Chemical Analysis Report

SE-DIST-2020-03-17-01

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

Event Description: **SMP- LW Drainage**
Request ID: **RQ-2020-03-16-10**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Jordan Skaggs

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 09-APR-2020 09:33

NON-CONFORMANCE REPORT INCLUDED

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited 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: Hillsboro Canal @ Pioneer Park **Collection Date/Time: 03/16/2020 12:10**

Field ID: G3SE0028 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165333	EPA 8321B	2,4-D	0.013		ug/L	P380689	
		Acesulfame K**	0.10	U	ug/L	P380764	MS
		AMPA**	0.10	UJ	ug/L	P380764	SUR
		Sucralose**	0.11		ug/L	P380764	
		Acetaminophen**	0.0080	U	ug/L	P380689	
		Acetamiprid**	0.0020	U	ug/L	P380689	
		Endothall**	0.25	U	ug/L	P380764	
		Glufosinate**	0.10	UJ	ug/L	P380764	SUR
		Glyphosate**	0.10	UJ	ug/L	P380764	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P380689	
		Bentazon	0.073		ug/L	P380689	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380689	
		Carbamazepine**	8.0E-04	U	ug/L	P380689	
		Clothianidin**	0.0020	U	ug/L	P380689	
		Dinotefuran**	0.0023	I	ug/L	P380689	
		Diuron	0.016		ug/L	P380689	
		Fenuron	0.016	U	ug/L	P380689	
		Fluridone**	0.022		ug/L	P380689	
		Imazapyr**	0.047		ug/L	P380689	
		Hydrocodone**	0.0020	U	ug/L	P380689	
		Ibuprofen**	0.020	U	ug/L	P380689	
		Imidacloprid	0.014		ug/L	P380689	
		Linuron	0.0040	U	ug/L	P380689	
		Mandestrobin**	0.0020	UJ	ug/L	P380689	
		MCPP	0.0020	U	ug/L	P380689	MS
		Naproxen**	0.0080	U	ug/L	P380689	
		Primidone**	0.0040	U	ug/L	P380689	
		Pyraclostrobin**	0.0020	U	ug/L	P380689	
		Thiamethoxam**	0.0020	U	ug/L	P380689	
		Tolfenpyrad**	0.0020	U	ug/L	P380689	
		Triclopyr**	0.0040	U	ug/L	P380689	

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis.
EPA 8321B: Results confirmed in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: E-1 West @ Glades **Collection Date/Time: 03/16/2020 12:40**

Field ID: G3SE0033 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165311	EPA 180.1 Rev. 2.0	Turbidity	4.9	A	NTU	P380810	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P380936	
		Sulfate	28		mg SO4/L	P380938	
	SM 2120 B-2011	Color (true)	35		PCU	P380791	
	SM 2320 B-2011	Total Alkalinity	190		mg CaCO3/L	P381069	
	SM 2540 C-2011	TDS	306		mg/L	P381190	
	SM 2540 D-2011	TSS	6	I	mg/L	P381222	
	SM 4500 F-C-2011	Fluoride	0.26		mg F/L	P381260	
2165312	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P381044	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P381102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381358	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P381213	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P380911	
2165313	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P380819	

Ref. Method and Comment:
SM 2540 D-2011: 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 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: E-4 @ Clint Moore **Collection Date/Time: 03/16/2020 13:30**

Field ID: G3SE0019 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165314	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P380810	
	EPA 300.0 Rev. 2.1	Chloride	34	A	mg Cl/L	P381006	
		Sulfate	9.7	A	mg SO4/L	P381010	
	SM 2120 B-2011	Color (true)	79	A	PCU	P380791	
	SM 2320 B-2011	Total Alkalinity	185		mg CaCO3/L	P381069	
	SM 2540 C-2011	TDS	292		mg/L	P381190	
	SM 2540 D-2011	TSS	4	I	mg/L	P381222	
	SM 4500 F-C-2011	Fluoride	0.12		mg F/L	P381260	
2165315	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P381044	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P381102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.090		mg N/L	P381358	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P381213	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P380911	
2165316	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.068		mg P/L	P380819	
2165334	EPA 8321B	2,4-D	0.0020	U	ug/L	P380839	
		Acesulfame K**	0.10	U	ug/L	P380764	MS
		AMPA**	0.10	U	ug/L	P380764	
		Sucralose**	0.056		ug/L	P380764	
		Acetaminophen**	0.0080	U	ug/L	P380839	
		Acetamiprid**	0.0020	U	ug/L	P380839	
		Endothall**	0.25	U	ug/L	P380764	
		Glufosinate**	0.10	U	ug/L	P380764	
		Glyphosate**	0.18	I	ug/L	P380764	
		Afidopyropen**	0.0020	UJ	ug/L	P380839	
		Bentazon	0.30		ug/L	P380839	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380839	
		Carbamazepine**	8.0E-04	U	ug/L	P380839	
		Clothianidin**	0.0040	I	ug/L	P380839	
		Dinotefuran**	0.0048	I	ug/L	P380839	
		Diuron	0.054		ug/L	P380839	
		Fenuron	0.063	I	ug/L	P380839	
		Fluridone**	0.085		ug/L	P380839	
		Imazapyr**	0.14		ug/L	P380839	
		Hydrocodone**	0.0020	U	ug/L	P380839	
		Ibuprofen**	0.020	U	ug/L	P380839	
		Imidacloprid	0.050	J	ug/L	P380839	MS
		Linuron	0.0040	U	ug/L	P380839	
		Mandestrobin**	0.0020	UJ	ug/L	P380839	
		MCPP	0.0029	I J	ug/L	P380839	MS
		Naproxen**	0.0080	U	ug/L	P380839	
		Primidone**	0.0040	U	ug/L	P380839	
		Pyraclostrobin**	0.0020	U	ug/L	P380839	
		Thiamethoxam**	0.0020	U	ug/L	P380839	

Field ID: G3SE0019 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165334	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P380839	
		Triclopyr**	0.0040	U	ug/L	P380839	

Ref. Method and Comment:
SM 2540 D-2011: 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 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. J - second source check standards for some analytes were not available for analysis. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: E-4 @ Clint Moore **Collection Date/Time: 03/16/2020 13:40**

Field ID: FB_03162020 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165317	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P380810	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P381006	
		Sulfate	0.20	U	mg SO4/L	P381010	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P380791	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P381069	
	SM 2540 C-2011	TDS	15	U	mg/L	P381189	
	SM 2540 D-2011	TSS	2	U	mg/L	P381221	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P381260	
2165318	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P381044	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P381102	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381358	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P381213	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P380911	
2165319	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P380819	
2165335	EPA 8321B	2,4-D	0.0020	U	ug/L	P380839	
		Acesulfame K**	0.10	U	ug/L	P380764	MS
		AMPA**	0.10	U	ug/L	P380764	
		Sucralose**	0.010	U	ug/L	P380764	
		Acetaminophen**	0.0080	U	ug/L	P380839	
		Acetamiprid**	0.0020	U	ug/L	P380839	
		Endothall**	0.25	U	ug/L	P380764	
		Glufosinate**	0.10	U	ug/L	P380764	
		Glyphosate**	0.10	U	ug/L	P380764	
		Afidopyropen**	0.0020	UJ	ug/L	P380839	
		Bentazon	8.0E-04	U	ug/L	P380839	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380839	
		Carbamazepine**	8.0E-04	U	ug/L	P380839	
		Clothianidin**	0.0020	U	ug/L	P380839	
		Dinotefuran**	0.0020	U	ug/L	P380839	
		Diuron	0.0020	U	ug/L	P380839	
		Fenuron	0.016	U	ug/L	P380839	
		Fluridone**	8.0E-04	U	ug/L	P380839	
		Imazapyr**	0.0040	U	ug/L	P380839	
		Hydrocodone**	0.0020	U	ug/L	P380839	
		Ibuprofen**	0.020	U	ug/L	P380839	
		Imidacloprid	0.0020	U	ug/L	P380839	MS
		Linuron	0.0040	U	ug/L	P380839	
		Mandestrobin**	0.0020	UJ	ug/L	P380839	
		MCPP	0.0020	U	ug/L	P380839	MS
		Naproxen**	0.0080	U	ug/L	P380839	
		Primidone**	0.0040	U	ug/L	P380839	
		Pyraclostrobin**	0.0020	U	ug/L	P380839	
		Thiamethoxam**	0.0020	U	ug/L	P380839	

Field ID: FB_03162020 Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165335	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P380839	
		Triclopyr**	0.0040	U	ug/L	P380839	

Ref. Method and Comment:
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to a high concentration of parameters in the spiked sample. J - second source check standards for some analytes were not available for analysis.

