Chemical Analysis Report

NE-DIST-2018-07-24-01

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

Event Description: **LSJR Downtown Boat**
Request ID: **RQ-2018-07-23-25**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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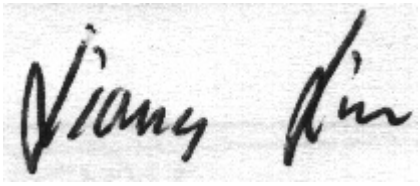
Certified by: Liang Lin, Environmental Administrator

Date Certified: 13-AUG-2018 15:47



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: Big Pottsburg @ 2000M S Atlantic Blvd **Collection Date/Time: 07/23/2018 09:15**

Field ID: 20030816 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009955	EPA 180.1 Rev. 2.0	Turbidity	4.2		NTU	P349083	
	SM 2320 B-97	Total Alkalinity	80		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	4	I	mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P349246	
2009957	EPA 350.1 Rev. 2.0	Ammonia-N	0.16		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75		mg N/L	P349186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P349123	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P349207	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349222	
2009959	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.084		mg P/L	P349058	
2009981	EPA 8321B	2,4-D	0.013		ug/L	P349015	
		Sucralose**	0.22		ug/L	P349013	
		Bentazon	0.011		ug/L	P349015	
		MCPP	0.0027	I	ug/L	P349015	
		Triclopyr**	0.0040	U	ug/L	P349015	
		Imidacloprid	0.048		ug/L	P349015	
		Diuron	0.14		ug/L	P349015	
		Pyraclostrobin**	0.0020	U	ug/L	P349015	
		Primidone**	0.0040	U	ug/L	P349015	
		Linuron	0.0040	U	ug/L	P349015	
		Acetaminophen**	0.0080	U	ug/L	P349015	
		Fenuron	0.016	U	ug/L	P349015	
		Imazapyr**	0.12		ug/L	P349015	
		Carbamazepine**	0.0017	I	ug/L	P349015	
		Fluridone**	0.022		ug/L	P349015	
		Hydrocodone**	8.0E-04	U	ug/L	P349015	
		Naproxen**	0.0097	I	ug/L	P349015	
		Ibuprofen**	0.020	U	ug/L	P349015	
2009988	EPA 200.7 Rev. 4.4	Iron	520		ug/L	P349107	
		Zinc	5.0	U	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.90		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	0.54	I	ug/L	P349107	
		Copper	1.47		ug/L	P349107	
		Lead	1.07		ug/L	P349107	
		Nickel	0.73	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Big Pottsburg CR Atl Blvd **Collection Date/Time: 07/23/2018 09:35**

Field ID: 20030072 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009956	EPA 180.1 Rev. 2.0	Turbidity	8.6		NTU	P349083	
	SM 2320 B-97	Total Alkalinity	72		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	12		mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P349246	
2009958	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P349186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P349123	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P349207	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P349222	
2009960	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.072		mg P/L	P349058	
2009982	EPA 8321B	2,4-D	0.017		ug/L	P349015	
		Sucralose**	0.46		ug/L	P349013	
		Bentazon	0.0095		ug/L	P349015	
		MCPP	0.0028	I	ug/L	P349015	
		Triclopyr**	0.0040	U	ug/L	P349015	
		Imidacloprid	0.044		ug/L	P349015	
		Diuron	0.041		ug/L	P349015	
		Pyraclostrobin**	0.0020	U	ug/L	P349015	
		Primidone**	0.0040	U	ug/L	P349015	
		Linuron	0.0040	U	ug/L	P349015	
		Acetaminophen**	0.0080	U	ug/L	P349015	
		Fenuron	0.016	U	ug/L	P349015	
		Imazapyr**	0.073		ug/L	P349015	
		Carbamazepine**	0.0021	I	ug/L	P349015	
		Fluridone**	0.017		ug/L	P349015	
		Hydrocodone**	8.0E-04	U	ug/L	P349015	
		Naproxen**	0.0080	U	ug/L	P349015	
		Ibuprofen**	0.020	U	ug/L	P349015	
2009989	EPA 200.7 Rev. 4.4	Iron	610		ug/L	P349107	
		Zinc	6.4	I	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	2.06		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	0.93	I	ug/L	P349107	
		Copper	1.79		ug/L	P349107	
		Lead	1.53		ug/L	P349107	
		Nickel	0.68	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: Insufficient sample to perform matrix spikes.

