

Chemical Analysis Report

TLH-ROC-2021-07-26-02

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

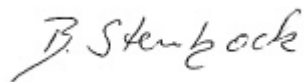
Event Description: **Run 10**
Request ID: **RQ-2021-07-26-58**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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

Date Certified: 20-AUG-2021 19:35



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: Dead Lakes West Arm

Collection Date/Time: 07/26/2021 13:15

Field ID: G2TLHR0048

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264967	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	3.1		mg Cl/L	P401813	
		Sulfate	0.62		mg SO4/L	P402079	
	SM 2120 B-2011	Color (true)	270		PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	5.5		mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	74		mg/L	P402087	
	SM 2540 D-2011	TSS	3	I	mg/L	P401830	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401672	
2264969	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P401988	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P402392	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.045		mg N/L	P401627	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P401693	
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P402249	
2264971	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Stone Mill Creek Upstream S Dianna St

Collection Date/Time: 07/26/2021 13:45

Field ID: G2TLHR0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264973	EPA 180.1 Rev. 2.0	Turbidity	7.1		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	3.3		mg Cl/L	P401814	
		Sulfate	0.80		mg SO4/L	P401817	
		Color (true)	350		PCU	P401605	
	SM 2120 B-2011	Total Alkalinity	0.67	I	mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	72		mg/L	P402087	
	SM 2540 D-2011	TSS	9	I	mg/L	P401830	
2264974	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401672	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.24		mg N/L	P402064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P402392	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P401627	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P401693	
2264975	SM 5310 B-2011	Organic Carbon	27		mg C/L	P402249	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	
2265001	EPA 200.7 Rev. 4.4	Barium	9.9		ug/L	P402262	
		Calcium	1.74		mg/L	P402262	
		Iron	2.44E+03		ug/L	P402262	
		Magnesium	0.52		mg/L	P402262	
		Manganese	14.1		ug/L	P402262	
		Potassium	0.37	I	mg/L	P402262	
	EPA 200.8 Rev. 5.4	Sodium	1.9	I	mg/L	P402262	
		Aluminum	787		ug/L	P401702	
		Antimony	0.050	U	ug/L	P401702	
		Arsenic	0.60		ug/L	P401702	
		Beryllium	0.031	I	ug/L	P401702	
		Boron**	11.4		ug/L	P401702	
		Cadmium	0.020	U	ug/L	P401702	
		Chromium	0.92	I	ug/L	P401702	
		Copper	0.40	U	ug/L	P402262	
		Lead	1.12		ug/L	P401702	
		Nickel	0.61	I	ug/L	P401702	
		Selenium	0.21	I	ug/L	P401702	
		Silver	0.010	U	ug/L	P401702	
		Thallium	0.10	U	ug/L	P401702	
		Zinc	8.3	I	ug/L	P401702	
	SM 2340B	Hardness	6.5		mg/L	P402262	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed on 08/11/2021.

Sample Location: Dead Lakes @ SR22

Collection Date/Time: 07/26/2021 12:30

Field ID: G2TLHR0047

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264968	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P401813	
		Sulfate	1.1		mg SO4/L	P402079	
	SM 2120 B-2011	Color (true)	64		PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	68		mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	96	A	mg/L	P402087	
	SM 2540 D-2011	TSS	2	IA	mg/L	P401830	
	SM 4500 F-C-2011	Fluoride	0.047	I	mg F/L	P401672	
2264970	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P401988	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P402392	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.42		mg N/L	P401627	
	EPA 365.1 Rev. 2.0	Total-P	0.025		mg P/L	P401693	
	SM 5310 B-2011	Organic Carbon	6.9		mg C/L	P402249	
2264972	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P401598	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Sandy Branch @ SR22

Collection Date/Time: 07/26/2021 10:50

Field ID: G3TLHR0027

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264976	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	3.4		mg Cl/L	P401814	
		Sulfate	0.25	I	mg SO4/L	P401817	
	SM 2120 B-2011	Color (true)	230		PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	62		mg/L	P402087	
	SM 2540 D-2011	TSS	28		mg/L	P401830	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401672	
2264977	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P402064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P402475	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P401628	
	EPA 365.1 Rev. 2.0	Total-P	0.015		mg P/L	P401693	
	SM 5310 B-2011	Organic Carbon	26		mg C/L	P402249	
2264978	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: FB

Collection Date/Time: 07/26/2021 08:30

Field ID: FB_07262021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264985	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P401814	
		Sulfate	0.20	U	mg SO4/L	P401817	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	15	U	mg/L	P402087	
	SM 2540 D-2011	TSS	2	U	mg/L	P401830	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401672	
2264986	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P402064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P402475	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P401628	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P401694	MS
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P402249	
2264987	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	
2265000	EPA 8321B	2,4-D	0.0020	U	ug/L	P401633	
		Acesulfame K	0.10	U	ug/L	P401536	
		2,4,5-T	0.0040	U	ug/L	P401633	
		AMPA	0.10	U	ug/L	P401536	
		Acetaminophen	0.0080	U	ug/L	P401633	
		Acetamiprid	0.0020	U	ug/L	P401633	
		Endothall	0.25	U	ug/L	P401536	
		Glufosinate	0.10	U	ug/L	P401536	
		Glyphosate	0.10	U	ug/L	P401536	
		Afidopyropen	0.0020	U	ug/L	P401633	
		Bentazon	8.0E-04	U	ug/L	P401633	
		Sucralose	0.010	U	ug/L	P401536	
		Benzovindiflupyr	0.0020	U	ug/L	P401633	
		Carbamazepine	8.0E-04	U	ug/L	P401633	
		Clothianidin	0.0020	U	ug/L	P401633	
		Dinotefuran	0.0020	U	ug/L	P401633	
		Diuron	0.0020	U	ug/L	P401633	
		Fenuron	0.016	U	ug/L	P401633	
		Fluridone	8.0E-04	U	ug/L	P401633	
		Imazapyr	0.0040	U	ug/L	P401633	
		Hydrocodone	0.0020	U	ug/L	P401633	
		Ibuprofen	0.020	U	ug/L	P401633	
		Imidacloprid	0.0020	U	ug/L	P401633	
		Linuron	0.0040	U	ug/L	P401633	
		Mandestrobin	0.0020	U	ug/L	P401633	
		MCP	0.0020	U	ug/L	P401633	
		Naproxen	0.0080	U	ug/L	P401633	
		Primidone	0.0040	U	ug/L	P401633	
		Pyraclostrobin	0.0020	U	ug/L	P401633	

