

Run ID: A85546

Included Lab Sample IDs: 2010498, 2010501, 2010502, 2010503, 2010504, 2010505

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	101	P/P	90 - 110
Total Alkalinity	99.8	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A85546

Included Lab Sample IDs: 2010498, 2010501, 2010502, 2010503, 2010504, 2010505

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A85549

Included Lab Sample IDs: 2010508, 2010509, 2010510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85579

Included Lab Sample IDs: 2010499, 2010506, 2010507

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.8	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A85584

Included Lab Sample IDs: 2010499, 2010506, 2010507, 2010508, 2010509, 2010510

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

Reference Method: EPA 8321B

Run ID: A85602

Included Lab Sample IDs: 2010551, 2010552, 2010553, 2010554, 2010555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	118	122	P/P	60 - 160
Sucralose	133	118	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A85609

Included Lab Sample IDs: 2010551, 2010552

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.4	78.6	P/P	50 - 150
Bentazon	123	117	P/P	50 - 150
Ibuprofen	130	119	P/P	50 - 150
MCP	94.7	83.0	P/P	50 - 150
Naproxen	90.4	83.1	P/P	60 - 150
Triclopyr	94.5	95.0	P/P	50 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A85615

Included Lab Sample IDs: 2010508, 2010509, 2010510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	94.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A85621

Included Lab Sample IDs: 2010508, 2010509, 2010510

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A85629

Included Lab Sample IDs: 2010553, 2010554, 2010555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	128	106	P/P	50 - 150
Bentazon	102	115	P/P	50 - 150
Ibuprofen	82.4	74.3	P/P	50 - 150
MCP	100	98.3	P/P	50 - 150
Naproxen	112	118	P/P	60 - 150
Triclopyr	98.7	74.1	P/P	50 - 160

Reference Method: EPA 8321B

Run ID: A85635

Included Lab Sample IDs: 2010551, 2010552, 2010553, 2010554, 2010555

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	84.4	87.9	P/P	60 - 150
Acetaminophen	99.9	84.4	P/P	60 - 150
Carbamazepine	101	95.5	P/P	60 - 150
Carbamazepine	95.5	96.1	P/P	60 - 150
Diuron	87.3	88.3	P/P	60 - 150
Diuron	88.3	93.6	P/P	60 - 150
Fenuron	79.9	77.4	P/P	60 - 150
Fenuron	90.5	79.9	P/P	60 - 150
Fluridone	90.9	91.4	P/P	60 - 160
Fluridone	96.9	90.9	P/P	60 - 160
Hydrocodone	91.2	88.4	P/P	60 - 150
Hydrocodone	97.2	91.2	P/P	60 - 150
Imazapyr	102	94.1	P/P	50 - 150
Imazapyr	94.1	98.7	P/P	50 - 150
Imidacloprid	85.1	76.4	P/P	60 - 150
Imidacloprid	93.7	85.1	P/P	60 - 150
Linuron	84.0	91.8	P/P	60 - 150
Linuron	91.8	86.2	P/P	60 - 150
Primidone	110	87.2	P/P	60 - 150
Primidone	87.2	107	P/P	60 - 150
Pyraclostrobin	85.0	88.7	P/P	60 - 150
Pyraclostrobin	93.0	85.0	P/P	60 - 150

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A85663

Included Lab Sample IDs: 2010556

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85706

Included Lab Sample IDs: 2010556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.9	96.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85707

Included Lab Sample IDs: 2010556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Cadmium	98.4	96.9	P/P	90 - 110
Lead	98.7	98.6	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Silver	101	100	P/P	90 - 110
Zinc	99.8	99.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A85907

