Chemical Analysis Report

NE-DIST-2019-08-08-01

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

Event Description: **LSJR Coast**
Request ID: **RQ-2019-08-05-33**
Customer: **NE-DIST**
Project ID: **SMP**

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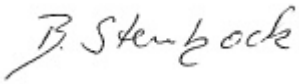
Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 13-SEP-2019 19:47



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 by the Florida Department of Health Environmental Laboratory Certification Program 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: DUNN CR AT FAYE ROAD **Collection Date/Time: 08/07/2019 09:20**

Field ID: 20030140 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109774	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P368737	
	EPA 300.0	Bromide	22		mg Br/L	P369433	
	SM 2320 B-97	Total Alkalinity		O	mg CaCO3/L	P369171	
	SM 2540 D-97	TSS	13		mg/L	P368995	
	SM 4500 F-C-97	Fluoride		O	mg F/L	P369174	
2109777	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P369087	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.81		mg N/L	P368931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P368864	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P368845	
	SM 5310 B-00	Organic Carbon	9.5		mg C/L	P368984	
2109780	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P368769	
2109813	EPA 200.7 Rev. 4.4	Iron	350	I	ug/L	P369030	
		Manganese	39		ug/L	P369030	
		Zinc	15	U	ug/L	P369030	
	EPA 200.8 Rev. 5.4	Aluminum	310		ug/L	P369030	
		Antimony	0.50	U	ug/L	P369030	
		Arsenic	2.6		ug/L	P369030	
		Cadmium	0.20	U	ug/L	P369030	
		Chromium	4.0	U	ug/L	P369030	
		Copper	1.6	U	ug/L	P369030	
		Lead	2.0	U	ug/L	P369030	
		Nickel	5.0	U	ug/L	P369030	
		Selenium	2.0	U	ug/L	P369030	
		Silver	0.10	U	ug/L	P369030	
		Thallium	1.0	U	ug/L	P369030	

Ref. Method and Comment:
SM 2320 B-97: Insufficent sample volume to perform the analysis.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Insufficent sample volume to perform the analysis.

Sample Location: St. Johns River at Ft. Caroline dock **Collection Date/Time: 08/07/2019 10:00**

Field ID: G2NE1179 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109775	EPA 180.1 Rev. 2.0	Turbidity	7.0		NTU	P368737	
	EPA 300.0	Bromide	35		mg Br/L	P369433	
	SM 2320 B-97	Total Alkalinity	97		mg CaCO3/L	P369172	
	SM 2540 D-97	TSS	13		mg/L	P368995	
	SM 4500 F-C-97	Fluoride	0.68		mg F/L	P369175	
2109778	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P369087	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.73		mg N/L	P368931	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P368864	
	EPA 365.1 Rev. 2.0	Total-P	0.091		mg P/L	P368845	
	SM 5310 B-00	Organic Carbon	7.4		mg C/L	P368984	
2109781	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P368769	
2109814	EPA 200.7 Rev. 4.4	Iron	300	I	ug/L	P369030	
		Manganese	13		ug/L	P369030	
		Zinc	15	U	ug/L	P369030	
	EPA 200.8 Rev. 5.4	Aluminum	360		ug/L	P369030	
		Antimony	0.50	U	ug/L	P369030	
		Arsenic	2.6		ug/L	P369030	
		Cadmium	0.20	U	ug/L	P369030	
		Chromium	4.0	U	ug/L	P369030	
		Copper	1.8	I	ug/L	P369030	
		Lead	2.0	U	ug/L	P369030	
		Nickel	5.0	U	ug/L	P369030	
		Selenium	2.0	U	ug/L	P369030	
		Silver	0.10	U	ug/L	P369030	
		Thallium	1.0	U	ug/L	P369030	

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: SISTERS CREEK AT HECKSCHER DR **Collection Date/Time: 08/07/2019 08:45**

Field ID: 20030491 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109776	EPA 180.1 Rev. 2.0	Turbidity	7.7		NTU	P368738	
	EPA 300.0	Bromide	49		mg Br/L	P369433	
	SM 2320 B-97	Total Alkalinity	107		mg CaCO3/L	P369172	
	SM 2540 D-97	TSS	13		mg/L	P368995	
	SM 4500 F-C-97	Fluoride	0.92		mg F/L	P369175	
2109779	EPA 350.1 Rev. 2.0	Ammonia-N	0.032		mg N/L	P369087	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.68		mg N/L	P368980	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.024		mg N/L	P368864	
	EPA 365.1 Rev. 2.0	Total-P	0.077		mg P/L	P368845	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P368984	
2109782	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.044		mg P/L	P368769	
2109815	EPA 200.7 Rev. 4.4	Iron	310	I	ug/L	P369030	
		Manganese	15		ug/L	P369030	
		Zinc	15	U	ug/L	P369030	
	EPA 200.8 Rev. 5.4	Aluminum	440		ug/L	P369030	
		Antimony	0.50	U	ug/L	P369030	
		Arsenic	2.9		ug/L	P369030	
		Cadmium	0.20	U	ug/L	P369030	
		Chromium	4.0	U	ug/L	P369030	
		Copper	1.6	U	ug/L	P369030	
		Lead	2.0	U	ug/L	P369030	
		Nickel	5.0	U	ug/L	P369030	
		Selenium	2.0	U	ug/L	P369030	
		Silver	0.10	U	ug/L	P369030	
		Thallium	1.0	U	ug/L	P369030	

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: DEER CR @ TALLEYRAND AVE **Collection Date/Time: 08/07/2019 11:15**