Field ID: FB_07262021

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2265000	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P401633	
		Tolfenpyrad	0.0020	U	ug/L	P401633	
		Triclopyr	0.0040	U	ug/L	P401633	
2265004	EPA 200.7 Rev. 4.4	Barium	1.0	U	ug/L	P402262	
		Calcium	0.075	U	mg/L	P402262	
		Iron	30	U	ug/L	P402262	
		Magnesium	0.040	U	mg/L	P402262	
		Manganese	1.0	U	ug/L	P402262	
		Potassium	0.30	U	mg/L	P402262	
		Sodium	0.50	U	mg/L	P402262	
	EPA 200.8 Rev. 5.4	Aluminum	5.0	U	ug/L	P401702	
		Antimony	0.050	U	ug/L	P401702	
		Arsenic	0.050	U	ug/L	P401702	
		Beryllium	0.010	U	ug/L	P401702	
		Boron**	2.0	U	ug/L	P401702	
		Cadmium	0.020	U	ug/L	P401702	
		Chromium	0.40	U	ug/L	P401702	
		Copper	0.40	U	ug/L	P402262	
		Lead	0.20	U	ug/L	P401702	
		Nickel	0.50	U	ug/L	P401702	
		Selenium	0.20	U	ug/L	P401702	
		Silver	0.010	U	ug/L	P401702	
		Thallium	0.10	U	ug/L	P401702	
		Zinc	7.0	U	ug/L	P401702	
	SM 2340B	Hardness	0.35	U	mg/L	P402262	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Apalachicola River 500m from Lola Landing Boat Ramp

Collection Date/Time: 07/26/2021 11:40

Field ID: G2TLHR0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264979	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P401814	
		Sulfate	5.6		mg SO4/L	P401817	
	SM 2120 B-2011	Color (true)	16		PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	67		mg/L	P402087	
	SM 2540 D-2011	TSS	18		mg/L	P401830	
	SM 4500 F-C-2011	Fluoride	0.071	I	mg F/L	P401672	
2264981	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P402064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P402475	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.36		mg N/L	P401628	
	EPA 365.1 Rev. 2.0	Total-P	0.037		mg P/L	P401693	
	SM 5310 B-2011	Organic Carbon	3.4		mg C/L	P402249	
2264983	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	
2264998	EPA 8321B	2,4-D	0.025		ug/L	P401633	
		Acesulfame K	0.10	U	ug/L	P401536	
		2,4,5-T	0.0040	U	ug/L	P401633	
		AMPA	0.10	U	ug/L	P401536	
		Acetaminophen	0.0080	U	ug/L	P401633	
		Acetamiprid	0.0020	U	ug/L	P401633	
		Endothall	0.25	U	ug/L	P401536	
		Glufosinate	0.10	U	ug/L	P401536	
		Glyphosate	0.10	U	ug/L	P401536	
		Afidopyropen	0.0020	U	ug/L	P401633	
		Bentazon	0.0046		ug/L	P401633	
		Sucralose	0.93		ug/L	P401536	
		Benzovindiflupyr	0.0020	U	ug/L	P401633	
		Carbamazepine	0.0016	I	ug/L	P401633	
		Clothianidin	0.0020	U	ug/L	P401633	
		Dinotefuran	0.0020	U	ug/L	P401633	
		Diuron	0.017		ug/L	P401633	
		Fenuron	0.016	U	ug/L	P401633	
		Fluridone	8.0E-04	U	ug/L	P401633	
		Imazapyr	0.029		ug/L	P401633	
		Hydrocodone	0.0020	U	ug/L	P401633	
		Ibuprofen	0.020	U	ug/L	P401633	
		Imidacloprid	0.0060	I	ug/L	P401633	
		Linuron	0.0040	U	ug/L	P401633	
		Mandestrobin	0.0020	U	ug/L	P401633	
		MCP	0.0063	I	ug/L	P401633	
		Naproxen	0.0080	U	ug/L	P401633	
		Primidone	0.0040	U	ug/L	P401633	

Field ID: G2TLHR0044

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264998	EPA 8321B	Pyraclostrobin	0.0020	U	ug/L	P401633	
		Thiamethoxam	0.0020	U	ug/L	P401633	
		Tolfenpyrad	0.0020	U	ug/L	P401633	
		Triclopyr	0.0040	U	ug/L	P401633	
2265002	EPA 200.7 Rev. 4.4	Barium	17.5		ug/L	P401702	
		Calcium	11.1		mg/L	P401702	
		Iron	530		ug/L	P401702	
		Magnesium	1.52		mg/L	P401702	
		Manganese	61.5		ug/L	P401702	
		Potassium	1.7		mg/L	P401702	
	EPA 200.8 Rev. 5.4	Sodium	5.0		mg/L	P401702	
		Aluminum	367		ug/L	P401702	
		Antimony	0.072	I	ug/L	P401702	
		Arsenic	0.52		ug/L	P401702	
		Beryllium	0.037	I	ug/L	P401702	
		Boron**	15.8		ug/L	P401702	
		Cadmium	0.020	U	ug/L	P401702	
		Chromium	0.83	I	ug/L	P401702	
		Copper	0.64	I	ug/L	P402262	
		Lead	0.51		ug/L	P401702	
		Nickel	0.58	I	ug/L	P401702	
		Selenium	0.20	U	ug/L	P401702	
		Silver	0.010	U	ug/L	P401702	
		Thallium	0.10	U	ug/L	P401702	
		Zinc	7.0	U	ug/L	P401702	
	SM 2340B	Hardness	33.9		mg/L	P401702	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: BIG BRANCH @ RD5