Sample Location: E-2 West @ Atlantic **Collection Date/Time: 03/16/2020 14:05**

Field ID: G3SE0007 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165941	EPA 180.1 Rev. 2.0	Turbidity	3.7		NTU	P380988	
	EPA 300.0 Rev. 2.1	Chloride	47		mg Cl/L	P381007	
		Sulfate	35		mg SO4/L	P381011	
	SM 2120 B-2011	Color (true)	51	A	PCU	P380919	
	SM 2320 B-2011	Total Alkalinity	156		mg CaCO3/L	P381410	
	SM 2540 C-2011	TDS	292	A	mg/L	P381480	
	SM 2540 D-2011	TSS	6	I A	mg/L	P381568	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P381454	
2165942	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P381055	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P381165	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381363	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P381278	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P381022	
2165943	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.038	Q	mg P/L	P380888	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Sample Location: Tidal Creek to Lox **Collection Date/Time: 03/16/2020 15:25**

Field ID: G2SE0027 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165935	EPA 180.1 Rev. 2.0	Turbidity	1.9		NTU	P380988	
	EPA 300.0 Rev. 2.1	Bromide	49		mg Br/L	P381517	
	SM 2320 B-2011	Total Alkalinity	155		mg CaCO3/L	P381065	
	SM 2540 D-2011	TSS	5	I	mg/L	P381575	
	SM 4500 F-C-2011	Fluoride	0.96		mg F/L	P381452	
2165937	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P381050	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27	I	mg N/L	P381137	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381248	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P381277	
	SM 5310 B-2011	Organic Carbon	5.3		mg C/L	P381024	
2165939	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P380887	
2165950	EPA 8321B	2,4-D	0.0020	I	ug/L	P380867	
		Acesulfame K**	0.10	U	ug/L	P380873	MS
		AMPA**	0.10	UJ	ug/L	P380873	SUR
		Acetaminophen**	0.0080	U	ug/L	P380867	
		Acetamiprid**	0.0020	U	ug/L	P380867	
		Endothall**	0.25	U	ug/L	P380873	
		Glufosinate**	0.10	UJ	ug/L	P380873	SUR
		Glyphosate**	0.10	UJ	ug/L	P380873	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P380867	
		Bentazon	0.028		ug/L	P380867	
		Sucralose**	0.010	U	ug/L	P380873	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380867	
		Carbamazepine**	8.0E-04	U	ug/L	P380867	
		Clothianidin**	0.0020	U	ug/L	P380867	
		Dinotefuran**	0.0020	U	ug/L	P380867	
		Diuron	0.0020	U	ug/L	P380867	
		Fenuron	0.016	U	ug/L	P380867	
		Fluridone**	0.0029	I	ug/L	P380867	
		Imazapyr**	0.036		ug/L	P380867	
		Hydrocodone**	0.0020	U	ug/L	P380867	
		Ibuprofen**	0.020	U	ug/L	P380867	
		Imidacloprid	0.0036	I	ug/L	P380867	
		Linuron	0.0040	U	ug/L	P380867	
		Mandestrobin**	0.0020	UJ	ug/L	P380867	
		MCPP	0.0020	U	ug/L	P380867	
		Naproxen**	0.0080	U	ug/L	P380867	
		Primidone**	0.0040	U	ug/L	P380867	
		Pyraclostrobin**	0.0020	U	ug/L	P380867	
		Thiamethoxam**	0.0020	U	ug/L	P380867	
		Tolfenpyrad**	0.0020	U	ug/L	P380867	
		Triclopyr**	0.0040	U	ug/L	P380867	

Field ID: G2SE0027 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis.
EPA 8321B: Results confirmed in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

Sample Location: Tidal Creek to Lox **Collection Date/Time: 03/16/2020 15:30**

Field ID: G2SE0027_DUP Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2165936	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P380988	
	EPA 300.0 Rev. 2.1	Bromide	48		mg Br/L	P381517	
	SM 2320 B-2011	Total Alkalinity	155		mg CaCO3/L	P381065	
	SM 2540 D-2011	TSS	4	I	mg/L	P381575	
	SM 4500 F-C-2011	Fluoride	0.96		mg F/L	P381452	
2165938	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P381050	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26	I	mg N/L	P381137	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P381248	
	EPA 365.1 Rev. 2.0	Total-P	0.023		mg P/L	P381277	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P381024	
2165940	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.008	I	mg P/L	P380887	
2165951	EPA 8321B	2,4-D	0.0020	U	ug/L	P380867	
		Acesulfame K**	0.10	U	ug/L	P380873	MS
		AMPA**	0.10	UJ	ug/L	P380873	SUR
		Acetaminophen**	0.0080	U	ug/L	P380867	
		Acetamiprid**	0.0020	U	ug/L	P380867	
		Endothall**	0.25	U	ug/L	P380873	
		Glufosinate**	0.10	UJ	ug/L	P380873	SUR
		Glyphosate**	0.10	UJ	ug/L	P380873	SUR
		Afidopyropen**	0.0020	UJ	ug/L	P380867	
		Bentazon	0.031		ug/L	P380867	
		Sucralose**	0.010	U	ug/L	P380873	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P380867	
		Carbamazepine**	8.0E-04	U	ug/L	P380867	
		Clothianidin**	0.0020	U	ug/L	P380867	
		Dinotefuran**	0.0020	U	ug/L	P380867	
		Diuron	0.0020	U	ug/L	P380867	
		Fenuron	0.016	U	ug/L	P380867	
		Fluridone**	0.0033		ug/L	P380867	
		Imazapyr**	0.039		ug/L	P380867	
		Hydrocodone**	0.0020	U	ug/L	P380867	
		Ibuprofen**	0.020	U	ug/L	P380867	
		Imidacloprid	0.0038	I	ug/L	P380867	
		Linuron	0.0040	U	ug/L	P380867	
		Mandestrobin**	0.0020	UJ	ug/L	P380867	
		MCPP	0.0020	U	ug/L	P380867	
		Naproxen**	0.0080	U	ug/L	P380867	
		Primidone**	0.0040	U	ug/L	P380867	
		Pyraclostrobin**	0.0020	U	ug/L	P380867	
		Thiamethoxam**	0.0020	U	ug/L	P380867	
		Tolfenpyrad**	0.0020	U	ug/L	P380867	
		Triclopyr**	0.0040	U	ug/L	P380867	

Field ID: G2SE0027_DUP Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Ref. Method and Comment:
EPA 8321B: J - second source check standards for some analytes were not available for analysis.
EPA 8321B: Results confirmed in re-extraction. Refer to the Lab Analysis Report for an explanation of QC Codes.

Non-Conformance Report

NCR ID: 8241

Event(s)	Job(s)	Sample(s)	Test(s)
SE-DIST-2020-03-17-01			

NCR Type: SHIPPING/RECEIVING **NCR Category: Samples arrived late**

Observation: Samples arrived one day late by FedEx, samples received within the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.
Biology and Chemistry supervisors were notified by email.
Samples were retrieved by lab staff before expiration.