Field ID: 20030792 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109771	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P368737	
	EPA 300.0	Bromide	0.65		mg Br/L	P369433	
	SM 2320 B-97	Total Alkalinity	170		mg CaCO3/L	P369142	
	SM 2540 D-97	TSS	2	UA	mg/L	P368976	
	SM 4500 F-C-97	Fluoride	0.48		mg F/L	P369146	
2109772	EPA 350.1 Rev. 2.0	Ammonia-N	0.35		mg N/L	P369166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70	J	mg N/L	P368929	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.40		mg N/L	P368956	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P368872	
	SM 5310 B-00	Organic Carbon	5.1		mg C/L	P368815	
2109773	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.048		mg P/L	P368770	
2109798	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P368684	
		2,4-D	0.0085		ug/L	P368677	MS
		AMPA**	0.41		ug/L	P368684	
		Sucralose**	0.12		ug/L	P368684	
		Acetaminophen**	0.0080	U	ug/L	P368677	
		Endothall**	0.25	U	ug/L	P368684	
		Acetamiprid**	0.0020	U	ug/L	P368677	
		Glufosinate**	0.10	U	ug/L	P368684	
		Glyphosate**	0.32	I	ug/L	P368684	
		Afidopyropen**	0.0020	UJ	ug/L	P368677	
		Bentazon	0.0014	I	ug/L	P368677	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P368677	
		Carbamazepine**	8.0E-04	U	ug/L	P368677	
		Clothianidin**	0.0020	U	ug/L	P368677	
		Dinotefuran**	0.0020	U	ug/L	P368677	
		Diuron	0.013		ug/L	P368677	
		Fenuron	0.016	U	ug/L	P368677	
		Fluridone**	8.0E-04	U	ug/L	P368677	
		Imazapyr**	0.22		ug/L	P368677	
		Hydrocodone**	0.0020	U	ug/L	P368677	
		Ibuprofen**	0.020	U	ug/L	P368677	
		Imidacloprid	0.0020	U	ug/L	P368677	
		Linuron	0.0040	U	ug/L	P368677	
		Mandestrobin**	0.0020	UJ	ug/L	P368677	
		MCPP	0.0020	U	ug/L	P368677	MS
		Naproxen**	0.0080	U	ug/L	P368677	
		Primidone**	0.0040	U	ug/L	P368677	
		Pyraclostrobin**	0.0020	U	ug/L	P368677	RPD
		Thiamethoxam**	0.0023	I	ug/L	P368677	
		Tolfenpyrad**	0.0020	U	ug/L	P368677	MS, RPD
		Triclopyr**	0.0040	U	ug/L	P368677	
2109812	EPA 200.7 Rev. 4.4	Iron	940		ug/L	P368852	

Field ID: 20030792 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109812	EPA 200.7 Rev. 4.4	Manganese	124		ug/L	P368852	
		Zinc	5.0	U	ug/L	P368852	
	EPA 200.8 Rev. 5.4	Aluminum	54		ug/L	P368852	
		Antimony	0.13	I	ug/L	P368852	
		Arsenic	6.59		ug/L	P368852	
		Cadmium	0.020	U	ug/L	P368852	
		Chromium	0.60	I	ug/L	P368852	
		Copper	0.73	I	ug/L	P368852	
		Lead	0.98		ug/L	P368852	
		Nickel	0.50	U	ug/L	P368852	
		Selenium	0.20	U	ug/L	P368852	
		Silver	0.010	U	ug/L	P368852	
		Thallium	0.10	U	ug/L	P368852	

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: Refer to the narrative for an explanation of QC Codes.
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Greenfield end of Bucaneer dr. **Collection Date/Time: 08/07/2019 10:30**

Field ID: G2NE1154 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109783	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P368738	
	EPA 300.0	Bromide	42		mg Br/L	P369433	
	SM 2320 B-97	Total Alkalinity	100		mg CaCO3/L	P369172	
	SM 2540 D-97	TSS	10		mg/L	P368995	
	SM 4500 F-C-97	Fluoride	0.81		mg F/L	P369175	
2109784	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P369087	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P368980	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P368864	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P368845	
	SM 5310 B-00	Organic Carbon	6.7		mg C/L	P369054	
2109785	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.030		mg P/L	P368769	
2109799	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P368684	
		2,4-D	0.0085		ug/L	P368677	MS
		AMPA**	0.10	UJ	ug/L	P368684	SUR
		Sucralose**	0.27		ug/L	P368684	
		Acetaminophen**	0.0080	U	ug/L	P368677	
		Endothall**	0.25	U	ug/L	P368684	
		Acetamiprid**	0.0020	U	ug/L	P368677	
		Glufosinate**	0.10	UJ	ug/L	P368684	SUR
		Glyphosate**	0.10	UJ	ug/L	P368684	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P368677	
		Bentazon	0.0075		ug/L	P368677	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P368677	
		Carbamazepine**	8.0E-04	U	ug/L	P368677	
		Clothianidin**	0.0020	U	ug/L	P368677	
		Dinotefuran**	0.0020	U	ug/L	P368677	
		Diuron	0.0082		ug/L	P368677	
		Fenuron	0.016	U	ug/L	P368677	
		Fluridone**	0.048		ug/L	P368677	
		Imazapyr**	0.068		ug/L	P368677	
		Hydrocodone**	0.0020	U	ug/L	P368677	
		Ibuprofen**	0.020	U	ug/L	P368677	
		Imidacloprid	0.0097		ug/L	P368677	
		Linuron	0.0040	U	ug/L	P368677	
		Mandestrobin**	0.0020	UJ	ug/L	P368677	
		MCPP	0.0024	I	ug/L	P368677	MS
		Naproxen**	0.0080	U	ug/L	P368677	
		Primidone**	0.0040	U	ug/L	P368677	
		Pyraclostrobin**	0.0020	U	ug/L	P368677	RPD
		Thiamethoxam**	0.0020	U	ug/L	P368677	
		Tolfenpyrad**	0.0020	U	ug/L	P368677	MS, RPD
		Triclopyr**	0.0040	U	ug/L	P368677	
2109816	EPA 200.7 Rev. 4.4	Iron	180	I	ug/L	P369030	