Collection Date/Time: 07/26/2021 14:10

Field ID: G2TLHR0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264980	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P401601	
	EPA 300.0 Rev. 2.1	Chloride	3.7		mg Cl/L	P401814	
		Sulfate	0.36	I	mg SO4/L	P401817	
	SM 2120 B-2011	Color (true)	120		PCU	P401605	
	SM 2320 B-2011	Total Alkalinity	2.4	I	mg CaCO3/L	P401668	
	SM 2540 C-2011	TDS	29		mg/L	P402088	
	SM 2540 D-2011	TSS	2	I	mg/L	P401831	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P401672	
2264982	EPA 350.1 Rev. 2.0	Ammonia-N	0.069		mg N/L	P402064	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P402475	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P401628	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P401693	
	SM 5310 B-2011	Organic Carbon	9.4		mg C/L	P402249	
2264984	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P401598	
2264999	EPA 8321B	2,4-D	0.0020	U	ug/L	P401633	
		Acesulfame K	0.10	U	ug/L	P401536	
		2,4,5-T	0.0040	U	ug/L	P401633	
		AMPA	0.10	U	ug/L	P401536	
		Acetaminophen	0.0080	U	ug/L	P401633	
		Acetamiprid	0.0020	U	ug/L	P401633	
		Endothall	0.25	U	ug/L	P401536	
		Glufosinate	0.10	U	ug/L	P401536	
		Glyphosate	0.10	U	ug/L	P401536	
		Afidopyropen	0.0020	U	ug/L	P401633	
		Bentazon	8.0E-04	U	ug/L	P401633	
		Sucralose	0.010	U	ug/L	P401536	
		Benzovindiflupyr	0.0020	U	ug/L	P401633	
		Carbamazepine	8.0E-04	U	ug/L	P401633	
		Clothianidin	0.0020	U	ug/L	P401633	
		Dinotefuran	0.0020	U	ug/L	P401633	
		Diuron	0.0020	U	ug/L	P401633	
		Fenuron	0.016	U	ug/L	P401633	
		Fluridone	8.0E-04	U	ug/L	P401633	
		Imazapyr	0.081		ug/L	P401633	
		Hydrocodone	0.0020	U	ug/L	P401633	
		Ibuprofen	0.020	U	ug/L	P401633	
		Imidacloprid	0.0020	U	ug/L	P401633	
		Linuron	0.0040	U	ug/L	P401633	
		Mandestrobin	0.0020	U	ug/L	P401633	
		MCP	0.0020	U	ug/L	P401633	
		Naproxen	0.0080	U	ug/L	P401633	
		Primidone	0.0040	U	ug/L	P401633	
		Pyraclostrobin	0.0020	U	ug/L	P401633	

Field ID: G2TLHR0049

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2264999	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P401633	
		Tolfenpyrad	0.0020	U	ug/L	P401633	
		Triclopyr	0.0040	U	ug/L	P401633	
2265003	EPA 200.7 Rev. 4.4	Barium	8.8		ug/L	P402262	
		Calcium	1.62		mg/L	P402262	
		Iron	840		ug/L	P402262	
		Magnesium	0.34		mg/L	P402262	
		Manganese	8.2		ug/L	P402262	
		Potassium	0.30	U	mg/L	P402262	
		Sodium	2.0		mg/L	P402262	
	EPA 200.8 Rev. 5.4	Aluminum	353		ug/L	P401702	
		Antimony	0.050	U	ug/L	P401702	
		Arsenic	0.25		ug/L	P401702	
		Beryllium	0.027	I	ug/L	P401702	
		Boron**	8.9		ug/L	P401702	
		Cadmium	0.020	U	ug/L	P401702	
		Chromium	0.48	I	ug/L	P401702	
		Copper	0.40	U	ug/L	P402262	
		Lead	0.68		ug/L	P401702	
		Nickel	0.50	U	ug/L	P401702	
		Selenium	0.20	U	ug/L	P401702	
		Silver	0.010	U	ug/L	P401702	
		Thallium	0.10	U	ug/L	P401702	
		Zinc	7.0	U	ug/L	P401702	
	SM 2340B	Hardness	5.4		mg/L	P402262	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 08/12/2021.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P401601

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P401702

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.23	I	mg/L
Iron	30	U	ug/L
Magnesium	0.067	I	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P402262

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401702

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	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
Zinc	7.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402262

Component	Result	Code	Units
Copper	0.40	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401813

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401814

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401817

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402079

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401988

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402392

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402475

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401627

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401628

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401693

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401694

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401598

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

Reference Method: EPA 8321B
Batch ID: P401536

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: P401633

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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: P401633

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: SM 2120 B-2011

Batch ID: P401605

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P401668

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

Reference Method: SM 2540 C-2011

Batch ID: P402087

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011

Batch ID: P402088

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P401830

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P401831

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011

Batch ID: P401672

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P402249

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: P401702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	110		P	85 - 115
Iron	106		P	85 - 115
Magnesium	110		P	85 - 115
Manganese	102		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P402262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	95.4		P	85 - 115
Iron	97.0		P	85 - 115
Magnesium	98.5		P	85 - 115
Manganese	99.8		P	85 - 115
Potassium	96.4		P	85 - 115
Sodium	98.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401702

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.9		P	85 - 115
Antimony	96.9		P	85 - 115
Arsenic	98.5		P	85 - 115
Beryllium	100		P	85 - 115
Boron	97.6		P	85 - 115
Cadmium	93.5		P	85 - 115
Chromium	94.5		P	85 - 115
Lead	95.7		P	85 - 115
Nickel	97.9		P	85 - 115
Selenium	96.9		P	85 - 115
Silver	107		P	85 - 115
Thallium	97.4		P	85 - 115
Zinc	98.6		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	93.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401813

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401814

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401817

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402079

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401988

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402064

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402392

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402475

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: P401627

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: P401628

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P401693

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: P401694

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P401598

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

Reference Method: EPA 8321B

Batch ID: P401536

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	115		P	40 - 150
Endothall	74.0		P	40 - 150
Glufosinate	104		P	40 - 150
Glyphosate	97.1		P	40 - 150
Sucralose	101		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P401633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	118		P	40 - 150
2,4,5-T	121		P	40 - 150
Acetaminophen	107		P	30 - 150
Acetamiprid	88.4		P	40 - 150
Afidopyropen	64.9		P	40 - 150
Bentazon	113		P	30 - 150
Benzovindiflupyr	86.8		P	40 - 150
Carbamazepine	101		P	40 - 150
Clothianidin	99.5		P	40 - 150
Dinotefuran	89.4		P	40 - 150
Diuron	107		P	40 - 150
Fenuron	98.9		P	40 - 150
Fluridone	95.1		P	40 - 150
Hydrocodone	95.4		P	40 - 150
Ibuprofen	88.8		P	40 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	100		P	40 - 150
Linuron	84.9		P	40 - 150
Mandestrobin	86.1		P	40 - 150
MCPP	116		P	40 - 150
Naproxen	86.6		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	82.4		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P401633