Authorized by/Date: Joshua Ayres 3/20/2020

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

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380810

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380988

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380936

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380938

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381006

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381007

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381010

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381011

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381517

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381044

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381050

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381055

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381137

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381165

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381248

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381358

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381363

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: P381213

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381277

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381278

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380819

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380887

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380888

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

Reference Method: EPA 8321B
Batch ID: P380689

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P380689

Component	Result	Code	Units
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

Reference Method: EPA 8321B
Batch ID: P380764

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: EPA 8321B
Batch ID: P380839

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: P380867

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

Reference Method: EPA 8321B
Batch ID: P380873

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 2120 B-2011
Batch ID: P380791

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P380919

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P381065

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

Reference Method: SM 2320 B-2011
Batch ID: P381069

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

Reference Method: SM 2320 B-2011
Batch ID: P381410

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

Reference Method: SM 2540 C-2011
Batch ID: P381189

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P381190

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P381480

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P381221

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P381222

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P381568

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P381575

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381452

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-2011
Batch ID: P381454

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P380911

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

Reference Method: SM 5310 B-2011
Batch ID: P381022

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

Reference Method: SM 5310 B-2011
Batch ID: P381024

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380936

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380938

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381006

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381007

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381010

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381011

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381517

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381044

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381050

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381055

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381102

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381137

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381165

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381248

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381358

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381363

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381213

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: P381277

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381278

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380819

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380887

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380888

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

Reference Method: EPA 8321B
Batch ID: P380689

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	147		P	30 - 160
Acetaminophen	101		P	30 - 160
Acetamiprid	91.4		P	30 - 160
Afidopyropen	98.9		P	30 - 160
Bentazon	98.6		P	30 - 160
Benzovindiflupyr	88.9		P	30 - 160
Carbamazepine	124		P	30 - 160
Clothianidin	95.1		P	30 - 160
Dinotefuran	95.3		P	30 - 160
Diuron	96.5		P	30 - 160
Fenuron	96.2		P	30 - 160
Fluridone	101		P	30 - 160
Hydrocodone	106		P	30 - 160
Ibuprofen	93.3		P	30 - 160
Imazapyr	120		P	30 - 160
Imidacloprid	107		P	30 - 160
Linuron	87.3		P	30 - 160
Mandestrobin	95.3		P	30 - 160
MCPP	157		P	30 - 160
Naproxen	107		P	30 - 160
Primidone	93.2		P	30 - 160
Pyraclostrobin	94.2		P	30 - 160
Thiamethoxam	108		P	30 - 160
Tolfenpyrad	65.7		P	30 - 160
Triclopyr	111		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P380764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	88.1		P	40 - 150
AMPA	103		P	40 - 150
Endothall	104		P	40 - 150
Glufosinate	115		P	40 - 150
Glyphosate	112		P	40 - 140
Sucralose	89.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P380839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	132		P	30 - 160
Acetaminophen	87.9		P	30 - 160
Acetamiprid	81.5		P	30 - 160
Afidopyropen	101		P	30 - 160
Bentazon	112		P	30 - 160
Benzovindiflupyr	87.8		P	30 - 160
Carbamazepine	115		P	30 - 160
Clothianidin	91.5		P	30 - 160
Dinotefuran	74.8		P	30 - 160
Diuron	94.0		P	30 - 160
Fenuron	91.0		P	30 - 160
Fluridone	103		P	30 - 160
Hydrocodone	95.9		P	30 - 160
Ibuprofen	88.6		P	30 - 160
Imazapyr	92.3		P	30 - 160
Imidacloprid	115		P	30 - 160
Linuron	72.8		P	30 - 160
Mandestrobin	95.7		P	30 - 160
MCPP	151		P	30 - 160
Naproxen	77.7		P	30 - 160
Primidone	91.1		P	30 - 160
Pyraclostrobin	86.6		P	30 - 160
Thiamethoxam	95.6		P	30 - 160
Tolfenpyrad	61.7		P	30 - 160
Triclopyr	106		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	133		P	30 - 160
Acetaminophen	89.8		P	30 - 160
Acetamiprid	90.8		P	30 - 160
Afidopyropen	92.0		P	30 - 160
Bentazon	94.0		P	30 - 160
Benzovindiflupyr	78.5		P	30 - 160
Carbamazepine	107		P	30 - 160
Clothianidin	88.1		P	30 - 160
Dinotefuran	91.8		P	30 - 160
Diuron	64.2		P	30 - 160
Fenuron	94.6		P	30 - 160

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P380867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluridone	97.0		P	30 - 160
Hydrocodone	98.8		P	30 - 160
Ibuprofen	86.4		P	30 - 160
Imazapyr	92.4		P	30 - 160
Imidacloprid	114		P	30 - 160
Linuron	80.9		P	30 - 160
Mandestrobin	91.9		P	30 - 160
MCPP	145		P	30 - 160
Naproxen	65.4		P	30 - 160
Primidone	91.8		P	30 - 160
Pyraclostrobin	85.9		P	30 - 160
Thiamethoxam	106		P	30 - 160
Tolfenpyrad	54.1		P	30 - 160
Triclopyr	96.4		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380873

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	88.7		P	40 - 150
AMPA	126		P	40 - 150
Endothall	124		P	40 - 150
Glufosinate	127		P	40 - 150
Glyphosate	110		P	40 - 140
Sucralose	110		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P380791

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P380919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P381065

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

Reference Method: SM 2320 B-2011
Batch ID: P381069

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-2011
Batch ID: P381410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.3		P	92 - 103

Reference Method: SM 4500 F-C-2011
Batch ID: P381452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 104

Reference Method: SM 4500 F-C-2011
Batch ID: P381454

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.3		P	92 - 104

Reference Method: SM 5310 B-2011
Batch ID: P380911

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	102		P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P381022

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

Reference Method: SM 5310 B-2011
Batch ID: P381024

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164994	Chloride	98.1		P	90 - 110
2165028	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164994	Sulfate	97.7		P	90 - 110
2165028	Sulfate	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165314	Chloride	96.5		P	90 - 110
2165489	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165875	Chloride	99.0		P	90 - 110
2166013	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165314	Sulfate	97.0		P	90 - 110
2165489	Sulfate	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165875	Sulfate	99.5		P	90 - 110
2166013	Sulfate	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167411	Bromide	99.0	98.8	P/P	90 - 110
2167589	Bromide	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381044

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165084	Ammonia-N	96.0	98.4	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2166365	Ammonia-N	98.7	98.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165991	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381137

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165959	Kjeldahl Nitrogen	100	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165942	Kjeldahl Nitrogen	105	96.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381248

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165937	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381358

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165312	NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381363

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165942	NO2NO3-N	97.5	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381213

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165312	Total-P	108	108	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381277

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165803	Total-P	105	103	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165869	Total-P	110	109	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165939	O-Phosphate-P	98.4	98.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380888

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165870	O-Phosphate-P	91.9	92.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P380689