Sample Location: Arlington R Cesery Blvd **Collection Date/Time: 07/23/2018 09:50**

Field ID: 20030073 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009940	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P349082	
	SM 2320 B-97	Total Alkalinity	65		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	18		mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P349245	
2009945	EPA 350.1 Rev. 2.0	Ammonia-N	0.053		mg N/L	P349215	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P349185	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P349329	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P349206	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P349222	
2009950	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.063		mg P/L	P349057	
2009983	EPA 200.7 Rev. 4.4	Iron	880		ug/L	P349107	
		Zinc	6.7	I	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.91		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	1.3	I	ug/L	P349107	
		Copper	1.89		ug/L	P349107	
		Lead	1.71		ug/L	P349107	
		Nickel	0.67	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

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

Sample Location: Arlington River at Carlton Oaks **Collection Date/Time: 07/23/2018 10:05**

Field ID: G2NE1152 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009941	EPA 180.1 Rev. 2.0	Turbidity	8.3		NTU	P349082	
	SM 2320 B-97	Total Alkalinity	58		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	13		mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P349245	
2009946	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P349185	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P349329	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P349206	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P349222	
2009951	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.054		mg P/L	P349057	
2009984	EPA 200.7 Rev. 4.4	Iron	610		ug/L	P349107	
		Zinc	5.0	U	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.39		ug/L	P349107	
		Cadmium	0.028	I	ug/L	P349107	
		Chromium	0.96	I	ug/L	P349107	
		Copper	1.22		ug/L	P349107	
		Lead	0.90		ug/L	P349107	
		Nickel	0.43	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

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

Sample Location: Little Pottsburg Creek at Atlantic Blvd **Collection Date/Time: 07/23/2018 10:20**

Field ID: 20030679 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009942	EPA 180.1 Rev. 2.0	Turbidity	9.3		NTU	P349082	
	SM 2320 B-97	Total Alkalinity	70		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	13		mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P349245	
2009947	EPA 350.1 Rev. 2.0	Ammonia-N	0.059		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P349186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P349123	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P349207	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P349222	
2009952	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.075		mg P/L	P349057	
2009985	EPA 200.7 Rev. 4.4	Iron	750		ug/L	P349107	
		Zinc	5.9	I	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.69		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	0.98	I	ug/L	P349107	
		Copper	1.66		ug/L	P349107	
		Lead	1.34		ug/L	P349107	
		Nickel	0.52	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Little Pottsburg CR @ Mouth of W Brnch **Collection Date/Time: 07/23/2018 10:35**

Field ID: 20030814 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009943	EPA 180.1 Rev. 2.0	Turbidity	6.1		NTU	P349082	
	SM 2320 B-97	Total Alkalinity	58		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	8	I	mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P349245	
2009948	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.85		mg N/L	P349186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P349123	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P349207	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P349222	
2009953	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P349057	
2009986	EPA 200.7 Rev. 4.4	Iron	430		ug/L	P349107	
		Zinc	5.0	U	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.41		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	0.70	I	ug/L	P349107	
		Copper	1.11		ug/L	P349107	
		Lead	0.67		ug/L	P349107	
		Nickel	0.37	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Little Pottsburg CR @ Mouth of w Branch **Collection Date/Time: 07/23/2018 10:40**