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Thiamethoxam	93.5		P	40 - 150
Tolfenpyrad	48.2		P	30 - 150
Triclopyr	114		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P401605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.6		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P401668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P401672

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P402249

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P401702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265145	Barium	102		P	80 - 120
2265145	Calcium	102		P	80 - 120
2265145	Iron	99.3		P	80 - 120
2265145	Magnesium	101		P	80 - 120
2265145	Manganese	95.8		P	80 - 120
2265145	Potassium	98.4		P	80 - 120
2265145	Sodium	105		P	80 - 120
2265293	Barium	100	102	P/P	80 - 120
2265293	Calcium	102	104	P/P	80 - 120
2265293	Iron	103	104	P/P	80 - 120
2265293	Magnesium	106	107	P/P	80 - 120
2265293	Manganese	98.9	101	P/P	80 - 120
2265293	Potassium	103	104	P/P	80 - 120
2265293	Sodium	103	105	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P402262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265003	Barium	101		P	80 - 120
2265003	Calcium	91.2		P	80 - 120
2265003	Iron	94.8		P	80 - 120
2265003	Magnesium	96.2		P	80 - 120
2265003	Manganese	97.5		P	80 - 120
2265003	Potassium	102		P	80 - 120
2265003	Sodium	99.1		P	80 - 120
2265339	Barium	98.8	99.7	P/P	80 - 120
2265339	Calcium	104		P	80 - 120
2265339	Iron	93.2	94.8	P/P	80 - 120
2265339	Magnesium	94.1	95.9	P/P	80 - 120
2265339	Manganese	96.4	97.4	P/P	80 - 120
2265339	Potassium	100	102	P/P	80 - 120
2265339	Sodium	100	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P401702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265145	Aluminum	95.6		P	80 - 120
2265145	Antimony	96.5		P	80 - 120
2265145	Arsenic	98.1		P	80 - 120
2265145	Beryllium	102		P	80 - 120
2265145	Boron	99.4		P	80 - 120
2265145	Cadmium	94.6		P	80 - 120
2265145	Chromium	95.2		P	80 - 120
2265145	Lead	95.7		P	80 - 120
2265145	Nickel	95.6		P	80 - 120
2265145	Selenium	97.5		P	80 - 120
2265145	Silver	106		P	80 - 120
2265145	Thallium	102		P	80 - 120
2265145	Zinc	99.8		P	80 - 120
2265293	Aluminum	96.5	94.7	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P401702

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265293	Antimony	97.0	94.9	P/P	80 - 120
2265293	Arsenic	98.8	96.8	P/P	80 - 120
2265293	Beryllium	98.2	97.6	P/P	80 - 120
2265293	Boron	97.3	95.3	P/P	80 - 120
2265293	Cadmium	94.8	91.2	P/P	80 - 120
2265293	Chromium	95.2	92.6	P/P	80 - 120
2265293	Lead	94.6	93.2	P/P	80 - 120
2265293	Nickel	101	96.4	P/P	80 - 120
2265293	Selenium	96.9	95.7	P/P	80 - 120
2265293	Silver	107	106	P/P	80 - 120
2265293	Thallium	100	99.9	P/P	80 - 120
2265293	Zinc	99.8	98.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265003	Copper	91.6		P	80 - 120
2265339	Copper	111	94.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401813

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264570	Chloride	99.6		P	90 - 110
2264691	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264973	Chloride	101		P	90 - 110
2265165	Chloride	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264973	Sulfate	102		P	90 - 110
2265165	Sulfate	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265015	Sulfate	94.1		P	90 - 110
2265753	Sulfate	97.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
---------------	-----------	---------	---------	-----------	----------------

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2263040	Ammonia-N	98.4	99.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402064

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264981	Ammonia-N	96.4	97.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402392

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264693	Kjeldahl Nitrogen	101	111	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402475

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264982	Kjeldahl Nitrogen	110	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264774	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401628

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264981	NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264940	Total-P	109	110	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265091	Total-P	109	111	P/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401598

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264983	O-Phosphate-P	99.5	99.7	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P401536

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264960	Acesulfame K	145	144	P/P	40 - 150
2264960	AMPA	91.9	91.6	P/P	40 - 150
2264960	Endothall	99.9	104	P/P	40 - 150
2264960	Glufosinate	105	102	P/P	40 - 150
2264960	Glyphosate	79.6	78.4	P/P	40 - 150
2264960	Sucralose	101	103	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P401633

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264998	2,4-D	98.6	111	P/P	40 - 150
2264998	2,4,5-T	107	116	P/P	40 - 150
2264998	Acetaminophen	104	115	P/P	30 - 150
2264998	Acetamiprid	82.9	85.1	P/P	40 - 150
2264998	Afidopyropen	58.4	50.0	P/P	40 - 150
2264998	Bentazon	95.2	107	P/P	30 - 150
2264998	Benzovindiflupyr	80.7	89.7	P/P	40 - 150
2264998	Carbamazepine	94.2	105	P/P	40 - 150
2264998	Clothianidin	95.7	105	P/P	40 - 150
2264998	Dinotefuran	96.8	100	P/P	40 - 150
2264998	Diuron	94.1	105	P/P	40 - 150
2264998	Fenuron	88.1	95.5	P/P	40 - 150
2264998	Fluridone	86.9	96.2	P/P	40 - 150
2264998	Hydrocodone	90.2	98.4	P/P	40 - 150
2264998	Ibuprofen	96.8	89.8	P/P	40 - 150
2264998	Imazapyr	94.4	105	P/P	40 - 150
2264998	Imidacloprid	110	120	P/P	40 - 150
2264998	Linuron	76.0	88.3	P/P	40 - 150
2264998	Mandestrobin	82.9	91.3	P/P	40 - 150
2264998	MCPP	107	118	P/P	40 - 150
2264998	Naproxen	86.3	92.2	P/P	40 - 150
2264998	Primidone	102	107	P/P	40 - 150
2264998	Pyraclostrobin	78.6	87.7	P/P	40 - 150
2264998	Thiamethoxam	102	110	P/P	40 - 150
2264998	Tolfenpyrad	47.8	54.0	P/P	30 - 150
2264998	Triclopyr	103	109	P/P	40 - 150

Reference Method: SM 4500 F-C-2011

Batch ID: P401672

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2265061	Fluoride	99.0	99.0	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P402249