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164417	2,4-D	132	151	P/P	30 - 160
2164417	Acetaminophen	92.0	94.0	P/P	30 - 160
2164417	Acetamiprid	95.0	93.7	P/P	30 - 160
2164417	Afidopyropen	92.8	94.5	P/P	30 - 160
2164417	Bentazon	76.3	87.3	P/P	30 - 160
2164417	Benzovindiflupyr	73.1	79.9	P/P	30 - 160
2164417	Carbamazepine	101	101	P/P	30 - 160
2164417	Clothianidin	95.8	105	P/P	30 - 160
2164417	Dinotefuran	114	117	P/P	30 - 160
2164417	Diuron	80.0	84.4	P/P	30 - 160
2164417	Fenuron	85.3	85.1	P/P	30 - 160
2164417	Fluridone	86.2	88.2	P/P	30 - 160
2164417	Hydrocodone	105	107	P/P	30 - 160
2164417	Ibuprofen	81.6	71.3	P/P	30 - 160
2164417	Imazapyr	126	91.1	P/P	30 - 160
2164417	Imidacloprid	158	147	P/P	30 - 160
2164417	Linuron	74.3	74.6	P/P	30 - 160
2164417	Mandestrobin	79.4	82.0	P/P	30 - 160
2164417	MCPP	153	160	P/F	30 - 160
2164417	Naproxen	91.7	96.2	P/P	30 - 160
2164417	Primidone	92.4	96.9	P/P	30 - 160
2164417	Pyraclostrobin	78.3	83.5	P/P	30 - 160
2164417	Thiamethoxam	134	129	P/P	30 - 160
2164417	Tolfenpyrad	55.6	55.9	P/P	30 - 160
2164417	Triclopyr	132	105	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165906	Acesulfame K	138	152	P/F	40 - 150
2165906	AMPA	103	112	P/P	40 - 150
2165906	Endothall	116	119	P/P	40 - 150
2165906	Glufosinate	110	106	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P380764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165906	Glyphosate	107	108	P/P	40 - 140
2165906	Sucralose	127	105	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P380839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165334	2,4-D	141	131	P/P	30 - 160
2165334	Acetaminophen	109	94.8	P/P	30 - 160
2165334	Acetamiprid	106	105	P/P	30 - 160
2165334	Afidopyropen	111	98.5	P/P	30 - 160
2165334	Benzovindiflupyr	79.8	74.5	P/P	30 - 160
2165334	Carbamazepine	107	103	P/P	30 - 160
2165334	Clothianidin	102	94.3	P/P	30 - 160
2165334	Dinotefuran	119	119	P/P	30 - 160
2165334	Diuron	68.8	77.6	P/P	30 - 160
2165334	Fenuron	85.4	81.7	P/P	30 - 160
2165334	Hydrocodone	113	108	P/P	30 - 160
2165334	Ibuprofen	75.0	76.9	P/P	30 - 160
2165334	Imazapyr	112	112	P/P	30 - 160
2165334	Imidacloprid	182	165	F/F	30 - 160
2165334	Linuron	76.7	72.5	P/P	30 - 160
2165334	Mandestrobin	90.1	87.6	P/P	30 - 160
2165334	MCPP	164	153	F/P	30 - 160
2165334	Naproxen	138	124	P/P	30 - 160
2165334	Primidone	103	96.9	P/P	30 - 160
2165334	Pyraclostrobin	88.2	83.6	P/P	30 - 160
2165334	Thiamethoxam	155	141	P/P	30 - 160
2165334	Tolfenpyrad	61.8	59.4	P/P	30 - 160
2165334	Triclopyr	126	108	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165908	2,4-D	121	91.7	P/P	30 - 160
2165908	Acetaminophen	92.2	76.3	P/P	30 - 160
2165908	Acetamiprid	75.6	84.8	P/P	30 - 160
2165908	Afidopyropen	98.3	92.5	P/P	30 - 160
2165908	Bentazon	48.7	46.5	P/P	30 - 160
2165908	Benzovindiflupyr	69.0	63.8	P/P	30 - 160
2165908	Carbamazepine	85.6	75.2	P/P	30 - 160
2165908	Clothianidin	97.2	81.1	P/P	30 - 160
2165908	Dinotefuran	104	96.5	P/P	30 - 160
2165908	Diuron	64.8	60.3	P/P	30 - 160
2165908	Fenuron	74.1	73.8	P/P	30 - 160
2165908	Fluridone	87.8	82.5	P/P	30 - 160
2165908	Hydrocodone	97.1	87.1	P/P	30 - 160
2165908	Ibuprofen	72.7	72.1	P/P	30 - 160
2165908	Imazapyr	106	88.9	P/P	30 - 160
2165908	Imidacloprid	154	141	P/P	30 - 160
2165908	Linuron	55.6	48.7	P/P	30 - 160

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P380867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165908	Mandestrobin	74.8	77.9	P/P	30 - 160
2165908	MCPP	140	146	P/P	30 - 160
2165908	Naproxen	81.4	78.6	P/P	30 - 160
2165908	Primidone	81.3	84.0	P/P	30 - 160
2165908	Pyraclostrobin	78.5	73.8	P/P	30 - 160
2165908	Thiamethoxam	110	122	P/P	30 - 160
2165908	Tolfenpyrad	53.4	51.2	P/P	30 - 160
2165908	Triclopyr	135	137	P/P	30 - 160

Reference Method: EPA 8321B
Batch ID: P380873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165999	Acesulfame K	16.2	17.0	F/F	40 - 150
2165999	AMPA	98.1	101	P/P	40 - 150
2165999	Endothall	130	128	P/P	40 - 150
2165999	Glufosinate	100	115	P/P	40 - 150
2165999	Glyphosate	112	120	P/P	40 - 140
2165999	Sucralose	95.9	94.3	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2164225	Fluoride	100	99.3	P/P	89 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P381452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165407	Fluoride	98.4	101	P/P	91 - 105

Reference Method: SM 4500 F-C-2011
Batch ID: P381454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2167134	Fluoride	101	104	P/P	91 - 105

Reference Method: SM 5310 B-2011
Batch ID: P380911

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165487	Organic Carbon	97.2	102	P/P	85 - 115

Reference Method: SM 5310 B-2011
Batch ID: P381022

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2165862	Organic Carbon	100	102	P/P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P381024

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2166017	Organic Carbon	95.7	96.4	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380810

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165311	Turbidity	0.821	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P380988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2166076	Turbidity	6.82	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164994	Chloride	0.350	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P380938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164994	Sulfate	0.573	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165314	Chloride	0.799	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2166013	Chloride	0.662	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165314	Sulfate	0.566	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2166013	Sulfate	0.645	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P381517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167411	Bromide	0.124	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381044

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165084	Ammonia-N	2.10	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2166365	Ammonia-N	0.0435	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P381055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165991	Ammonia-N	0.791	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165312	Kjeldahl Nitrogen	0.364	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381137

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165959	Kjeldahl Nitrogen	3.30	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P381165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165942	Kjeldahl Nitrogen	4.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381248

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165937	NO2NO3-N	0.985	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381358

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165312	NO2NO3-N	0.976	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P381363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165942	NO2NO3-N	2.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381213

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165312	Total-P	0.277	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381277

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165803	Total-P	1.48	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P381278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165869	Total-P	0.782	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380819

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165313	O-Phosphate-P	1.44	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165939	O-Phosphate-P	0.189	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P380888

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165870	O-Phosphate-P	0.791	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P380689