Field ID: 20030814DUP Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2009944	EPA 180.1 Rev. 2.0	Turbidity	6.2	A	NTU	P349083	
	SM 2320 B-97	Total Alkalinity	59		mg CaCO3/L	P349244	
	SM 2540 D-97	TSS	8	I	mg/L	P349341	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P349246	
2009949	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P349217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P349186	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.16		mg N/L	P349123	
	EPA 365.1 Rev. 2.0	Total-P	0.088		mg P/L	P349207	
	SM 5310 B-00	Organic Carbon	17		mg C/L	P349222	
2009954	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.055		mg P/L	P349058	
2009987	EPA 200.7 Rev. 4.4	Iron	400		ug/L	P349107	
		Zinc	5.0	U	ug/L	P349107	
	EPA 200.8 Rev. 5.4	Arsenic	1.49		ug/L	P349107	
		Cadmium	0.020	U	ug/L	P349107	
		Chromium	0.67	I	ug/L	P349107	
		Copper	1.09		ug/L	P349107	
		Lead	0.65		ug/L	P349107	
		Nickel	0.38	I	ug/L	P349107	
		Silver	0.010	U	ug/L	P349107	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349082

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349083

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349107

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: P349107

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: P349215

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349217

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349185

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349186

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349123

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349329

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349206

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349207

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349057

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349058

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

Reference Method: EPA 8321B
Batch ID: P349013

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P349015

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P349015

Component	Result	Code	Units
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: SM 2320 B-97
Batch ID: P349244

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

Reference Method: SM 2540 D-97
Batch ID: P349341

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P349245

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P349246

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P349222

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: P349107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.9		P	85 - 115
Cadmium	98.3		P	85 - 115
Chromium	95.9		P	85 - 115
Copper	93.5		P	85 - 115
Lead	93.0		P	85 - 115
Nickel	96.5		P	85 - 115
Silver	100		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349215

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349217

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349185

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: P349186

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349123

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349206

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349207

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349057

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.9		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P349013

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	101		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P349015

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	94.1	86.6	P/P	40 - 150
Acetaminophen	80.1	86.6	P/P	30 - 150
Bentazon	60.6	53.9	P/P	30 - 150
Carbamazepine	63.5	73.1	P/P	40 - 150
Diuron	62.1	61.0	P/P	40 - 150
Fenuron	87.5	94.7	P/P	40 - 150
Fluridone	83.5	79.2	P/P	40 - 150
Hydrocodone	78.1	87.5	P/P	40 - 150
Ibuprofen	56.3	57.1	P/P	40 - 150
Imazapyr	95.1	109	P/P	40 - 150
Imidacloprid	83.0	82.5	P/P	40 - 160
Linuron	68.9	70.8	P/P	40 - 150
MCPP	91.6	89.0	P/P	40 - 150
Naproxen	66.6	60.4	P/P	40 - 150
Primidone	90.1	103	P/P	40 - 150
Pyraclostrobin	72.1	74.5	P/P	40 - 150
Triclopyr	86.1	89.3	P/P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P349244

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P349244

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

Reference Method: SM 4500 F-C-97
Batch ID: P349245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P349246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349222

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009853	Iron	106	105	P/P	80 - 120
2009853	Zinc	105	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009853	Arsenic	98.2	97.9	P/P	80 - 120
2009853	Cadmium	98.3	98.5	P/P	80 - 120
2009853	Chromium	97.2	97.0	P/P	80 - 120
2009853	Copper	96.4	95.0	P/P	80 - 120
2009853	Lead	94.0	93.4	P/P	80 - 120
2009853	Nickel	97.5	96.6	P/P	80 - 120
2009853	Silver	97.2	99.8	P/P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009897	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009946	Ammonia-N	104	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009899	Kjeldahl Nitrogen	101	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349123

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009947	NO2NO3-N	99.5	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009946	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349206

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009897	Total-P	95.8	98.7	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349207

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010004	Total-P	94.5	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009903	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010006	O-Phosphate-P	98.1	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P349013

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009531	Sucralose	101	110	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P349245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009796	Fluoride	95.2	95.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P349246

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2010003	Fluoride	95.4	95.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P349222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2009830	Organic Carbon	92.6	93.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009896	Turbidity	1.56	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P349083