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2264982	Organic Carbon	101	99.6	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P401601

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264936	Turbidity	0.223	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P401702

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265293	Barium	1.47	Spike	P	0 - 20
2265293	Calcium	1.24	Spike	P	0 - 20
2265293	Iron	0.676	Spike	P	0 - 20
2265293	Magnesium	0.584	Spike	P	0 - 20
2265293	Manganese	1.47	Spike	P	0 - 20
2265293	Potassium	0.640	Spike	P	0 - 20
2265293	Sodium	1.32	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P402262

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265339	Barium	0.874	Spike	P	0 - 20
2265339	Calcium	1.27	Spike	P	0 - 20
2265339	Iron	1.74	Spike	P	0 - 20
2265339	Magnesium	1.76	Spike	P	0 - 20
2265339	Manganese	1.03	Spike	P	0 - 20
2265339	Potassium	2.20	Spike	P	0 - 20
2265339	Sodium	2.03	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P401702

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265293	Aluminum	1.77	Spike	P	0 - 20
2265293	Antimony	2.13	Spike	P	0 - 20
2265293	Arsenic	2.06	Spike	P	0 - 20
2265293	Beryllium	0.610	Spike	P	0 - 20
2265293	Boron	1.86	Spike	P	0 - 20
2265293	Cadmium	3.84	Spike	P	0 - 20
2265293	Chromium	2.71	Spike	P	0 - 20
2265293	Lead	1.44	Spike	P	0 - 20
2265293	Nickel	4.47	Spike	P	0 - 20
2265293	Selenium	1.22	Spike	P	0 - 20
2265293	Silver	1.02	Spike	P	0 - 20
2265293	Thallium	0.435	Spike	P	0 - 20
2265293	Zinc	1.77	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P402262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265339	Copper	16.8	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401813

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264691	Chloride	0.392	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265165	Chloride	1.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P401817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265165	Sulfate	1.29	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P402079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265753	Sulfate	1.19	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P401988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2263040	Ammonia-N	0.634	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P402064

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264981	Ammonia-N	1.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264693	Kjeldahl Nitrogen	5.60	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P402475

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264982	Kjeldahl Nitrogen	10.3	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264774	NO2NO3-N	0.494	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P401628

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264981	NO2NO3-N	0.179	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264940	Total-P	0.707	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P401694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265091	Total-P	0.817	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P401598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264983	O-Phosphate-P	0.201	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P401536

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264960	Acesulfame K	0.811	Spike	P	0 - 30
2264960	AMPA	0.390	Spike	P	0 - 30
2264960	Endothall	3.67	Spike	P	0 - 30
2264960	Glufosinate	2.67	Spike	P	0 - 30
2264960	Glyphosate	1.57	Spike	P	0 - 30
2264960	Sucralose	1.65	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P401633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264998	2,4-D	9.08	Spike	P	0 - 30
2264998	2,4,5-T	7.96	Spike	P	0 - 30
2264998	Acetaminophen	10.7	Spike	P	0 - 30
2264998	Acetamiprid	2.62	Spike	P	0 - 30
2264998	Afidopyropen	15.6	Spike	P	0 - 30
2264998	Bentazon	7.74	Spike	P	0 - 30
2264998	Benzovindiflupyr	10.6	Spike	P	0 - 30
2264998	Carbamazepine	10.1	Spike	P	0 - 30
2264998	Clothianidin	9.03	Spike	P	0 - 30
2264998	Dinotefuran	3.39	Spike	P	0 - 30
2264998	Diuron	8.95	Spike	P	0 - 30
2264998	Fenuron	8.08	Spike	P	0 - 30
2264998	Fluridone	10.1	Spike	P	0 - 30
2264998	Hydrocodone	8.75	Spike	P	0 - 30
2264998	Ibuprofen	7.51	Spike	P	0 - 30
2264998	Imazapyr	8.09	Spike	P	0 - 30
2264998	Imidacloprid	7.84	Spike	P	0 - 30
2264998	Linuron	15.0	Spike	P	0 - 30
2264998	Mandestrobin	9.64	Spike	P	0 - 30
2264998	MCP	9.10	Spike	P	0 - 30
2264998	Naproxen	6.67	Spike	P	0 - 30
2264998	Primidone	4.91	Spike	P	0 - 30
2264998	Pyraclostrobin	10.9	Spike	P	0 - 30
2264998	Thiamethoxam	7.64	Spike	P	0 - 30
2264998	Tolfenpyrad	12.4	Spike	P	0 - 30
2264998	Triclopyr	5.20	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P401605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264936	Color (true)	1.42	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P401668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265061	Total Alkalinity	1.21	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P402087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264968	TDS	6.25	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 2540 C-2011
Batch ID: P402088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265061	TDS	4.20	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P401672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2265061	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P402249

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2264982	Organic Carbon	0.916	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2264998

Field Sample ID: G2TLHR0044

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	109	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	92.4	P	30 - 160
EPA 8321B	Endothall-d6	93.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	97.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	85.4	P	30 - 160
EPA 8321B	Primidone-d5	98.0	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Lab Sample ID: 2264999

Field Sample ID: G2TLHR0049

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	103	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.8	P	30 - 160
EPA 8321B	Diuron-d6	81.8	P	30 - 160
EPA 8321B	Endothall-d6	98.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	78.2	P	30 - 160
EPA 8321B	Primidone-d5	94.2	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2265000

Field Sample ID: FB_07262021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	93.2	P	30 - 160
EPA 8321B	Diuron-d6	93.6	P	30 - 160
EPA 8321B	Endothall-d6	86.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	84.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	79.3	P	30 - 160
EPA 8321B	Primidone-d5	91.0	P	30 - 160
EPA 8321B	Sucralose-d6	105	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106851

Included Lab Sample IDs: 2264971, 2264972, 2264975, 2264978, 2264983, 2264984, 2264987

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.6	98.6	P/P	90 - 110
O-Phosphate-P	99.4	98.6	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106852

Included Lab Sample IDs: 2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

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

Reference Method: SM 2120 B-2011

Run ID: A106853

Included Lab Sample IDs: 2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	90 - 115
Color (true)	99.7	101	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106874

Included Lab Sample IDs: 2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986

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

Reference Method: SM 2320 B-2011

Run ID: A106891

Included Lab Sample IDs: 2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	100	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106891