Field ID: G2NE1154 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2109816	EPA 200.7 Rev. 4.4	Manganese	21		ug/L	P369030	
		Zinc	15	U	ug/L	P369030	
	EPA 200.8 Rev. 5.4	Aluminum	310		ug/L	P369030	
		Antimony	0.50	U	ug/L	P369030	
		Arsenic	3.1		ug/L	P369030	
		Cadmium	0.20	U	ug/L	P369030	
		Chromium	4.0	U	ug/L	P369030	
		Copper	1.6	U	ug/L	P369030	
		Lead	2.0	U	ug/L	P369030	
		Nickel	5.0	U	ug/L	P369030	
		Selenium	2.0	U	ug/L	P369030	
		Silver	0.10	U	ug/L	P369030	
		Thallium	1.0	U	ug/L	P369030	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate.
EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for imazapyr could not be assessed due to high concentration of parameter in the spiked sample. MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368737

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368738

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368852

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Component	Result	Code	Units
Iron	30	U	ug/L
Manganese	1.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368852

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Component	Result	Code	Units
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P369433

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369087

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368929

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368931

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368980

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368864

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368956

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368845

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368872

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368769

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368770

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

Reference Method: EPA 8321B
Batch ID: P368677

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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
Mandestrobin	0.0020	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
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P368684

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P369142

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

Reference Method: SM 2320 B-97
Batch ID: P369171

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

Reference Method: SM 2320 B-97
Batch ID: P369172

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

Reference Method: SM 2540 D-97
Batch ID: P368976

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368995

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P369146

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P369174

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P369175

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P368815

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

Reference Method: SM 5310 B-00
Batch ID: P368984

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

Reference Method: SM 5310 B-00
Batch ID: P369054

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: P368852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	99.9		P	85 - 115
Manganese	98.6		P	85 - 115
Zinc	95.3		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Manganese	104		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368852

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	104		P	85 - 115
Cadmium	106		P	85 - 115
Chromium	105		P	85 - 115
Copper	101		P	85 - 115
Lead	105		P	85 - 115
Nickel	101		P	85 - 115
Selenium	105		P	85 - 115
Silver	106		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	104		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	95.7		P	85 - 115
Copper	95.8		P	85 - 115
Lead	99.6		P	85 - 115
Nickel	97.3		P	85 - 115
Selenium	105		P	85 - 115
Silver	99.0		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P369433

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.6		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369087

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368929

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368931

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	109		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368864

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: P368956

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368845

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368872

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368769

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P368677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	110		P	40 - 160
Acetaminophen	77.5		P	30 - 160
Acetamiprid	83.8		P	40 - 160
Afidopyropen	69.5		P	40 - 160
Bentazon	73.4		P	30 - 160
Benzovindiflupyr	84.5		P	40 - 160
Carbamazepine	88.7		P	40 - 160
Clothianidin	85.8		P	40 - 160
Dinotefuran	83.7		P	40 - 160
Diuron	85.7		P	40 - 160
Fenuron	93.7		P	40 - 160
Fluridone	90.0		P	40 - 160
Hydrocodone	88.2		P	40 - 160
Ibuprofen	85.9		P	30 - 160
Imazapyr	88.6		P	40 - 160
Imidacloprid	91.5		P	40 - 160
Linuron	72.1		P	40 - 160
Mandestrobin	90.9		P	40 - 160
MCPP	115		P	40 - 160
Naproxen	90.1		P	40 - 160
Primidone	79.7		P	40 - 160
Pyraclostrobin	86.9		P	30 - 160
Thiamethoxam	90.7		P	40 - 160
Tolfenpyrad	52.4		P	40 - 160
Triclopyr	83.5		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P368684

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	96.2		P	40 - 150
AMPA	95.1		P	40 - 150
Endothall	131		P	40 - 150
Glufosinate	114		P	40 - 150
Glyphosate	101		P	40 - 140
Sucralose	105		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P369142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369171

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369172

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369146

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369174

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.2		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369175

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368815

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P368984

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	100		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369054

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.0		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109729	Iron	97.4	98.0	P/P	80 - 120
2109729	Manganese	96.3	95.8	P/P	80 - 120
2109729	Zinc	94.5	93.0	P/P	80 - 120
2110452	Iron	98.1		P	80 - 120
2110452	Manganese	95.3		P	80 - 120
2110452	Zinc	94.4		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109813	Iron	101	102	P/P	70 - 130
2109813	Manganese	97.0	97.8	P/P	70 - 130
2109813	Zinc	104	106	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368852

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109729	Aluminum	99.3	101	P/P	80 - 120
2109729	Antimony	103	103	P/P	80 - 120
2109729	Arsenic	105	104	P/P	80 - 120
2109729	Cadmium	105	107	P/P	80 - 120
2109729	Chromium	105	105	P/P	80 - 120
2109729	Copper	103	103	P/P	80 - 120
2109729	Lead	104	105	P/P	80 - 120
2109729	Nickel	101	100	P/P	80 - 120
2109729	Selenium	108	105	P/P	80 - 120
2109729	Silver	106	106	P/P	80 - 120
2109729	Thallium	105	105	P/P	80 - 120
2110452	Aluminum	100		P	80 - 120
2110452	Antimony	103		P	80 - 120
2110452	Arsenic	105		P	80 - 120
2110452	Cadmium	104		P	80 - 120
2110452	Chromium	104		P	80 - 120
2110452	Copper	104		P	80 - 120
2110452	Lead	105		P	80 - 120
2110452	Nickel	102		P	80 - 120
2110452	Selenium	105		P	80 - 120
2110452	Silver	106		P	80 - 120
2110452	Thallium	107		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109813	Aluminum	103	103	P/P	70 - 130
2109813	Antimony	102	101	P/P	70 - 130
2109813	Arsenic	111	112	P/P	70 - 130
2109813	Cadmium	101	96.4	P/P	70 - 130
2109813	Chromium	94.0	92.8	P/P	70 - 130
2109813	Copper	98.7	98.4	P/P	70 - 130