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009944	Turbidity	3.25	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P349107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009853	Iron	1.34	Spike	P	0 - 20
2009853	Zinc	1.41	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P349107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009853	Arsenic	0.327	Spike	P	0 - 20
2009853	Cadmium	0.242	Spike	P	0 - 20
2009853	Chromium	0.137	Spike	P	0 - 20
2009853	Copper	1.49	Spike	P	0 - 20
2009853	Lead	0.663	Spike	P	0 - 20
2009853	Nickel	0.852	Spike	P	0 - 20
2009853	Silver	2.71	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009897	Ammonia-N	0.660	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P349217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009946	Ammonia-N	0.396	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009899	Kjeldahl Nitrogen	0.871	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P349186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010004	Kjeldahl Nitrogen	1.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349123

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009947	NO2NO3-N	1.58	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P349329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009946	NO2NO3-N	0.278	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009897	Total-P	2.88	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P349207

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010004	Total-P	1.72	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009903	O-Phosphate-P	0.691	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P349058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010006	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P349013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009531	Sucralose	7.85	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P349015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	2,4-D	8.35	LCS	P	0 - 30
LFB	Acetaminophen	7.91	LCS	P	0 - 30
LFB	Bentazon	11.7	LCS	P	0 - 30
LFB	Carbamazepine	14.0	LCS	P	0 - 30
LFB	Diuron	1.82	LCS	P	0 - 30
LFB	Fenuron	7.87	LCS	P	0 - 30
LFB	Fluridone	5.24	LCS	P	0 - 30
LFB	Hydrocodone	11.3	LCS	P	0 - 30
LFB	Ibuprofen	1.41	LCS	P	0 - 30
LFB	Imazapyr	13.7	LCS	P	0 - 30
LFB	Imidacloprid	0.618	LCS	P	0 - 30
LFB	Linuron	2.82	LCS	P	0 - 30
LFB	MCPP	2.90	LCS	P	0 - 30
LFB	Naproxen	9.67	LCS	P	0 - 30
LFB	Primidone	13.0	LCS	P	0 - 30
LFB	Pyraclostrobin	3.29	LCS	P	0 - 30
LFB	Triclopyr	3.60	LCS	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P349244

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010003	Total Alkalinity	0.639	Sample	P	0 - 1.6

Reference Method: SM 4500 F-C-97
Batch ID: P349245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009796	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 4500 F-C-97
Batch ID: P349246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2010003	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P349222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2009830	Organic Carbon	1.30	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: 2009981
Field Sample ID: 20030816

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.1	P	30 - 160
EPA 8321B	Diuron-d6	74.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	47.1	P	30 - 160
EPA 8321B	Primidone-d5	99.8	P	30 - 160
EPA 8321B	Sucralose-d6	88.3	P	40 - 160

Lab Sample ID: 2009982
Field Sample ID: 20030072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	69.7	P	30 - 160
EPA 8321B	Diuron-d6	67.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	37.0	P	30 - 160
EPA 8321B	Primidone-d5	88.6	P	30 - 160
EPA 8321B	Sucralose-d6	111	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A85441
Included Lab Sample IDs: 2009950, 2009951, 2009952, 2009953, 2009954, 2009959, 2009960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.6	P/P	90 - 110
O-Phosphate-P	98.9	98.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A85446
Included Lab Sample IDs: 2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	99.0	P/P	95 - 105
Turbidity	99.0	98.5	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A85471
Included Lab Sample IDs: 2009947, 2009948, 2009949, 2009957, 2009958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A85497
Included Lab Sample IDs: 2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	105	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110
Ammonia-N	105	104	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A85504
Included Lab Sample IDs: 2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.0	97.2	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A85509
Included Lab Sample IDs: 2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A85509
Included Lab Sample IDs: 2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A85512
Included Lab Sample IDs: 2009983, 2009984, 2009985, 2009986, 2009987, 2009988, 2009989