Included Lab Sample IDs: 2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

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

Reference Method: EPA 8321B

Run ID: A106898

Included Lab Sample IDs: 2264998, 2264999, 2265000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	114	119	P/P	60 - 160
Glufosinate	102	102	P/P	60 - 160
Glyphosate	104	102	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A106904

Included Lab Sample IDs: 2264998, 2264999, 2265000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.7	99.5	P/P	60 - 160
Acesulfame K	99.5	99.0	P/P	60 - 160
Endothall	80.5	84.0	P/P	60 - 160
Endothall	84.0	79.7	P/P	60 - 160
Sucralose	96.7	98.5	P/P	60 - 160
Sucralose	98.5	98.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106905

Included Lab Sample IDs: 2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

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

Reference Method: EPA 8321B

Run ID: A106940

Included Lab Sample IDs: 2264998, 2264999, 2265000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.6	92.0	P/P	50 - 150
2,4-D	92.0	90.1	P/P	50 - 150
2,4,5-T	94.9	95.6	P/P	50 - 150
2,4,5-T	95.6	97.1	P/P	50 - 150
Acetaminophen	104	101	P/P	60 - 160
Acetaminophen	108	104	P/P	60 - 160
Acetamiprid	94.7	96.1	P/P	50 - 150
Acetamiprid	96.1	97.6	P/P	50 - 150
Afidopyropen	92.5	94.0	P/P	50 - 150
Afidopyropen	94.0	95.1	P/P	50 - 150
Bentazon	104	107	P/P	50 - 160
Bentazon	107	109	P/P	50 - 160
Benzovindiflupyr	93.7	93.9	P/P	50 - 150
Benzovindiflupyr	93.9	96.0	P/P	50 - 150
Carbamazepine	96.3	99.3	P/P	60 - 150
Carbamazepine	99.3	99.9	P/P	60 - 150
Clothianidin	93.0	95.5	P/P	60 - 150
Clothianidin	95.5	94.2	P/P	60 - 150
Dinotefuran	104	102	P/P	50 - 150
Dinotefuran	99.8	104	P/P	50 - 150
Diuron	111	113	P/P	60 - 160
Diuron	113	110	P/P	60 - 160
Fenuron	95.5	96.7	P/P	60 - 150
Fenuron	96.7	96.1	P/P	60 - 150
Fluridone	97.1	98.6	P/P	60 - 160
Fluridone	98.6	101	P/P	60 - 160
Hydrocodone	99.0	100	P/P	60 - 150
Hydrocodone	100	105	P/P	60 - 150
Ibuprofen	106	97.4	P/P	50 - 160
Ibuprofen	97.4	94.3	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A106940

Included Lab Sample IDs: 2264998, 2264999, 2265000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	104	107	P/P	50 - 150
Imazapyr	107	111	P/P	50 - 150
Imidacloprid	90.3	91.9	P/P	60 - 150
Imidacloprid	91.9	92.8	P/P	60 - 150
Linuron	102	95.1	P/P	60 - 150
Linuron	95.1	102	P/P	60 - 150
Mandestrobin	94.0	96.4	P/P	50 - 150
Mandestrobin	96.4	95.6	P/P	50 - 150
MCPP	90.0	90.4	P/P	50 - 150
MCPP	90.4	90.0	P/P	50 - 150
Naproxen	108	101	P/P	50 - 160
Naproxen	91.9	108	P/P	50 - 160
Primidone	101	92.7	P/P	60 - 150
Primidone	102	101	P/P	60 - 150
Pyraclostrobin	95.0	97.5	P/P	60 - 150
Pyraclostrobin	97.5	98.2	P/P	60 - 150
Thiamethoxam	92.4	97.6	P/P	50 - 150
Thiamethoxam	97.6	97.3	P/P	50 - 150
Tolfenpyrad	94.5	95.2	P/P	60 - 150
Tolfenpyrad	95.2	96.2	P/P	60 - 150
Triclopyr	90.6	92.4	P/P	50 - 150
Triclopyr	90.8	90.6	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106942

Included Lab Sample IDs: 2264986

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106965

Included Lab Sample IDs: 2264969, 2264970, 2264974, 2264977, 2264981, 2264982

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.5	98.2	P/P	90 - 110
Total-P	99.5	98.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A107025

Included Lab Sample IDs: 2264967, 2264968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	98.9	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107044

Included Lab Sample IDs: 2264969, 2264970

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A107064

Included Lab Sample IDs: 2264974, 2264977, 2264981, 2264982, 2264986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.1	99.4	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107107

Included Lab Sample IDs: 2265001, 2265002, 2265003, 2265004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.8	P/P	90 - 110
Aluminum	99.1	100	P/P	90 - 110
Antimony	97.9	98.3	P/P	90 - 110
Antimony	98.3	99.1	P/P	90 - 110
Arsenic	101	99.2	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Beryllium	97.7	99.1	P/P	90 - 110
Beryllium	99.1	98.8	P/P	90 - 110
Boron	94.7	96.7	P/P	90 - 110
Boron	96.7	98.0	P/P	90 - 110
Cadmium	97.2	97.6	P/P	90 - 110
Cadmium	97.6	99.1	P/P	90 - 110
Chromium	97.4	98.6	P/P	90 - 110
Chromium	98.6	98.2	P/P	90 - 110
Lead	97.9	98.5	P/P	90 - 110
Lead	98.5	98.9	P/P	90 - 110
Nickel	101	99.3	P/P	90 - 110
Nickel	102	101	P/P	90 - 110
Selenium	97.3	96.9	P/P	90 - 110
Selenium	99.4	97.3	P/P	90 - 110
Silver	94.8	95.1	P/P	90 - 110
Silver	95.0	94.8	P/P	90 - 110
Thallium	100	102	P/P	90 - 110
Thallium	102	102	P/P	90 - 110
Zinc	98.0	98.6	P/P	90 - 110
Zinc	98.6	97.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107127

Included Lab Sample IDs: 2265002

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	101	P/P	90 - 110
Calcium	99.3	98.3	P/P	90 - 110
Iron	94.9	94.1	P/P	90 - 110
Magnesium	96.5	95.3	P/P	90 - 110
Manganese	99.0	98.0	P/P	90 - 110
Potassium	105	103	P/P	90 - 110
Sodium	99.2	97.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A107149