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109813	Lead	102	102	P/P	70 - 130
2109813	Nickel	99.1	98.6	P/P	70 - 130
2109813	Selenium	108	108	P/P	70 - 130
2109813	Silver	96.6	111	P/P	70 - 130
2109813	Thallium	92.2	91.8	P/P	70 - 130

Reference Method: EPA 300.0
Batch ID: P369433

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2110767	Bromide	94.6	95.4	P/P	90 - 110
2110769	Bromide	94.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109207	Ammonia-N	100	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109724	Ammonia-N	105	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368929

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109772	Kjeldahl Nitrogen	103	111	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368931

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109207	Kjeldahl Nitrogen	103	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109833	Kjeldahl Nitrogen	102	110	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368864

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109207	NO2NO3-N	103	102	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109772	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368845

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109836	Total-P	96.4	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368872

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109724	Total-P	101	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109785	O-Phosphate-P	96.7	97.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109725	O-Phosphate-P	97.6	97.9	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P368677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109766	2,4-D	152	166	P/F	40 - 160
2109766	Acetaminophen	71.2	77.1	P/P	30 - 160
2109766	Acetamiprid	110	90.9	P/P	40 - 160
2109766	Afidopyropen	73.8	80.7	P/P	40 - 160
2109766	Benzovindiflupyr	66.9	79.6	P/P	40 - 160
2109766	Carbamazepine	86.8	84.4	P/P	40 - 160
2109766	Clothianidin	90.2	93.5	P/P	40 - 160
2109766	Dinotefuran	110	111	P/P	40 - 160
2109766	Diuron	77.7	71.2	P/P	40 - 160
2109766	Fenuron	81.6	83.0	P/P	40 - 160
2109766	Fluridone	72.5	90.4	P/P	40 - 160
2109766	Hydrocodone	87.1	92.1	P/P	40 - 160
2109766	Ibuprofen	95.5	102	P/P	30 - 160
2109766	Imidacloprid	160	158	P/P	40 - 160
2109766	Linuron	70.0	66.3	P/P	40 - 160
2109766	Mandestrobin	80.7	76.0	P/P	40 - 160
2109766	MCPP	194	190	F/F	40 - 160
2109766	Naproxen	108	124	P/P	40 - 160
2109766	Primidone	94.0	91.4	P/P	40 - 160
2109766	Pyraclostrobin	59.0	82.5	P/P	30 - 160
2109766	Thiamethoxam	133	129	P/P	40 - 160
2109766	Tolfenpyrad	15.9	41.4	F/P	40 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P368677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109766	Triclopyr	119	125	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P368684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109647	Acesulfame K	109	101	P/P	40 - 150
2109647	AMPA	116	107	P/P	40 - 150
2109647	Endothall	143	143	P/P	40 - 150
2109647	Glufosinate	123	118	P/P	40 - 150
2109647	Glyphosate	114	126	P/P	40 - 140
2109647	Sucralose	101	105	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P369146

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2110276	Fluoride	99.3	99.3	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369174

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2110769	Fluoride	97.7	97.2	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369175

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108577	Fluoride	94.4	95.2	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P368815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109679	Organic Carbon	99.2	99.7	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P368984

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109187	Organic Carbon	98.5	99.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P369054

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109784	Organic Carbon	97.3	96.9	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109676	Turbidity	7.58	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368738

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110145	Turbidity	10.4	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P368852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109729	Iron	0.661	Spike	P	0 - 20
2109729	Manganese	0.463	Spike	P	0 - 20
2109729	Zinc	1.62	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109813	Iron	0.549	Spike	P	0 - 20
2109813	Manganese	0.744	Spike	P	0 - 20
2109813	Zinc	2.60	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P368852

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109729	Aluminum	1.27	Spike	P	0 - 20
2109729	Antimony	0.140	Spike	P	0 - 20
2109729	Arsenic	0.730	Spike	P	0 - 20
2109729	Cadmium	1.34	Spike	P	0 - 20
2109729	Chromium	0.179	Spike	P	0 - 20
2109729	Copper	0.0753	Spike	P	0 - 20
2109729	Lead	0.434	Spike	P	0 - 20
2109729	Nickel	0.861	Spike	P	0 - 20
2109729	Selenium	2.68	Spike	P	0 - 20
2109729	Silver	0.228	Spike	P	0 - 20
2109729	Thallium	0.712	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109813	Aluminum	0.245	Spike	P	0 - 20
2109813	Antimony	0.632	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369030

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109813	Arsenic	0.809	Spike	P	0 - 20
2109813	Cadmium	5.13	Spike	P	0 - 20
2109813	Chromium	1.29	Spike	P	0 - 20
2109813	Copper	0.280	Spike	P	0 - 20
2109813	Lead	0.0146	Spike	P	0 - 20
2109813	Nickel	0.539	Spike	P	0 - 20
2109813	Selenium	0.0800	Spike	P	0 - 20
2109813	Silver	14.0	Spike	P	0 - 20
2109813	Thallium	0.394	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P369433

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110767	Bromide	0.763	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109207	Ammonia-N	2.28	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109724	Ammonia-N	1.13	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368929