Included Lab Sample IDs: 2010556

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.8	99.1	P/P	90 - 110

* 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					2.62	
	Turbidity					7.10	
EPA 200.7 Rev. 4.4	Iron	105	103	105			1.74
EPA 200.8 Rev. 5.4	Arsenic	98.0	103	105			1.14
	Cadmium	98.1	92.4	92.7			0.338
	Chromium	95.2	83.1	85.8			3.29
	Copper	90.9	84.1	87.8			4.19
	Lead	95.8	109	108			0.795
	Nickel	99.6	90.8	90.8			0.0799
	Silver	101	91.5	90.4			1.21
	Zinc	97.9	89.1	89.7			0.635
EPA 350.1 Rev. 2.0	Ammonia-N	101	99.6	102			1.20
	Ammonia-N	102	103	102			0.595
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.2	97.2	101			2.91
	Kjeldahl Nitrogen	103	100	94.0			5.03
EPA 353.2 Rev. 2.0	NO2NO3-N	101	101	102			0.946
EPA 365.1 Rev. 2.0	Total-P	96.0	92.6	94.0			1.36
	Total-P	96.8	85.8	87.2			1.55
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.1	97.3			0.133
EPA 8321B	2,4-D	91.9	136	120			12.6
	Acetaminophen	87.4	74.0	75.0			1.31
	Bentazon	96.2	65.3	58.1			10.8
	Carbamazepine	81.8	56.9	51.6			9.90
	Diuron	62.4	53.2	52.3			1.71
	Fenuron	96.0	69.4	74.3			6.74
	Fluridone	78.7	65.7	60.8			7.85
	Hydrocodone	84.3	80.2	71.5			11.5
	Ibuprofen	58.9	81.6	70.5			14.5
	Imazapyr	98.7	79.3	97.1			9.50
	Imidacloprid	104	128	117			8.02
	Linuron	69.0	65.5	60.5			7.94
	MCPP	93.3	143	136			5.05
	Naproxen	84.9	95.6	98.2			2.67
	Primidone	107	75.4	74.7			0.991
	Pyraclostrobin	70.2	71.3	68.6			3.92
	Sucralose	106	60.6	73.9			19.7
	Triclopyr	95.3	161	154			4.33
SM 2320 B-97	Total Alkalinity	102				0.0075	
SM 2540 D-97	TSS					4.88	
	TSS					3.08	
SM 4500 F-C-97	Fluoride	96.9	94.0	94.8			0.483
SM 5310 B-00	Organic Carbon	95.2	93.5	91.7			1.52
	Organic Carbon	96.4	95.2	96.4			0.957

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2010556
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2010556

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2010499, 2010506, 2010507, 2010508, 2010509, 2010510
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2010499, 2010506, 2010507, 2010508, 2010509, 2010510
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2010499, 2010506, 2010507, 2010508, 2010509, 2010510
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2010499, 2010506, 2010507, 2010508, 2010509, 2010510
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2010500, 2010511, 2010512, 2010513, 2010514, 2010515
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2010551, 2010552, 2010553, 2010554, 2010555
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2010551, 2010552, 2010553, 2010554, 2010555
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2010499, 2010506, 2010507, 2010508, 2010509, 2010510

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	07/25/2018			07/25/2018 16:44	William L. Brown IV	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
EPA 200.7 Rev. 4.4	07/25/2018	08/01/2018 15:30	Elliott D. Healy	08/02/2018 16:47	Betina Topolski	2010556
EPA 200.8 Rev. 5.4	07/25/2018	08/01/2018 15:30	Elliott D. Healy	08/06/2018 15:58	Robert K Palmer	2010556
	07/25/2018	08/01/2018 15:30	Elliott D. Healy	08/06/2018 20:25	Robert K Palmer	2010556
	07/25/2018	08/14/2018 17:30	Elliott D. Healy	08/15/2018 11:05	Robert K Palmer	2010556
EPA 350.1 Rev. 2.0	07/25/2018			07/27/2018 14:16	Ping Hua	2010499
	07/25/2018			07/27/2018 14:17	Ping Hua	2010506
	07/25/2018			07/27/2018 14:19	Ping Hua	2010507
	07/25/2018			08/01/2018 11:10	Ping Hua	2010508
	07/25/2018			08/01/2018 11:15	Ping Hua	2010509
	07/25/2018			08/01/2018 11:16	Ping Hua	2010510
EPA 351.2 Rev. 2.0	07/25/2018	07/30/2018 10:15	Adrian Shelby	07/31/2018 10:27	Joseph Suarez	2010499
	07/25/2018	07/30/2018 10:15	Adrian Shelby	07/31/2018 10:29	Joseph Suarez	2010506
	07/25/2018	07/30/2018 10:15	Adrian Shelby	07/31/2018 10:30	Joseph Suarez	2010507
	07/25/2018	07/30/2018 10:15	Adrian Shelby	08/01/2018 13:01	Joseph Suarez	2010508
	07/25/2018	07/30/2018 10:15	Adrian Shelby	08/01/2018 13:03	Joseph Suarez	2010509
	07/25/2018	07/30/2018 10:15	Adrian Shelby	08/01/2018 13:04	Joseph Suarez	2010510
EPA 353.2 Rev. 2.0	07/25/2018			07/26/2018 13:04	Lauren Bottorf	2010499
	07/25/2018			07/26/2018 13:13	Lauren Bottorf	2010506
	07/25/2018			07/26/2018 13:14	Lauren Bottorf	2010507
	07/25/2018			07/26/2018 13:15	Lauren Bottorf	2010508
	07/25/2018			07/26/2018 13:16	Lauren Bottorf	2010509
	07/25/2018			07/26/2018 13:17	Lauren Bottorf	2010510
EPA 365.1 Rev. 2.0	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:26	Beverly Y. Sanders	2010499
	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:27	Beverly Y. Sanders	2010506
	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:28	Beverly Y. Sanders	2010507
	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:30	Beverly Y. Sanders	2010508
	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:38	Beverly Y. Sanders	2010509
	07/25/2018	07/30/2018 11:20	Sima Feizi	07/31/2018 13:39	Beverly Y. Sanders	2010510
EPA 365.1 Rev. 2.0 dissolved	07/25/2018			07/25/2018 16:47	Julia Storbeck	2010514
	07/25/2018			07/25/2018 17:47	Julia Storbeck	2010500, 2010511
	07/25/2018			07/25/2018 17:48	Julia Storbeck	2010512
	07/25/2018			07/25/2018 17:49	Julia Storbeck	2010513
	07/25/2018			07/25/2018 18:14	Julia Storbeck	2010515
EPA 8321B	07/25/2018	07/27/2018 11:00	Hoor Shaik	07/28/2018 17:49	Juyoung Kim	2010551
	07/25/2018	07/27/2018 11:00	Hoor Shaik	07/28/2018 18:23	Juyoung Kim	2010552
	07/25/2018	07/27/2018 11:00	Hoor Shaik	07/28/2018 19:33	Juyoung Kim	2010553
	07/25/2018	07/27/2018 11:00	Hoor Shaik	07/28/2018 20:07	Juyoung Kim	2010554
	07/25/2018	07/27/2018 11:00	Hoor Shaik	07/28/2018 20:42	Juyoung Kim	2010555