Included Lab Sample IDs: 2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.0	97.1	P/P	90 - 110
Organic Carbon	97.2	92.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A107192

Included Lab Sample IDs: 2265001, 2265002, 2265003, 2265004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	91.2	92.8	P/P	90 - 110
Copper	91.6	91.2	P/P	90 - 110
Copper	92.8	93.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A107224

Included Lab Sample IDs: 2265001, 2265003, 2265004

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	95 - 105
Barium	102	98.9	P/P	90 - 110
Calcium	95.8	99.0	P/P	95 - 105
Calcium	99.0	92.8	P/P	90 - 110
Iron	95.6	99.0	P/P	95 - 105
Iron	99.0	94.2	P/P	90 - 110
Magnesium	95.3	98.6	P/P	95 - 105
Magnesium	98.6	93.6	P/P	90 - 110
Manganese	101	101	P/P	95 - 105
Manganese	101	98.4	P/P	90 - 110
Potassium	97.3	99.7	P/P	95 - 105
Potassium	99.7	98.3	P/P	90 - 110
Sodium	96.7	98.9	P/P	95 - 105
Sodium	98.9	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A107272

Included Lab Sample IDs: 2264977, 2264981, 2264982, 2264986

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.2	99.8	P/P	90 - 110
Kjeldahl Nitrogen	99.8	103	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						0.223	
EPA 200.7 Rev. 4.4	Barium	102	102	100	102			1.47
	Barium	103	101	98.8	99.7			0.874
	Calcium	110	102	102	104			1.24
	Calcium	95.4	91.2	104				1.27
	Iron	106	99.3	103	104			0.676
	Iron	97.0	94.8	93.2	94.8			1.74
	Magnesium	110	101	106	107			0.584
	Magnesium	98.5	96.2	94.1	95.9			1.76
	Manganese	102	95.8	98.9	101			1.47
	Manganese	99.8	97.5	96.4	97.4			1.03
	Potassium	101	98.4	103	104			0.640
	Potassium	96.4	102	100	102			2.20
	Sodium	101	105	103	105			1.32
	Sodium	98.6	99.1	100	103			2.03
EPA 200.8 Rev. 5.4	Aluminum	96.9	96.5	94.7	95.6			1.77
	Antimony	96.9	97.0	94.9	96.5			2.13
	Arsenic	98.5	98.8	96.8	98.1			2.06
	Beryllium	100	98.2	97.6	102			0.610
	Boron	97.6	97.3	95.3	99.4			1.86
	Cadmium	93.5	94.8	91.2	94.6			3.84
	Chromium	94.5	95.2	92.6	95.2			2.71
	Copper	93.0	111	94.2	91.6			16.8
	Lead	95.7	94.6	93.2	95.7			1.44
	Nickel	97.9	101	96.4	95.6			4.47
	Selenium	96.9	96.9	95.7	97.5			1.22
	Silver	107	107	106	106			1.02
	Thallium	97.4	100	99.9	102			0.435
	Zinc	98.6	99.8	98.1	99.8			1.77
EPA 300.0 Rev. 2.1	Chloride	96.6	100	99.6			0.392	
	Chloride	99.9	98.7	101			1.27	
	Sulfate	99.8	99.4	102			1.29	
	Sulfate	96.8	97.6	94.1			1.19	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	98.4	99.4				0.634
	Ammonia-N	101	96.4	97.6				1.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	111	101				5.60
	Kjeldahl Nitrogen	109	110	94.7				10.3
EPA 353.2 Rev. 2.0	NO2NO3-N	101	102	101				0.494
	NO2NO3-N	102	97.5					0.179
EPA 365.1 Rev. 2.0	Total-P	106	109	110				0.707
	Total-P	108	109	111				0.817
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.5	99.7				0.201
EPA 8321B	2,4-D	118	98.6	111				9.08
	2,4,5-T	121	107	116				7.96
	Acesulfame K	101	145	144				0.811
	Acetaminophen	107	104	115				10.7
	Acetamiprid	88.4	82.9	85.1				2.62
	Afidopyropen	64.9	58.4	50.0				15.6
	AMPA	115	91.9	91.6				0.390
	Bentazon	113	95.2	107				7.74
	Benzovindiflupyr	86.8	80.7	89.7				10.6
	Carbamazepine	101	94.2	105				10.1
	Clothianidin	99.5	95.7	105				9.03
	Dinotefuran	89.4	96.8	100				3.39

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Diuron	107	94.1	105		8.95
	Endothall	74.0	99.9	104		3.67
	Fenuron	98.9	88.1	95.5		8.08
	Fluridone	95.1	86.9	96.2		10.1
	Glufosinate	104	105	102		2.67
	Glyphosate	97.1	79.6	78.4		1.57
	Hydrocodone	95.4	90.2	98.4		8.75
	Ibuprofen	88.8	96.8	89.8		7.51
	Imazapyr	107	94.4	105		8.09
	Imidacloprid	100	110	120		7.84
	Linuron	84.9	76.0	88.3		15.0
	Mandestrobin	86.1	82.9	91.3		9.64
	MCPP	116	107	118		9.10
	Naproxen	86.6	86.3	92.2		6.67
	Primidone	105	102	107		4.91
	Pyraclostrobin	82.4	78.6	87.7		10.9
	Sucralose	101	101	103		1.65
	Thiamethoxam	93.5	102	110		7.64
	Tolfenpyrad	48.2	47.8	54.0		12.4
	Triclopyr	114	103	109		5.20
SM 2120 B-2011	Color (true)	98.6			1.42	
SM 2320 B-2011	Total Alkalinity	102			1.21	
SM 2540 C-2011	TDS				6.25	
	TDS				4.20	
SM 4500 F-C-2011	Fluoride	101	99.0	99.0		0.0
SM 5310 B-2011	Organic Carbon	96.4	101	99.6		0.916

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2265001, 2265002, 2265003, 2265004
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2265001, 2265002, 2265003, 2265004
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2264971, 2264972, 2264975, 2264978, 2264983, 2264984, 2264987
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2264998, 2264999, 2265000
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985

Reference Method Descriptions

Method	Description	Associated Samples
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2265001, 2265002, 2265003, 2265004
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2264969, 2264970, 2264974, 2264977, 2264981, 2264982, 2264986