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109772	Kjeldahl Nitrogen	4.46	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109207	Kjeldahl Nitrogen	0.763	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109833	Kjeldahl Nitrogen	7.06	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368864

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109207	NO2NO3-N	0.471	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109772	NO2NO3-N	0.168	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368845

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109836	Total-P	0.0259	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368872

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109724	Total-P	2.65	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368769

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109785	O-Phosphate-P	0.942	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109725	O-Phosphate-P	0.307	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P368677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109766	2,4-D	8.39	Spike	P	0 - 30
2109766	Acetaminophen	8.00	Spike	P	0 - 30
2109766	Acetamiprid	19.4	Spike	P	0 - 30
2109766	Afidopyropen	8.96	Spike	P	0 - 30
2109766	Benzovindiflupyr	17.3	Spike	P	0 - 30
2109766	Carbamazepine	2.72	Spike	P	0 - 30
2109766	Clothianidin	3.19	Spike	P	0 - 30
2109766	Dinotefuran	0.517	Spike	P	0 - 30
2109766	Diuron	8.74	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P368677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109766	Fenuron	1.68	Spike	P	0 - 30
2109766	Fluridone	8.89	Spike	P	0 - 30
2109766	Hydrocodone	5.66	Spike	P	0 - 30
2109766	Ibuprofen	6.62	Spike	P	0 - 30
2109766	Imazapyr	15.1	Spike	P	0 - 30
2109766	Imidacloprid	0.687	Spike	P	0 - 30
2109766	Linuron	5.49	Spike	P	0 - 30
2109766	Mandestrobin	6.03	Spike	P	0 - 30
2109766	MCPP	2.23	Spike	P	0 - 30
2109766	Naproxen	13.8	Spike	P	0 - 30
2109766	Primidone	2.79	Spike	P	0 - 30
2109766	Pyraclostrobin	33.2	Spike	F	0 - 30
2109766	Thiamethoxam	3.37	Spike	P	0 - 30
2109766	Tolfenpyrad	89.1	Spike	F	0 - 30
2109766	Triclopyr	4.28	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P368684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109647	Acesulfame K	7.61	Spike	P	0 - 30
2109647	AMPA	8.20	Spike	P	0 - 30
2109647	Endothall	0.0838	Spike	P	0 - 30
2109647	Glufosinate	3.98	Spike	P	0 - 30
2109647	Glyphosate	10.1	Spike	P	0 - 30
2109647	Sucralose	4.44	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P369142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110276	Total Alkalinity	1.15	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110769	Total Alkalinity	0.765	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110959	Total Alkalinity	1.05	Sample	P	0 - 2.8

Quality Assurance Report
Precision

Reference Method: SM 4500 F-C-97
Batch ID: P369146

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110276	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P369174

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2110769	Fluoride	0.484	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P369175

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108577	Fluoride	0.516	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P368815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109679	Organic Carbon	0.396	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P368984

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109187	Organic Carbon	0.663	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P369054

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109784	Organic Carbon	0.352	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: 2109798
Field Sample ID: 20030792

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	155	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	103	P	30 - 160
EPA 8321B	Diuron-d6	85.5	P	30 - 160
EPA 8321B	Endothall-d6	158	P	30 - 160
EPA 8321B	Endothall-d6	158	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	110	P	30 - 160
EPA 8321B	Ibuprofen-d3	119	P	30 - 160
EPA 8321B	Primidone-d5	99.0	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160
EPA 8321B	Sucralose-d6	96.8	P	30 - 160

Lab Sample ID: 2109799
Field Sample ID: G2NE1154

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	143	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.0	P	30 - 160
EPA 8321B	Diuron-d6	80.8	P	30 - 160
EPA 8321B	Endothall-d6	78.9	P	30 - 160
EPA 8321B	Endothall-d6	78.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	123	P	30 - 160
EPA 8321B	Primidone-d5	92.1	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A93369
Included Lab Sample IDs: 2109771, 2109774, 2109775, 2109776, 2109783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	102	P/P	95 - 105
Turbidity	102	102	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A93388
Included Lab Sample IDs: 2109773, 2109780, 2109781, 2109782, 2109785

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	98.9	P/P	90 - 110
O-Phosphate-P	98.9	100	P/P	90 - 110
O-Phosphate-P	99.3	98.9	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A93412
Included Lab Sample IDs: 2109772

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A93427
Included Lab Sample IDs: 2109777, 2109778, 2109779, 2109784

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A93452
Included Lab Sample IDs: 2109772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A93456
Included Lab Sample IDs: 2109777, 2109778, 2109779, 2109784

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A93462
Included Lab Sample IDs: 2109772

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A93483
Included Lab Sample IDs: 2109798, 2109799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	122	106	P/P	50 - 150
Acetaminophen	77.1	76.2	P/P	60 - 160
Acetamiprid	86.4	88.2	P/P	50 - 150
Afidopyropen	83.9	68.1	P/P	50 - 150
Bentazon	63.8	158	P/P	50 - 160
Benzovindiflupyr	84.4	77.8	P/P	50 - 150
Carbamazepine	91.0	84.3	P/P	60 - 150
Clothianidin	81.6	69.4	P/P	60 - 150
Dinotefuran	90.5	86.7	P/P	50 - 150
Diuron	88.2	82.4	P/P	60 - 150
Fenuron	89.9	92.4	P/P	60 - 150
Fluridone	88.7	86.5	P/P	60 - 160
Hydrocodone	86.9	81.9	P/P	60 - 150
Ibuprofen	91.4	82.2	P/P	50 - 160
Imazapyr	94.9	118	P/P	50 - 150
Imidacloprid	87.9	71.0	P/P	60 - 150
Linuron	82.5	77.0	P/P	60 - 150
Mandestrobin	87.0	86.2	P/P	50 - 150
MCPP	101	89.9	P/P	50 - 150
Naproxen	109	98.4	P/P	50 - 160
Primidone	87.3	81.8	P/P	60 - 150
Pyraclostrobin	81.0	74.5	P/P	60 - 150
Thiamethoxam	92.7	74.6	P/P	50 - 150
Tolfenpyrad	82.9	66.3	P/P	60 - 150
Triclopyr	101	98.3	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A93484
Included Lab Sample IDs: 2109812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	97.5	97.9	P/P	90 - 110
Manganese	98.5	98.4	P/P	90 - 110
Zinc	94.6	94.6	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A93485
Included Lab Sample IDs: 2109777, 2109778, 2109779