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	102	103	P/P	90 - 110
Zinc	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A85518
Included Lab Sample IDs: 2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.3	99.6	P/P	90 - 110
Total-P	99.6	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A85538
Included Lab Sample IDs: 2009945, 2009946

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A85543
Included Lab Sample IDs: 2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	103	P/P	90 - 110
Kjeldahl Nitrogen	97.3	96.8	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A85598
Included Lab Sample IDs: 2009983, 2009984, 2009985, 2009986, 2009987, 2009988, 2009989

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	98.3	99.1	P/P	90 - 110
Arsenic	99.1	98.3	P/P	90 - 110
Cadmium	97.4	98.1	P/P	90 - 110
Cadmium	98.1	98.2	P/P	90 - 110
Chromium	98.2	97.7	P/P	90 - 110
Chromium	98.4	98.2	P/P	90 - 110
Copper	97.2	97.5	P/P	90 - 110
Copper	97.5	97.3	P/P	90 - 110
Lead	96.3	96.7	P/P	90 - 110
Lead	96.7	97.2	P/P	90 - 110
Nickel	97.0	97.1	P/P	90 - 110
Nickel	97.1	97.1	P/P	90 - 110
Silver	99.0	99.9	P/P	90 - 110
Silver	99.9	99.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A85602
Included Lab Sample IDs: 2009981, 2009982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A85602
Included Lab Sample IDs: 2009981, 2009982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	148	92.3	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A85629
Included Lab Sample IDs: 2009981, 2009982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	76.1	63.6	P/P	50 - 150
Bentazon	69.9	65.1	P/P	50 - 150
Ibuprofen	104	108	P/P	50 - 150
MCPP	71.3	62.3	P/P	50 - 150
Naproxen	71.4	60.3	P/P	60 - 150
Triclopyr	84.1	64.7	P/P	50 - 160

Reference Method: EPA 8321B
Run ID: A85635
Included Lab Sample IDs: 2009981, 2009982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	95.1	99.1	P/P	60 - 150
Carbamazepine	103	98.8	P/P	60 - 150
Diuron	92.0	95.6	P/P	60 - 150
Fenuron	84.8	92.4	P/P	60 - 150
Fluridone	95.6	93.8	P/P	60 - 160
Hydrocodone	94.9	98.6	P/P	60 - 150
Imazapyr	97.8	109	P/P	50 - 150
Imidacloprid	82.1	83.8	P/P	60 - 150
Linuron	85.4	90.1	P/P	60 - 150
Primidone	94.0	108	P/P	60 - 150
Pyraclostrobin	91.4	88.3	P/P	60 - 150

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.56	
	Turbidity						3.25	
EPA 200.7 Rev. 4.4	Iron	107		106	105			1.34
	Zinc	102		105	103			1.41
EPA 200.8 Rev. 5.4	Arsenic	97.9		98.2	97.9			0.327
	Cadmium	98.3		98.3	98.5			0.242
	Chromium	95.9		97.2	97.0			0.137
	Copper	93.5		96.4	95.0			1.49
	Lead	93.0		94.0	93.4			0.663
	Nickel	96.5		97.5	96.6			0.852
	Silver	100		97.2	99.8			2.71
EPA 350.1 Rev. 2.0	Ammonia-N	103		102	103			0.660
	Ammonia-N	103		104	104			0.396
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	107		101	99.8			0.871
	Kjeldahl Nitrogen	107						1.13
EPA 353.2 Rev. 2.0	NO2NO3-N	102		99.5	102			1.58
	NO2NO3-N	98.5		102	102			0.278
EPA 365.1 Rev. 2.0	Total-P	98.8		95.8	98.7			2.88
	Total-P	98.9		94.5	96.3			1.72
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		101	102			0.691
	O-Phosphate-P	99.9		98.1	99.3			1.22
EPA 8321B	2,4-D	86.6	94.1			8.35		
	Acetaminophen	80.1	86.6			7.91		
	Bentazon	53.9	60.6			11.7		
	Carbamazepine	63.5	73.1			14.0		
	Diuron	62.1	61.0			1.82		
	Fenuron	87.5	94.7			7.87		
	Fluridone	83.5	79.2			5.24		
	Hydrocodone	78.1	87.5			11.3		
	Ibuprofen	56.3	57.1			1.41		
	Imazapyr	95.1	109			13.7		
	Imidacloprid	83.0	82.5			0.618		
	Linuron	68.9	70.8			2.82		
	MCPP	91.6	89.0			2.90		
	Naproxen	60.4	66.6			9.67		
	Primidone	90.1	103			13.0		
	Pyraclostrobin	72.1	74.5			3.29		
	Sucralose	101		101	110			7.85
	Triclopyr	86.1	89.3			3.60		
SM 2320 B-97	Total Alkalinity	102					0.639	
SM 4500 F-C-97	Fluoride	96.4		95.2	95.2			0.0
	Fluoride	98.2		95.4	95.4			0.0
SM 5310 B-00	Organic Carbon	93.6		92.6	93.9			1.30