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164417	2,4-D	12.4	Spike	P	0 - 30
2164417	Acetaminophen	2.17	Spike	P	0 - 30
2164417	Acetamiprid	1.31	Spike	P	0 - 30
2164417	Afidopyropen	1.81	Spike	P	0 - 30
2164417	Bentazon	13.5	Spike	P	0 - 30
2164417	Benzovindiflupyr	8.91	Spike	P	0 - 30
2164417	Carbamazepine	0.397	Spike	P	0 - 30
2164417	Clothianidin	8.99	Spike	P	0 - 30
2164417	Dinotefuran	3.27	Spike	P	0 - 30
2164417	Diuron	4.85	Spike	P	0 - 30
2164417	Fenuron	0.243	Spike	P	0 - 30
2164417	Fluridone	1.93	Spike	P	0 - 30
2164417	Hydrocodone	1.75	Spike	P	0 - 30
2164417	Ibuprofen	13.5	Spike	P	0 - 30
2164417	Imazapyr	21.6	Spike	P	0 - 30
2164417	Imidacloprid	6.63	Spike	P	0 - 30
2164417	Linuron	0.384	Spike	P	0 - 30
2164417	Mandestrobin	3.32	Spike	P	0 - 30
2164417	MCPP	4.84	Spike	P	0 - 30
2164417	Naproxen	4.77	Spike	P	0 - 30
2164417	Primidone	4.75	Spike	P	0 - 30
2164417	Pyraclostrobin	6.34	Spike	P	0 - 30
2164417	Thiamethoxam	3.85	Spike	P	0 - 30
2164417	Tolfenpyrad	0.428	Spike	P	0 - 30
2164417	Triclopyr	23.2	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P380764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165906	Acesulfame K	9.76	Spike	P	0 - 30
2165906	AMPA	9.13	Spike	P	0 - 30
2165906	Endothall	2.04	Spike	P	0 - 30
2165906	Glufosinate	4.41	Spike	P	0 - 30
2165906	Glyphosate	0.961	Spike	P	0 - 30
2165906	Sucralose	18.9	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P380839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165334	2,4-D	7.55	Spike	P	0 - 30
2165334	Acetaminophen	14.1	Spike	P	0 - 30
2165334	Acetamiprid	0.588	Spike	P	0 - 30
2165334	Afidopyropen	11.7	Spike	P	0 - 30
2165334	Bentazon	4.85	Spike	P	0 - 30
2165334	Benzovindiflupyr	6.87	Spike	P	0 - 30
2165334	Carbamazepine	3.90	Spike	P	0 - 30
2165334	Clothianidin	7.02	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P380839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165334	Dinotefuran	0.554	Spike	P	0 - 30
2165334	Diuron	6.25	Spike	P	0 - 30
2165334	Fenuron	2.31	Spike	P	0 - 30
2165334	Fluridone	4.29	Spike	P	0 - 30
2165334	Hydrocodone	4.53	Spike	P	0 - 30
2165334	Ibuprofen	2.33	Spike	P	0 - 30
2165334	Imazapyr	0.00892	Spike	P	0 - 30
2165334	Imidacloprid	7.11	Spike	P	0 - 30
2165334	Linuron	5.62	Spike	P	0 - 30
2165334	Mandestrobin	2.80	Spike	P	0 - 30
2165334	MCPP	6.95	Spike	P	0 - 30
2165334	Naproxen	11.1	Spike	P	0 - 30
2165334	Primidone	5.70	Spike	P	0 - 30
2165334	Pyraclostrobin	5.36	Spike	P	0 - 30
2165334	Thiamethoxam	9.01	Spike	P	0 - 30
2165334	Tolfenpyrad	4.03	Spike	P	0 - 30
2165334	Triclopyr	15.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P380867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165908	2,4-D	26.2	Spike	P	0 - 30
2165908	Acetaminophen	18.8	Spike	P	0 - 30
2165908	Acetamiprid	11.6	Spike	P	0 - 30
2165908	Afidopyropen	6.13	Spike	P	0 - 30
2165908	Bentazon	4.66	Spike	P	0 - 30
2165908	Benzovindiflupyr	7.50	Spike	P	0 - 30
2165908	Carbamazepine	13.0	Spike	P	0 - 30
2165908	Clothianidin	18.0	Spike	P	0 - 30
2165908	Dinotefuran	7.10	Spike	P	0 - 30
2165908	Diuron	7.21	Spike	P	0 - 30
2165908	Fenuron	0.257	Spike	P	0 - 30
2165908	Fluridone	6.18	Spike	P	0 - 30
2165908	Hydrocodone	10.8	Spike	P	0 - 30
2165908	Ibuprofen	0.811	Spike	P	0 - 30
2165908	Imazapyr	17.3	Spike	P	0 - 30
2165908	Imidacloprid	8.49	Spike	P	0 - 30
2165908	Linuron	13.3	Spike	P	0 - 30
2165908	Mandestrobin	4.07	Spike	P	0 - 30
2165908	MCPP	4.33	Spike	P	0 - 30
2165908	Naproxen	3.49	Spike	P	0 - 30
2165908	Primidone	3.33	Spike	P	0 - 30
2165908	Pyraclostrobin	6.20	Spike	P	0 - 30
2165908	Thiamethoxam	9.96	Spike	P	0 - 30
2165908	Tolfenpyrad	4.25	Spike	P	0 - 30
2165908	Triclopyr	1.22	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P380873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165999	Acesulfame K	4.94	Spike	P	0 - 30
2165999	AMPA	2.70	Spike	P	0 - 30
2165999	Endothall	1.59	Spike	P	0 - 30
2165999	Glufosinate	13.6	Spike	P	0 - 30
2165999	Glyphosate	7.14	Spike	P	0 - 30
2165999	Sucralose	1.77	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P380791

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165314	Color (true)	4.53	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P380919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165941	Color (true)	5.58	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P381065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165407	Total Alkalinity	0.325	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P381069

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165344	Total Alkalinity	0.0890	Sample	P	0 - 2.8

Reference Method: SM 2320 B-2011
Batch ID: P381410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167134	Total Alkalinity	0.0254	Sample	P	0 - 3.3

Reference Method: SM 2540 C-2011
Batch ID: P381189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164994	TDS	1.83	Sample	P	0 - 10

Quality Assurance Report
Precision

Reference Method: SM 2540 C-2011
Batch ID: P381190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165028	TDS	0.957	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P381480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165941	TDS	4.44	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P381221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164994	TSS	6.25	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P381575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165726	TSS	5.71	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P381260

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2164225	Fluoride	0.473	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-2011
Batch ID: P381452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165407	Fluoride	1.47	Spike	P	0 - 2.0

Reference Method: SM 4500 F-C-2011
Batch ID: P381454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2167134	Fluoride	1.43	Spike	P	0 - 2.0

Reference Method: SM 5310 B-2011
Batch ID: P380911

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165487	Organic Carbon	4.40	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: SM 5310 B-2011
Batch ID: P381022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2165862	Organic Carbon	2.12	Spike	P	0 - 20

Reference Method: SM 5310 B-2011
Batch ID: P381024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2166017	Organic Carbon	0.638	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report
Surrogates

Lab Sample ID: 2165333
Field Sample ID: G3SE0028

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	94.1	P	30 - 160
EPA 8321B	Endothall-d6	61.8	P	30 - 160
EPA 8321B	Endothall-d6	61.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	1.99	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	1.99	F	30 - 160
EPA 8321B	Ibuprofen-d3	78.0	P	30 - 160
EPA 8321B	Primidone-d5	99.9	P	30 - 160
EPA 8321B	Sucralose-d6	79.7	P	30 - 160
EPA 8321B	Sucralose-d6	79.7	P	30 - 160

Lab Sample ID: 2165334
Field Sample ID: G3SE0019

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	148	P	30 - 160
EPA 8321B	Acetaminophen-d4	110	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	102	P	30 - 160
EPA 8321B	Endothall-d6	99.2	P	30 - 160
EPA 8321B	Endothall-d6	99.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.2	P	30 - 160
EPA 8321B	Primidone-d5	113	P	30 - 160
EPA 8321B	Sucralose-d6	88.3	P	30 - 160
EPA 8321B	Sucralose-d6	88.3	P	30 - 160

Lab Sample ID: 2165335
Field Sample ID: FB_03162020

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	106	P	30 - 160
EPA 8321B	Diuron-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	127	P	30 - 160
EPA 8321B	Ibuprofen-d3	87.4	P	30 - 160
EPA 8321B	Primidone-d5	91.1	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	30 - 160

Lab Sample ID: 2165950
Field Sample ID: G2SE0027

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 2165950
Field Sample ID: G2SE0027

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	97.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.2	P	30 - 160
EPA 8321B	Diuron-d6	86.3	P	30 - 160
EPA 8321B	Endothall-d6	136	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	1.90	F	30 - 160
EPA 8321B	Ibuprofen-d3	79.1	P	30 - 160
EPA 8321B	Primidone-d5	98.1	P	30 - 160
EPA 8321B	Sucralose-d6	83.4	P	30 - 160

Lab Sample ID: 2165951
Field Sample ID: G2SE0027_DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	133	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	107	P	30 - 160
EPA 8321B	Diuron-d6	105	P	30 - 160
EPA 8321B	Endothall-d6	76.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	0.0	F	30 - 160
EPA 8321B	Ibuprofen-d3	86.4	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	76.6	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B-2011
Run ID: A98243
Included Lab Sample IDs: 2165311, 2165314, 2165317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.9	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A98248
Included Lab Sample IDs: 2165311, 2165314, 2165317

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A98251
Included Lab Sample IDs: 2165313, 2165316, 2165319

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	100	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A98259
Included Lab Sample IDs: 2165311, 2165314, 2165317, 2165941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.5	P/P	90 - 110
Chloride	99.6	101	P/P	90 - 110
Chloride	99.9	100	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	99.8	101	P/P	90 - 110
Sulfate	99.8	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A98278
Included Lab Sample IDs: 2165939, 2165940, 2165943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	97.0	P/P	90 - 110
O-Phosphate-P	99.2	99.2	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A98285
Included Lab Sample IDs: 2165312, 2165315, 2165318