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A93507
Included Lab Sample IDs: 2109772, 2109777, 2109778, 2109779, 2109784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	106	P/P	90 - 110
Kjeldahl Nitrogen	104	101	P/P	90 - 110
Kjeldahl Nitrogen	108	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A93508
Included Lab Sample IDs: 2109798, 2109799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	68.0	94.7	P/P	60 - 160
Acesulfame K	94.7	61.3	P/P	60 - 160
Endothall	136	144	P/P	60 - 160
Endothall	144	115	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A93512
Included Lab Sample IDs: 2109798, 2109799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	110	87.6	P/P	60 - 160
AMPA	110	110	P/P	60 - 160
Glufosinate	120	121	P/P	60 - 160
Glufosinate	121	103	P/P	60 - 160
Glyphosate	110	127	P/P	60 - 160
Glyphosate	127	107	P/P	60 - 160

Reference Method: SM 5310 B-00
Run ID: A93517
Included Lab Sample IDs: 2109784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.8	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A93532
Included Lab Sample IDs: 2109777, 2109778, 2109779, 2109784

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	99.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A93542
Included Lab Sample IDs: 2109813, 2109814, 2109815, 2109816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	100	100	P/P	90 - 110
Iron	101	100	P/P	95 - 105
Manganese	103	103	P/P	95 - 105
Manganese	103	103	P/P	90 - 110
Zinc	101	101	P/P	90 - 110
Zinc	101	101	P/P	95 - 105

Reference Method: SM 2320 B-97
Run ID: A93545
Included Lab Sample IDs: 2109771

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 4500 F-C-97
Run ID: A93545
Included Lab Sample IDs: 2109771

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	98.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A93563
Included Lab Sample IDs: 2109772

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	107	109	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A93564
Included Lab Sample IDs: 2109774, 2109775, 2109776, 2109783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	103	P/P	90 - 110
Total Alkalinity	105	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A93564
Included Lab Sample IDs: 2109774, 2109775, 2109776, 2109783

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	102	P/P	90 - 110
Fluoride	100	103	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A93637
Included Lab Sample IDs: 2109798, 2109799

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	107	96.3	P/P	60 - 160
Sucralose	96.4	107	P/P	60 - 160

Reference Method: EPA 300.0
Run ID: A93690
Included Lab Sample IDs: 2109771, 2109774, 2109775, 2109776, 2109783

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A93758
Included Lab Sample IDs: 2109812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	99.1	P/P	90 - 110
Antimony	99.0	98.0	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	105	102	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A93758
Included Lab Sample IDs: 2109812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	100	100	P/P	90 - 110
Lead	104	103	P/P	90 - 110
Nickel	99.8	100	P/P	90 - 110
Selenium	102	103	P/P	90 - 110
Silver	106	106	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A93823
Included Lab Sample IDs: 2109812

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	95.2	95.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A93990
Included Lab Sample IDs: 2109813, 2109814, 2109815, 2109816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	104	P/P	90 - 110
Antimony	94.5	94.7	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Cadmium	96.3	95.7	P/P	90 - 110
Lead	97.5	97.9	P/P	90 - 110
Selenium	98.2	99.4	P/P	90 - 110
Thallium	93.6	93.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94046
Included Lab Sample IDs: 2109813, 2109814, 2109815, 2109816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	95.4	94.2	P/P	90 - 110
Copper	98.2	98.6	P/P	90 - 110
Nickel	97.6	97.5	P/P	90 - 110
Silver	100	99.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94068
Included Lab Sample IDs: 2109814, 2109815, 2109816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.6	95.0	P/P	90 - 110
Copper	95.7	96.4	P/P	90 - 110
Nickel	96.7	96.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A94075
Included Lab Sample IDs: 2109813

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thallium	99.2	98.6	P/P	90 - 110