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2009983, 2009984, 2009985, 2009986, 2009987, 2009988, 2009989
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2009983, 2009984, 2009985, 2009986, 2009987, 2009988, 2009989

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2009950, 2009951, 2009952, 2009953, 2009954, 2009959, 2009960
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2009981, 2009982
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2009981, 2009982
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2009945, 2009946, 2009947, 2009948, 2009949, 2009957, 2009958

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	07/24/2018			07/24/2018 15:17	Blanca Fach	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
EPA 200.7 Rev. 4.4	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 13:48	Betina Topolski	2009983
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 13:56	Betina Topolski	2009984
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 14:03	Betina Topolski	2009985
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 14:11	Betina Topolski	2009986
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 14:18	Betina Topolski	2009987
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 14:26	Betina Topolski	2009988
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/26/2018 14:33	Betina Topolski	2009989
EPA 200.8 Rev. 5.4	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 20:23	Robert K Palmer	2009983
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 20:51	Robert K Palmer	2009984
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 21:00	Robert K Palmer	2009985
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 21:09	Robert K Palmer	2009986
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 21:19	Robert K Palmer	2009987
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 21:28	Robert K Palmer	2009988
	07/24/2018	07/25/2018 14:10	Elliott D. Healy	07/31/2018 21:37	Robert K Palmer	2009989
EPA 350.1 Rev. 2.0	07/24/2018			07/26/2018 12:08	Ping Hua	2009945
	07/24/2018			07/26/2018 12:29	Ping Hua	2009946
	07/24/2018			07/26/2018 12:34	Ping Hua	2009947
	07/24/2018			07/26/2018 12:35	Ping Hua	2009948
	07/24/2018			07/26/2018 12:37	Ping Hua	2009949
	07/24/2018			07/26/2018 12:44	Ping Hua	2009957
	07/24/2018			07/26/2018 12:46	Ping Hua	2009958
EPA 351.2 Rev. 2.0	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:16	Joseph Suarez	2009945
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:18	Joseph Suarez	2009946
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:26	Joseph Suarez	2009947
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:27	Joseph Suarez	2009948
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:29	Joseph Suarez	2009949
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:30	Joseph Suarez	2009957
	07/24/2018	07/26/2018 11:30	Adrian Shelby	07/27/2018 16:32	Joseph Suarez	2009958
EPA 353.2 Rev. 2.0	07/24/2018			07/25/2018 13:32	Lauren Bottorf	2009947
	07/24/2018			07/25/2018 13:39	Lauren Bottorf	2009948
	07/24/2018			07/25/2018 13:41	Lauren Bottorf	2009949
	07/24/2018			07/25/2018 13:42	Lauren Bottorf	2009957
	07/24/2018			07/25/2018 13:43	Lauren Bottorf	2009958
	07/24/2018			07/27/2018 11:59	Lauren Bottorf	2009946
	07/24/2018			07/27/2018 12:13	Lauren Bottorf	2009945
EPA 365.1 Rev. 2.0	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:45	Beverly Y. Sanders	2009945
	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:46	Beverly Y. Sanders	2009946
	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:55	Beverly Y. Sanders	2009947