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

Reference Method: EPA 8321B
Run ID: A98286
Included Lab Sample IDs: 2165333, 2165334, 2165335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	65.1	102	P/P	60 - 160
Sucralose	113	105	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B-2011
Run ID: A98289
Included Lab Sample IDs: 2165941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	102	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A98314
Included Lab Sample IDs: 2165935, 2165936, 2165941

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

Reference Method: EPA 8321B
Run ID: A98321
Included Lab Sample IDs: 2165334, 2165335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	97.3	94.5	P/P	60 - 160
Endothall	101	122	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A98330
Included Lab Sample IDs: 2165937, 2165938, 2165942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	102	P/P	90 - 110
Organic Carbon	91.4	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A98337
Included Lab Sample IDs: 2165312, 2165315, 2165318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	99.9	P/P	90 - 110
Ammonia-N	99.9	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A98342
Included Lab Sample IDs: 2165937, 2165938, 2165942

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

Reference Method: SM 2320 B-2011
Run ID: A98350
Included Lab Sample IDs: 2165311, 2165314, 2165317, 2165935, 2165936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110
Total Alkalinity	102	106	P/P	90 - 110
Total Alkalinity	106	103	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A98352
Included Lab Sample IDs: 2165333, 2165950, 2165951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	109	78.3	P/P	60 - 160
Endothall	102	98.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A98362
Included Lab Sample IDs: 2165333, 2165334, 2165335, 2165950, 2165951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	100	P/P	40 - 200
AMPA	118	102	P/P	40 - 200
Glufosinate	116	127	P/P	40 - 200
Glufosinate	121	119	P/P	40 - 200
Glyphosate	128	125	P/P	40 - 200
Glyphosate	133	122	P/P	40 - 200

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A98393
Included Lab Sample IDs: 2165312, 2165315, 2165318, 2165937, 2165938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.6	P/P	90 - 110
Kjeldahl Nitrogen	100	94.4	P/P	90 - 110
Kjeldahl Nitrogen	96.2	100	P/P	90 - 110
Kjeldahl Nitrogen	99.4	100	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A98394
Included Lab Sample IDs: 2165333, 2165334, 2165335, 2165950, 2165951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	111	P/P	50 - 150
2,4-D	121	107	P/P	50 - 150
2,4-D	96.9	99.6	P/P	50 - 150
Acetaminophen	104	102	P/P	60 - 160
Acetaminophen	110	114	P/P	60 - 160
Acetaminophen	114	112	P/P	60 - 160
Acetamiprid	110	110	P/P	50 - 150
Acetamiprid	111	110	P/P	50 - 150
Acetamiprid	97.0	90.7	P/P	50 - 150
Afidopyropen	102	86.7	P/P	50 - 150
Afidopyropen	83.8	106	P/P	50 - 150
Afidopyropen	86.7	102	P/P	50 - 150
Bentazon	104	106	P/P	50 - 160
Bentazon	114	114	P/P	50 - 160
Bentazon	123	107	P/P	50 - 160
Benzovindiflupyr	101	104	P/P	50 - 150
Benzovindiflupyr	101	101	P/P	50 - 150
Benzovindiflupyr	107	101	P/P	50 - 150
Carbamazepine	102	132	P/P	60 - 150
Carbamazepine	104	105	P/P	60 - 150
Carbamazepine	120	102	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A98394
Included Lab Sample IDs: 2165333, 2165334, 2165335, 2165950, 2165951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	91.8	101	P/P	60 - 150
Clothianidin	92.0	110	P/P	60 - 150
Clothianidin	98.2	91.8	P/P	60 - 150
Dinotefuran	102	98.8	P/P	50 - 150
Dinotefuran	107	89.5	P/P	50 - 150
Dinotefuran	98.8	98.7	P/P	50 - 150
Diuron	109	117	P/P	60 - 150
Diuron	114	103	P/P	60 - 150
Diuron	118	109	P/P	60 - 150
Fenuron	103	91.9	P/P	60 - 150
Fenuron	104	101	P/P	60 - 150
Fenuron	104	103	P/P	60 - 150
Fluridone	106	109	P/P	60 - 160
Fluridone	106	110	P/P	60 - 160
Fluridone	99.2	106	P/P	60 - 160
Hydrocodone	101	110	P/P	60 - 150
Hydrocodone	103	97.0	P/P	60 - 150
Hydrocodone	110	113	P/P	60 - 150
Ibuprofen	102	104	P/P	50 - 160
Ibuprofen	112	88.8	P/P	50 - 160
Ibuprofen	115	112	P/P	50 - 160
Imazapyr	100	103	P/P	50 - 150
Imazapyr	103	94.8	P/P	50 - 150
Imazapyr	97.4	92.0	P/P	50 - 150
Imidacloprid	108	106	P/P	60 - 150
Imidacloprid	97.6	94.3	P/P	60 - 150
Imidacloprid	98.2	108	P/P	60 - 150
Linuron	102	100	P/P	60 - 150
Linuron	106	99.4	P/P	60 - 150
Linuron	115	102	P/P	60 - 150
Mandestrobin	106	107	P/P	50 - 150
Mandestrobin	108	104	P/P	50 - 150
Mandestrobin	108	108	P/P	50 - 150
MCPP	102	101	P/P	50 - 150
MCPP	116	102	P/P	50 - 150
MCPP	84.9	91.7	P/P	50 - 150
Naproxen	103	103	P/P	50 - 160
Naproxen	114	103	P/P	50 - 160
Naproxen	129	103	P/P	50 - 160
Primidone	82.9	92.4	P/P	60 - 150
Primidone	92.4	91.4	P/P	60 - 150
Primidone	93.9	92.6	P/P	60 - 150
Pyraclostrobin	107	111	P/P	60 - 150
Pyraclostrobin	108	111	P/P	60 - 150
Pyraclostrobin	109	107	P/P	60 - 150
Thiamethoxam	107	90.5	P/P	50 - 150
Thiamethoxam	108	87.6	P/P	50 - 150
Thiamethoxam	87.6	106	P/P	50 - 150
Tolfenpyrad	105	107	P/P	60 - 150
Tolfenpyrad	107	108	P/P	60 - 150
Tolfenpyrad	112	107	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A98394
Included Lab Sample IDs: 2165333, 2165334, 2165335, 2165950, 2165951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	105	89.5	P/P	50 - 150
Triclopyr	108	92.6	P/P	50 - 150
Triclopyr	113	108	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A98406
Included Lab Sample IDs: 2165935, 2165936

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A98422
Included Lab Sample IDs: 2165942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A98423
Included Lab Sample IDs: 2165312, 2165315

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A98425
Included Lab Sample IDs: 2165937, 2165938

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

Reference Method: SM 4500 F-C-2011
Run ID: A98428
Included Lab Sample IDs: 2165311, 2165314, 2165317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.6	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A98429
Included Lab Sample IDs: 2165318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A98466
Included Lab Sample IDs: 2165312, 2165315, 2165318, 2165942

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A98466
Included Lab Sample IDs: 2165312, 2165315, 2165318, 2165942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.5	99.0	P/P	90 - 110
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A98490
Included Lab Sample IDs: 2165941

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

Reference Method: SM 4500 F-C-2011
Run ID: A98495
Included Lab Sample IDs: 2165935, 2165936, 2165941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.0	P/P	90 - 110
Fluoride	99.5	99.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A98518
Included Lab Sample IDs: 2165334

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	133	123	P/P	50 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A98519
Included Lab Sample IDs: 2165942

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A98544
Included Lab Sample IDs: 2165937, 2165938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	100	P/P	90 - 110