Quality Assurance Report
Calibration Verification

* 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						7.58	
	Turbidity						10.4	
EPA 200.7 Rev. 4.4	Iron	99.9	97.4	98.0	98.1			0.661
	Iron	107	101	102				0.549
	Manganese	98.6	96.3	95.8	95.3			0.463
	Manganese	104	97.0	97.8				0.744
	Zinc	95.3	94.5	93.0	94.4			1.62
	Zinc	102	104	106				2.60
EPA 200.8 Rev. 5.4	Aluminum	100	99.3	101	100			1.27
	Aluminum	102	103	103				0.245
	Antimony	102	103	103	103			0.140
	Antimony	101	101	102				0.632
	Arsenic	104	105	104	105			0.730
	Arsenic	104	112	111				0.809
	Cadmium	106	105	107	104			1.34
	Cadmium	102	96.4	101				5.13
	Chromium	105	105	105	104			0.179
	Chromium	95.7	94.0	92.8				1.29
	Copper	101	103	103	104			0.0753
	Copper	95.8	98.7	98.4				0.280
	Lead	105	104	105	105			0.434
	Lead	99.6	102	102				0.0146
	Nickel	101	101	100	102			0.861
	Nickel	97.3	99.1	98.6				0.539
	Selenium	105	108	105	105			2.68
	Selenium	105	108	108				0.0800
	Silver	106	106	106	106			0.228
	Silver	99.0	96.6	111				14.0
	Thallium	105	105	105	107			0.712
	Thallium	102	91.8	92.2				0.394
EPA 300.0	Bromide	96.6	94.6	95.4	94.7			0.763
EPA 350.1 Rev. 2.0	Ammonia-N	104	100	103				2.28
	Ammonia-N	105	105	104				1.13
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	103	111				4.46
	Kjeldahl Nitrogen	102	103	104				0.763
	Kjeldahl Nitrogen	109	102	110				7.06
EPA 353.2 Rev. 2.0	NO2NO3-N	102	103	102				0.471
	NO2NO3-N	102	96.2					0.168
EPA 365.1 Rev. 2.0	Total-P	106	96.4	96.4				0.0259
	Total-P	104	101	104				2.65
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	96.7	97.9				0.942
	O-Phosphate-P	97.7	97.6	97.9				0.307
EPA 8321B	2,4-D	110	152	166				8.39
	Acesulfame K	96.2	109	101				7.61
	Acetaminophen	77.5	71.2	77.1				8.00
	Acetamiprid	83.8	110	90.9				19.4
	Afidopyropen	69.5	73.8	80.7				8.96
	AMPA	95.1	116	107				8.20
	Bentazon	73.4						
	Benzovindiflupyr	84.5	66.9	79.6				17.3
	Carbamazepine	88.7	86.8	84.4				2.72
	Clothianidin	85.8	90.2	93.5				3.19
	Dinotefuran	83.7	110	111				0.517
	Diuron	85.7	77.7	71.2				8.74

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Endothall	131	143	143			0.0838
	Fenuron	93.7	81.6	83.0			1.68
	Fluridone	90.0	72.5	90.4			8.89
	Glufosinate	114	123	118			3.98
	Glyphosate	101	114	126			10.1
	Hydrocodone	88.2	87.1	92.1			5.66
	Ibuprofen	85.9	95.5	102			6.62
	Imazapyr	88.6					15.1
	Imidacloprid	91.5	160	158			0.687
	Linuron	72.1	70.0	66.3			5.49
	Mandestrobin	90.9	80.7	76.0			6.03
	MCPP	115	194	190			2.23
	Naproxen	90.1	108	124			13.8
	Primidone	79.7	94.0	91.4			2.79
	Pyraclostrobin	86.9	59.0	82.5			33.2
	Sucralose	105	101	105			4.44
	Thiamethoxam	90.7	133	129			3.37
	Tolfenpyrad	52.4	15.9	41.4			89.1
	Triclopyr	83.5	119	125			4.28
SM 2320 B-97	Total Alkalinity	104				1.15	
	Total Alkalinity	104				0.765	
	Total Alkalinity	103				1.05	
SM 4500 F-C-97	Fluoride	97.9	99.3	99.3			0.0
	Fluoride	98.2	97.7	97.2			0.484
	Fluoride	97.2	94.4	95.2			0.516
SM 5310 B-00	Organic Carbon	101	99.2	99.7			0.396
	Organic Carbon	100	98.5	99.2			0.663
	Organic Carbon	98.0	97.3	96.9			0.352

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2109771, 2109774, 2109775, 2109776, 2109783
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2109812, 2109813, 2109814, 2109815, 2109816
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2109812, 2109813, 2109814, 2109815, 2109816
EPA 300.0 / E31780	Bromide in aqueous matrices	2109771, 2109774, 2109775, 2109776, 2109783
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2109772, 2109777, 2109778, 2109779, 2109784
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2109772, 2109777, 2109778, 2109779, 2109784
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2109772, 2109777, 2109778, 2109779, 2109784
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2109772, 2109777, 2109778, 2109779, 2109784
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2109773, 2109780, 2109781, 2109782, 2109785
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2109798, 2109799
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2109798, 2109799
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2109771, 2109774, 2109775, 2109776, 2109783

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2109771, 2109774, 2109775, 2109776, 2109783
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2109771, 2109774, 2109775, 2109776, 2109783
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2109772, 2109777, 2109778, 2109779, 2109784