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	07/25/2018	07/27/2018 11:00	Hoor Shaik	08/01/2018 02:55	Juyoung Kim	2010551
	07/25/2018	07/27/2018 11:00	Hoor Shaik	08/01/2018 03:30	Juyoung Kim	2010552
	07/25/2018	07/27/2018 11:00	Hoor Shaik	08/02/2018 08:01	Juyoung Kim	2010553
	07/25/2018	07/27/2018 11:00	Hoor Shaik	08/02/2018 08:36	Juyoung Kim	2010554
	07/25/2018	07/27/2018 11:00	Hoor Shaik	08/02/2018 09:10	Juyoung Kim	2010555
	07/25/2018	07/27/2018 14:50	Hoor Shaik	08/01/2018 00:57	Mohammad Ghaffari	2010551
	07/25/2018	07/27/2018 14:50	Hoor Shaik	08/01/2018 01:12	Mohammad Ghaffari	2010552
	07/25/2018	07/27/2018 14:50	Hoor Shaik	08/01/2018 01:27	Mohammad Ghaffari	2010553
	07/25/2018	07/27/2018 14:50	Hoor Shaik	08/01/2018 01:41	Mohammad Ghaffari	2010554
	07/25/2018	07/27/2018 14:50	Hoor Shaik	08/01/2018 02:11	Mohammad Ghaffari	2010555
SM 2320 B-97	07/25/2018			07/27/2018 08:57	Dale L. Simmons	2010501
	07/25/2018			07/27/2018 09:17	Dale L. Simmons	2010502
	07/25/2018			07/27/2018 09:28	Dale L. Simmons	2010505
	07/25/2018			07/27/2018 10:29	Dale L. Simmons	2010498
	07/25/2018			07/27/2018 10:40	Dale L. Simmons	2010503
	07/25/2018			07/27/2018 10:50	Dale L. Simmons	2010504
SM 2540 D-97	07/25/2018			07/28/2018 23:02	Yijie Li	2010498, 2010501, 2010502, 2010503, 2010504, 2010505
SM 4500 F-C-97	07/25/2018			07/27/2018 07:19	Dale L. Simmons	2010501
	07/25/2018			07/27/2018 08:16	Dale L. Simmons	2010505
	07/25/2018			07/27/2018 08:20	Dale L. Simmons	2010502
	07/25/2018			07/27/2018 08:27	Dale L. Simmons	2010498
	07/25/2018			07/27/2018 08:31	Dale L. Simmons	2010503
	07/25/2018			07/27/2018 08:35	Dale L. Simmons	2010504
SM 5310 B-00	07/25/2018			07/27/2018 08:52	Megan Treadwell	2010499
	07/25/2018			07/27/2018 09:05	Megan Treadwell	2010506
	07/25/2018			07/27/2018 09:19	Megan Treadwell	2010507
	07/25/2018			07/28/2018 07:10	Megan Treadwell	2010509
	07/25/2018			07/28/2018 07:51	Megan Treadwell	2010508
	07/25/2018			07/28/2018 08:04	Megan Treadwell	2010510