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.821	
	Turbidity						6.82	
EPA 300.0 Rev. 2.1	Bromide	96.4	99.0	98.8	98.6			0.124
	Chloride	101	98.1	100			0.350	
	Chloride	99.4	96.5	98.6			0.799	
	Chloride	101	102	99.0			0.662	
	Sulfate	100	97.7	101			0.573	
	Sulfate	99.2	97.0	98.1			0.566	
	Sulfate	101	98.6	99.5			0.645	
EPA 350.1 Rev. 2.0	Ammonia-N	98.2	96.0	98.4				2.10
	Ammonia-N	100	98.7	98.6				0.0435
	Ammonia-N	99.9	101	100				0.791
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101						0.364
	Kjeldahl Nitrogen	99.9	100	104				3.30
	Kjeldahl Nitrogen	105	105	96.6				4.46
EPA 353.2 Rev. 2.0	NO2NO3-N	101	102	101				0.985
	NO2NO3-N	97.5	102	103				0.976
	NO2NO3-N	98.5	97.5	99.5				2.03
EPA 365.1 Rev. 2.0	Total-P	106	108	108				0.277
	Total-P	106	105	103				1.48
	Total-P	106	110	109				0.782
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2						1.44
	O-Phosphate-P	97.9	98.4	98.6				0.189
	O-Phosphate-P	100	91.9	92.7				0.791
EPA 8321B	2,4-D	147	132	151				12.4
	2,4-D	132	141	131				7.55
	2,4-D	133	91.7	121				26.2
	Acesulfame K	88.1	138	152				9.76
	Acesulfame K	88.7	16.2	17.0				4.94
	Acetaminophen	101	92.0	94.0				2.17
	Acetaminophen	87.9	109	94.8				14.1
	Acetaminophen	89.8	92.2	76.3				18.8
	Acetamiprid	91.4	95.0	93.7				1.31
	Acetamiprid	81.5	106	105				0.588
	Acetamiprid	90.8	84.8	75.6				11.6
	Afidopyropen	98.9	92.8	94.5				1.81
	Afidopyropen	101	111	98.5				11.7
	Afidopyropen	92.0	92.5	98.3				6.13
	AMPA	103	103	112				9.13
	AMPA	126	98.1	101				2.70
	Bentazon	98.6	76.3	87.3				13.5
	Bentazon	112						4.85
	Bentazon	94.0	46.5	48.7				4.66
	Benzovindiflupyr	88.9	73.1	79.9				8.91
	Benzovindiflupyr	87.8	79.8	74.5				6.87
	Benzovindiflupyr	78.5	63.8	69.0				7.50
	Carbamazepine	124	101	101				0.397
	Carbamazepine	115	107	103				3.90
	Carbamazepine	107	75.2	85.6				13.0
	Clothianidin	95.1	95.8	105				8.99
	Clothianidin	91.5	102	94.3				7.02
	Clothianidin	88.1	81.1	97.2				18.0
	Dinotefuran	95.3	114	117				3.27
	Dinotefuran	74.8	119	119				0.554

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Dinotefuran	91.8	104	96.5			7.10
	Diuron	96.5	80.0	84.4			4.85
	Diuron	94.0	68.8	77.6			6.25
	Diuron	64.2	60.3	64.8			7.21
	Endothall	104	116	119			2.04
	Endothall	124	130	128			1.59
	Fenuron	96.2	85.3	85.1			0.243
	Fenuron	91.0	85.4	81.7			2.31
	Fenuron	94.6	73.8	74.1			0.257
	Fluridone	101	86.2	88.2			1.93
	Fluridone	103					4.29
	Fluridone	97.0	82.5	87.8			6.18
	Glufosinate	115	110	106			4.41
	Glufosinate	127	100	115			13.6
	Glyphosate	112	107	108			0.961
	Glyphosate	110	112	120			7.14
	Hydrocodone	106	105	107			1.75
	Hydrocodone	95.9	113	108			4.53
	Hydrocodone	98.8	97.1	87.1			10.8
	Ibuprofen	93.3	81.6	71.3			13.5
	Ibuprofen	88.6	75.0	76.9			2.33
	Ibuprofen	86.4	72.1	72.7			0.811
	Imazapyr	120	126	91.1			21.6
	Imazapyr	92.3	112	112			0.0089
	Imazapyr	92.4	88.9	106			17.3
	Imidacloprid	107	158	147			6.63
	Imidacloprid	115	182	165			7.11
	Imidacloprid	114	141	154			8.49
	Linuron	87.3	74.3	74.6			0.384
	Linuron	72.8	76.7	72.5			5.62
	Linuron	80.9	48.7	55.6			13.3
	Mandestrobin	95.3	79.4	82.0			3.32
	Mandestrobin	95.7	90.1	87.6			2.80
	Mandestrobin	91.9	77.9	74.8			4.07
	MCPP	157	153	160			4.84
	MCPP	151	164	153			6.95
	MCPP	145	146	140			4.33
	Naproxen	107	91.7	96.2			4.77
	Naproxen	77.7	138	124			11.1
	Naproxen	65.4	78.6	81.4			3.49
	Primidone	93.2	92.4	96.9			4.75
	Primidone	91.1	103	96.9			5.70
	Primidone	91.8	81.3	84.0			3.33
	Pyraclostrobin	94.2	78.3	83.5			6.34
	Pyraclostrobin	86.6	88.2	83.6			5.36
	Pyraclostrobin	85.9	73.8	78.5			6.20
	Sucralose	89.6	127	105			18.9
	Sucralose	110	95.9	94.3			1.77
	Thiamethoxam	108	134	129			3.85
	Thiamethoxam	95.6	155	141			9.01
	Thiamethoxam	106	110	122			9.96
	Tolfenpyrad	65.7	55.6	55.9			0.428
	Tolfenpyrad	61.7	61.8	59.4			4.03
	Tolfenpyrad	54.1	51.2	53.4			4.25

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	Triclopyr	111	132	105			23.2
	Triclopyr	106	126	108			15.3
	Triclopyr	96.4	137	135			1.22
SM 2120 B-2011	Color (true)	101				4.53	
	Color (true)	100				5.58	
SM 2320 B-2011	Total Alkalinity	104				0.325	
	Total Alkalinity	105				0.0890	
	Total Alkalinity	103				0.0254	
SM 2540 C-2011	TDS					1.83	
	TDS					0.957	
	TDS					4.44	
SM 2540 D-2011	TSS					6.25	
	TSS					5.71	
SM 4500 F-C-2011	Fluoride	95.3	100	99.3			0.473
	Fluoride	98.3	98.4	101			1.47
	Fluoride	97.3	101	104			1.43
SM 5310 B-2011	Organic Carbon	102	97.2	102			4.40
	Organic Carbon	101	100	102			2.12
	Organic Carbon	98.8	95.7	96.4			0.638

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2165311, 2165314, 2165317, 2165935, 2165936, 2165941
EPA 300.0 Rev. 2.1	Bromide in aqueous matrices	2165935, 2165936
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2165311, 2165314, 2165317, 2165941
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2165311, 2165314, 2165317, 2165941
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2165312, 2165315, 2165318, 2165937, 2165938, 2165942
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2165312, 2165315, 2165318, 2165937, 2165938, 2165942
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2165312, 2165315, 2165318, 2165937, 2165938, 2165942
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2165312, 2165315, 2165318, 2165937, 2165938, 2165942
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2165313, 2165316, 2165319, 2165939, 2165940, 2165943
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2165333, 2165334, 2165335, 2165950, 2165951
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2165333, 2165334, 2165335
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2165311, 2165314, 2165317, 2165941
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2165311, 2165314, 2165317, 2165935, 2165936, 2165941
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2165311, 2165314, 2165317, 2165941
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2165311, 2165314, 2165317, 2165935, 2165936, 2165941
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2165311, 2165314, 2165317, 2165935, 2165936, 2165941
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2165312, 2165315, 2165318, 2165937, 2165938, 2165942