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	08/08/2019			08/08/2019 17:07	Rosalyn Ballman	2109771, 2109774, 2109775, 2109776, 2109783
EPA 200.7 Rev. 4.4	08/08/2019	08/12/2019 14:45	Elliott D. Healy	08/13/2019 15:25	Betina Topolski	2109812
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	08/15/2019 15:56	Alexander Thompson	2109813
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	08/15/2019 16:49	Alexander Thompson	2109814
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	08/15/2019 16:57	Alexander Thompson	2109815
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	08/15/2019 17:04	Alexander Thompson	2109816
EPA 200.8 Rev. 5.4	08/08/2019	08/12/2019 14:45	Elliott D. Healy	08/23/2019 07:19	Martin Acosta	2109812
	08/08/2019	08/12/2019 14:45	Elliott D. Healy	08/28/2019 05:38	Justin Cutchin	2109812
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/05/2019 02:59	Robert K Palmer	2109813
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/05/2019 03:27	Robert K Palmer	2109814
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/05/2019 03:37	Robert K Palmer	2109815
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/05/2019 03:46	Robert K Palmer	2109816
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 17:52	Robert K Palmer	2109813
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 18:11	Robert K Palmer	2109814
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 18:17	Robert K Palmer	2109815
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 18:23	Robert K Palmer	2109816
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/06/2019 19:18	Robert K Palmer	2109813
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 05:52	Robert K Palmer	2109814
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 06:00	Robert K Palmer	2109815
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 06:08	Robert K Palmer	2109816
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 07:13	Robert K Palmer	2109814
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 07:21	Robert K Palmer	2109815
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 07:29	Robert K Palmer	2109816
	08/08/2019	08/14/2019 16:15	Elliott D. Healy	09/09/2019 18:41	Robert K Palmer	2109813
EPA 300.0	08/08/2019			08/20/2019 01:08	Jhamieka S. Greenwood	2109771
	08/08/2019			08/20/2019 01:59	Jhamieka S. Greenwood	2109774
	08/08/2019			08/20/2019 02:17	Jhamieka S. Greenwood	2109775
	08/08/2019			08/20/2019 02:34	Jhamieka S. Greenwood	2109776
	08/08/2019			08/20/2019 02:51	Jhamieka S. Greenwood	2109783
EPA 350.1 Rev. 2.0	08/08/2019			08/14/2019 13:29	Ping Hua	2109777
	08/08/2019			08/14/2019 13:31	Ping Hua	2109778
	08/08/2019			08/14/2019 13:32	Ping Hua	2109779
	08/08/2019			08/14/2019 13:34	Ping Hua	2109784
	08/08/2019			08/15/2019 13:56	Ping Hua	2109772
EPA 351.2 Rev. 2.0	08/08/2019	08/13/2019 12:36	Sima Feizi	08/14/2019 12:08	Joseph Suarez	2109772
	08/08/2019	08/13/2019 14:20	Sima Feizi	08/14/2019 10:54	Joseph Suarez	2109777
	08/08/2019	08/13/2019 14:20	Sima Feizi	08/14/2019 10:56	Joseph Suarez	2109778
	08/08/2019	08/13/2019 14:20	Sima Feizi	08/14/2019 11:28	Joseph Suarez	2109779
	08/08/2019	08/13/2019 14:20	Sima Feizi	08/14/2019 11:30	Joseph Suarez	2109784

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	08/08/2019			08/12/2019 12:20	Beverly Y. Sanders	2109777
	08/08/2019			08/12/2019 12:21	Beverly Y. Sanders	2109778
	08/08/2019			08/12/2019 12:22	Beverly Y. Sanders	2109779
	08/08/2019			08/12/2019 12:23	Beverly Y. Sanders	2109784
	08/08/2019			08/13/2019 13:07	Beverly Y. Sanders	2109772
EPA 365.1 Rev. 2.0	08/08/2019	08/12/2019 13:21	Vijayalakshmi Reddy	08/13/2019 11:44	Lipi Saha	2109777
	08/08/2019	08/12/2019 13:21	Vijayalakshmi Reddy	08/13/2019 11:45	Lipi Saha	2109778
	08/08/2019	08/12/2019 13:21	Vijayalakshmi Reddy	08/13/2019 11:46	Lipi Saha	2109779
	08/08/2019	08/12/2019 13:21	Vijayalakshmi Reddy	08/13/2019 11:47	Lipi Saha	2109784
	08/08/2019	08/12/2019 13:21	Vijayalakshmi Reddy	08/13/2019 11:48	Lipi Saha	2109772
EPA 365.1 Rev. 2.0 dissolved	08/08/2019			08/08/2019 14:33	Jhamieka S. Greenwood	2109785
	08/08/2019			08/08/2019 14:58	Jhamieka S. Greenwood	2109780, 2109781
	08/08/2019			08/08/2019 14:59	Jhamieka S. Greenwood	2109782
	08/08/2019			08/08/2019 15:07	Jhamieka S. Greenwood	2109773
EPA 8321B	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/13/2019 13:51	Rebecca Ware	2109798
	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/13/2019 14:21	Rebecca Ware	2109799
	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/13/2019 20:03	Rebecca Ware	2109798
	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/13/2019 20:24	Rebecca Ware	2109799
	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/19/2019 21:23	Rebecca Ware	2109798
	08/08/2019	08/08/2019 15:30	Rebecca Ware	08/19/2019 21:46	Rebecca Ware	2109799
	08/08/2019	08/12/2019 10:00	Fe-Val Siddell	08/14/2019 11:54	Juyoung Kim	2109798
	08/08/2019	08/12/2019 10:00	Fe-Val Siddell	08/14/2019 12:29	Juyoung Kim	2109799
SM 2320 B-97	08/08/2019			08/15/2019 14:28	Dale L. Simmons	2109771
	08/08/2019			08/15/2019 19:28	Dale L. Simmons	2109774
	08/08/2019			08/16/2019 07:11	Dale L. Simmons	2109775
	08/08/2019			08/16/2019 07:23	Dale L. Simmons	2109776
	08/08/2019			08/16/2019 07:35	Dale L. Simmons	2109783
SM 2540 D-97	08/08/2019			08/09/2019 15:30	Sima Feizi	2109771
	08/08/2019			08/13/2019 15:51	Rosalyn Ballman	2109774, 2109775, 2109776, 2109783
SM 4500 F-C-97	08/08/2019			08/15/2019 14:28	Dale L. Simmons	2109771
	08/08/2019			08/15/2019 19:28	Dale L. Simmons	2109774
	08/08/2019			08/16/2019 03:17	Dale L. Simmons	2109775
	08/08/2019			08/16/2019 03:21	Dale L. Simmons	2109776
	08/08/2019			08/16/2019 03:25	Dale L. Simmons	2109783
SM 5310 B-00	08/08/2019			08/09/2019 21:41	Madeline Funaro	2109772
	08/08/2019			08/13/2019 23:27	Madeline Funaro	2109777
	08/08/2019			08/13/2019 23:39	Madeline Funaro	2109778
	08/08/2019			08/13/2019 23:51	Madeline Funaro	2109779
	08/08/2019			08/14/2019 20:22	Madeline Funaro	2109784