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:56	Beverly Y. Sanders	2009948
	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:57	Beverly Y. Sanders	2009949
	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:58	Beverly Y. Sanders	2009957
	07/24/2018	07/26/2018 12:35	Sima Feizi	07/27/2018 08:59	Beverly Y. Sanders	2009958
EPA 365.1 Rev. 2.0 dissolved	07/24/2018			07/24/2018 16:36	Julia Storbeck	2009953
	07/24/2018			07/24/2018 16:37	Julia Storbeck	2009954
	07/24/2018			07/24/2018 16:56	Julia Storbeck	2009950
	07/24/2018			07/24/2018 16:57	Julia Storbeck	2009951
	07/24/2018			07/24/2018 16:58	Julia Storbeck	2009952
	07/24/2018			07/24/2018 16:59	Julia Storbeck	2009959
	07/24/2018			07/24/2018 17:00	Julia Storbeck	2009960
EPA 8321B	07/24/2018	07/26/2018 09:10	Hoor Shaik	07/28/2018 05:08	Juyoung Kim	2009981
	07/24/2018	07/26/2018 09:10	Hoor Shaik	07/28/2018 05:42	Juyoung Kim	2009982
	07/24/2018	07/26/2018 09:10	Hoor Shaik	08/03/2018 00:10	Juyoung Kim	2009981
	07/24/2018	07/26/2018 09:10	Hoor Shaik	08/03/2018 00:44	Juyoung Kim	2009982
	07/24/2018	07/27/2018 17:30	Hoor Shaik	07/31/2018 18:36	Mohammad Ghaffari	2009981
	07/24/2018	07/27/2018 17:30	Hoor Shaik	07/31/2018 18:51	Mohammad Ghaffari	2009982
SM 2320 B-97	07/24/2018			07/26/2018 01:23	Dale L. Simmons	2009940
	07/24/2018			07/26/2018 01:33	Dale L. Simmons	2009941
	07/24/2018			07/26/2018 01:44	Dale L. Simmons	2009942
	07/24/2018			07/26/2018 01:54	Dale L. Simmons	2009943
	07/24/2018			07/26/2018 03:11	Dale L. Simmons	2009944
	07/24/2018			07/26/2018 03:21	Dale L. Simmons	2009955
	07/24/2018			07/26/2018 03:32	Dale L. Simmons	2009956
SM 2540 D-97	07/24/2018			07/26/2018 15:35	Yijie Li	2009940, 2009941, 2009942, 2009943, 2009944, 2009955, 2009956
SM 4500 F-C-97	07/24/2018			07/26/2018 01:23	Dale L. Simmons	2009940
	07/24/2018			07/26/2018 01:33	Dale L. Simmons	2009941
	07/24/2018			07/26/2018 01:44	Dale L. Simmons	2009942
	07/24/2018			07/26/2018 01:54	Dale L. Simmons	2009943
	07/24/2018			07/26/2018 03:11	Dale L. Simmons	2009944
	07/24/2018			07/26/2018 03:21	Dale L. Simmons	2009955
	07/24/2018			07/26/2018 03:32	Dale L. Simmons	2009956
SM 5310 B-00	07/24/2018			07/26/2018 03:22	Megan Treadwell	2009945
	07/24/2018			07/26/2018 03:35	Megan Treadwell	2009946
	07/24/2018			07/26/2018 03:49	Megan Treadwell	2009947
	07/24/2018			07/26/2018 04:03	Megan Treadwell	2009948
	07/24/2018			07/26/2018 04:16	Megan Treadwell	2009949
	07/24/2018			07/26/2018 04:30	Megan Treadwell	2009957
	07/24/2018			07/26/2018 04:43	Megan Treadwell	2009958