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	03/17/2020			03/17/2020 16:07	Yen Ta	2165311, 2165314, 2165317
	03/18/2020			03/18/2020 11:36	Yen Ta	2165935
	03/18/2020			03/18/2020 11:39	Yen Ta	2165936
	03/18/2020			03/18/2020 11:41	Yen Ta	2165941
EPA 300.0 Rev. 2.1	03/17/2020			03/19/2020 03:11	Lipi Saha	2165311
	03/17/2020			03/19/2020 15:46	Lipi Saha	2165314
	03/17/2020			03/19/2020 16:35	Lipi Saha	2165317
	03/18/2020			03/19/2020 23:26	Lipi Saha	2165941
	03/18/2020			03/27/2020 13:38	Elliott Rodriguez	2165935
	03/18/2020			03/27/2020 13:55	Elliott Rodriguez	2165936
EPA 350.1 Rev. 2.0	03/17/2020			03/20/2020 15:41	Ping Hua	2165315
	03/17/2020			03/20/2020 15:50	Ping Hua	2165318
	03/17/2020			03/20/2020 15:54	Ping Hua	2165312
	03/18/2020			03/21/2020 13:04	Ping Hua	2165937
	03/18/2020			03/21/2020 13:05	Ping Hua	2165938
	03/18/2020			03/21/2020 16:36	Ping Hua	2165942
EPA 351.2 Rev. 2.0	03/17/2020	03/23/2020 11:25	Sima Feizi	03/24/2020 08:14	Jhamieka S. Greenwood	2165312
	03/17/2020	03/23/2020 11:25	Sima Feizi	03/24/2020 08:31	Jhamieka S. Greenwood	2165315
	03/17/2020	03/23/2020 11:25	Sima Feizi	03/24/2020 08:33	Jhamieka S. Greenwood	2165318
	03/18/2020	03/23/2020 12:20	Sima Feizi	03/24/2020 10:17	Jhamieka S. Greenwood	2165937
	03/18/2020	03/23/2020 12:20	Sima Feizi	03/24/2020 10:22	Jhamieka S. Greenwood	2165938
	03/18/2020	03/24/2020 09:20	Sima Feizi	03/25/2020 09:25	Jhamieka S. Greenwood	2165942
EPA 353.2 Rev. 2.0	03/17/2020			03/26/2020 15:39	Lauren Lees	2165312
	03/17/2020			03/26/2020 15:45	Lauren Lees	2165315
	03/17/2020			03/26/2020 15:46	Lauren Lees	2165318
	03/18/2020			03/25/2020 09:56	Beverly Y. Sanders	2165937
	03/18/2020			03/25/2020 10:02	Beverly Y. Sanders	2165938
	03/18/2020			03/26/2020 17:31	Lauren Lees	2165942
EPA 365.1 Rev. 2.0	03/17/2020	03/24/2020 14:46	Lipi Saha	03/25/2020 08:32	Benjamin T. Nordmann	2165312
	03/17/2020	03/24/2020 14:46	Lipi Saha	03/25/2020 08:35	Benjamin T. Nordmann	2165315
	03/17/2020	03/24/2020 14:46	Lipi Saha	03/25/2020 11:20	Benjamin T. Nordmann	2165318
	03/18/2020	03/25/2020 14:20	Lipi Saha	03/27/2020 22:04	Benjamin T. Nordmann	2165942
	03/18/2020	03/25/2020 14:20	Lipi Saha	03/30/2020 17:35	Benjamin T. Nordmann	2165937
	03/18/2020	03/25/2020 14:20	Lipi Saha	03/30/2020 17:36	Benjamin T. Nordmann	2165938
EPA 365.1 Rev. 2.0 dissolved	03/17/2020			03/17/2020 15:05	Carlos Miranda	2165313
	03/17/2020			03/17/2020 15:08	Carlos Miranda	2165316
	03/17/2020			03/17/2020 15:09	Carlos Miranda	2165319
	03/18/2020			03/18/2020 13:57	Carlos Miranda	2165939
	03/18/2020			03/18/2020 13:59	Carlos Miranda	2165940
	03/18/2020			03/18/2020 14:22	Carlos Miranda	2165943

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	03/17/2020	03/17/2020 14:30	Hoor Shaik	03/20/2020 14:09	Juyoung Kim	2165333
	03/17/2020	03/17/2020 14:30	Hoor Shaik	03/22/2020 17:34	Juyoung Kim	2165333
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/18/2020 12:32	Mohammad Ghaffari	2165333
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/18/2020 12:44	Mohammad Ghaffari	2165334
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/18/2020 12:55	Mohammad Ghaffari	2165335
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/19/2020 10:40	Mohammad Ghaffari	2165334
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/19/2020 10:54	Mohammad Ghaffari	2165335
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/20/2020 09:39	Mohammad Ghaffari	2165333
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/20/2020 09:50	Mohammad Ghaffari	2165334
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/20/2020 10:01	Mohammad Ghaffari	2165335
	03/17/2020	03/18/2020 11:00	Mohammad Ghaffari	03/22/2020 23:36	Mohammad Ghaffari	2165333
	03/17/2020	03/18/2020 14:00	Hoor Shaik	03/20/2020 17:37	Juyoung Kim	2165334
	03/17/2020	03/18/2020 14:00	Hoor Shaik	03/20/2020 18:11	Juyoung Kim	2165335
	03/17/2020	03/18/2020 14:00	Hoor Shaik	03/25/2020 19:21	Mohammad Ghaffari	2165334
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/18/2020 17:49	Mohammad Ghaffari	2165950
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/18/2020 18:01	Mohammad Ghaffari	2165951
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/20/2020 14:29	Mohammad Ghaffari	2165950
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/20/2020 14:40	Mohammad Ghaffari	2165951
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/22/2020 22:36	Mohammad Ghaffari	2165950
	03/18/2020	03/18/2020 14:00	Mohammad Ghaffari	03/22/2020 22:51	Mohammad Ghaffari	2165951
	03/18/2020	03/19/2020 10:00	Hoor Shaik	03/21/2020 13:15	Juyoung Kim	2165950
	03/18/2020	03/19/2020 10:00	Hoor Shaik	03/21/2020 13:50	Juyoung Kim	2165951
SM 2120 B-2011	03/17/2020			03/17/2020 15:14	Madeline Gruver	2165311
	03/17/2020			03/17/2020 15:15	Madeline Gruver	2165314
	03/17/2020			03/17/2020 15:16	Madeline Gruver	2165317
	03/18/2020			03/18/2020 12:08	Madeline Gruver	2165941
SM 2320 B-2011	03/17/2020			03/21/2020 11:18	Dale L. Simmons	2165311
	03/17/2020			03/21/2020 11:30	Dale L. Simmons	2165314
	03/17/2020			03/21/2020 11:55	Dale L. Simmons	2165317
	03/18/2020			03/20/2020 19:51	Dale L. Simmons	2165935
	03/18/2020			03/20/2020 20:01	Dale L. Simmons	2165936
	03/18/2020			03/27/2020 01:12	Dale L. Simmons	2165941
SM 2540 C-2011	03/17/2020			03/18/2020 15:15	Yijie Li	2165311, 2165314, 2165317
	03/18/2020			03/20/2020 15:21	Yijie Li	2165941
SM 2540 D-2011	03/17/2020			03/18/2020 15:32	Yijie Li	2165311, 2165314, 2165317
	03/18/2020			03/20/2020 15:21	Yijie Li	2165935, 2165936, 2165941
SM 4500 F-C-2011	03/17/2020			03/24/2020 17:36	Dale L. Simmons	2165311
	03/17/2020			03/24/2020 17:41	Dale L. Simmons	2165314
	03/17/2020			03/24/2020 17:46	Dale L. Simmons	2165317
	03/18/2020			03/27/2020 15:45	Dale L. Simmons	2165935

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-2011	03/18/2020			03/27/2020 15:50	Dale L. Simmons	2165936
	03/18/2020			03/27/2020 20:42	Dale L. Simmons	2165941
SM 5310 B-2011	03/17/2020			03/18/2020 16:37	Lauren Lees	2165312
	03/17/2020			03/18/2020 16:49	Lauren Lees	2165315
	03/17/2020			03/18/2020 17:02	Lauren Lees	2165318
	03/18/2020			03/19/2020 18:30	Lauren Lees	2165942
	03/18/2020			03/20/2020 05:12	Lauren Lees	2165937
	03/18/2020			03/20/2020 05:24	Lauren Lees	2165938