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/26/2021			07/27/2021 15:40	Sarah A Nixon	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
EPA 200.7 Rev. 4.4	07/26/2021	07/29/2021 14:20	Elliott D. Healy	08/10/2021 00:03	Josef B Mick	2265002
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/12/2021 12:25	Josef B Mick	2265004
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/12/2021 14:12	Josef B Mick	2265001
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/12/2021 14:18	Josef B Mick	2265003
EPA 200.8 Rev. 5.4	07/26/2021	07/29/2021 14:20	Elliott D. Healy	08/07/2021 04:54	Alexander Thompson	2265004
	07/26/2021	07/29/2021 14:20	Elliott D. Healy	08/07/2021 06:59	Alexander Thompson	2265001
	07/26/2021	07/29/2021 14:20	Elliott D. Healy	08/07/2021 07:09	Alexander Thompson	2265002
	07/26/2021	07/29/2021 14:20	Elliott D. Healy	08/07/2021 07:19	Alexander Thompson	2265003
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/11/2021 15:28	Alexander Thompson	2265004
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/11/2021 16:31	Alexander Thompson	2265001
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/11/2021 16:36	Alexander Thompson	2265002
	07/26/2021	08/10/2021 16:20	Elliott D. Healy	08/11/2021 18:18	Alexander Thompson	2265003
EPA 300.0 Rev. 2.1	07/26/2021			07/31/2021 01:22	Lipi Saha	2264967
	07/26/2021			07/31/2021 01:35	Lipi Saha	2264968
	07/26/2021			07/31/2021 03:24	Lipi Saha	2264973
	07/26/2021			07/31/2021 03:48	Lipi Saha	2264976
	07/26/2021			07/31/2021 04:00	Lipi Saha	2264979
	07/26/2021			07/31/2021 04:13	Lipi Saha	2264980
	07/26/2021			07/31/2021 04:25	Lipi Saha	2264985
	07/26/2021			08/05/2021 19:53	Lipi Saha	2264967
	07/26/2021			08/05/2021 20:06	Lipi Saha	2264968
EPA 350.1 Rev. 2.0	07/26/2021			08/04/2021 14:53	Roberta Tatti	2264970
	07/26/2021			08/04/2021 15:00	Roberta Tatti	2264969
	07/26/2021			08/05/2021 15:11	Roberta Tatti	2264981
	07/26/2021			08/05/2021 15:15	Roberta Tatti	2264977
	07/26/2021			08/05/2021 15:18	Roberta Tatti	2264982
	07/26/2021			08/05/2021 15:22	Roberta Tatti	2264974
	07/26/2021			08/05/2021 15:26	Roberta Tatti	2264986
EPA 351.2 Rev. 2.0	07/26/2021	08/12/2021 14:27	Benjamin T. Nordmann	08/13/2021 11:24	Virginia P. Brown	2264969
	07/26/2021	08/12/2021 14:27	Benjamin T. Nordmann	08/13/2021 11:25	Virginia P. Brown	2264970
	07/26/2021	08/12/2021 14:27	Benjamin T. Nordmann	08/13/2021 11:27	Virginia P. Brown	2264974
	07/26/2021	08/13/2021 13:09	Madeline Gruver	08/16/2021 12:23	Virginia P. Brown	2264977
	07/26/2021	08/13/2021 13:09	Madeline Gruver	08/16/2021 12:25	Virginia P. Brown	2264981
	07/26/2021	08/13/2021 13:09	Madeline Gruver	08/16/2021 12:26	Virginia P. Brown	2264982
	07/26/2021	08/13/2021 13:09	Madeline Gruver	08/16/2021 12:35	Virginia P. Brown	2264986
EPA 353.2 Rev. 2.0	07/26/2021			07/28/2021 10:14	Beverly Y. Sanders	2264969
	07/26/2021			07/28/2021 10:15	Beverly Y. Sanders	2264970
	07/26/2021			07/28/2021 10:16	Beverly Y. Sanders	2264974

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	07/26/2021			07/28/2021 10:23	Beverly Y. Sanders	2264981
	07/26/2021			07/28/2021 10:29	Beverly Y. Sanders	2264977
	07/26/2021			07/28/2021 10:30	Beverly Y. Sanders	2264982
	07/26/2021			07/28/2021 10:31	Beverly Y. Sanders	2264986
EPA 365.1 Rev. 2.0	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 12:47	Shengyu Ding	2264986
	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 14:39	Shengyu Ding	2264969, 2264970
	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 14:40	Shengyu Ding	2264974
	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 14:41	Shengyu Ding	2264977
	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 14:42	Shengyu Ding	2264981
	07/26/2021	07/29/2021 12:32	Simonne.V. Calhoun	07/30/2021 14:50	Shengyu Ding	2264982
EPA 365.1 Rev. 2.0 dissolved	07/26/2021			07/27/2021 14:49	Ping Hua	2264983
	07/26/2021			07/27/2021 14:54	Ping Hua	2264971, 2264972
	07/26/2021			07/27/2021 15:00	Ping Hua	2264975, 2264978
	07/26/2021			07/27/2021 15:01	Ping Hua	2264984
	07/26/2021			07/27/2021 15:02	Ping Hua	2264987
EPA 8321B	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 13:45	Juyoung Kim	2264998
	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 13:56	Juyoung Kim	2264999
	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 14:07	Juyoung Kim	2265000
	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 17:35	Pramila Ghimire	2264998
	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 18:03	Pramila Ghimire	2264999
	07/26/2021	07/28/2021 08:30	Pramila Ghimire	07/28/2021 18:17	Pramila Ghimire	2265000
	07/26/2021	07/29/2021 09:00	Hoor Shaik	07/29/2021 21:04	Juyoung Kim	2264998
	07/26/2021	07/29/2021 09:00	Hoor Shaik	07/29/2021 23:22	Juyoung Kim	2264999
	07/26/2021	07/29/2021 09:00	Hoor Shaik	07/30/2021 00:31	Juyoung Kim	2265000
SM 2120 B-2011	07/26/2021			07/27/2021 16:39	Madeline Gruver	2264968
	07/26/2021			07/27/2021 16:41	Madeline Gruver	2264979, 2264980
	07/26/2021			07/27/2021 16:42	Madeline Gruver	2264985
	07/26/2021			07/27/2021 17:09	Madeline Gruver	2264967, 2264973
	07/26/2021			07/27/2021 17:10	Madeline Gruver	2264976
SM 2320 B-2011	07/26/2021			07/28/2021 16:31	Dale L. Simmons	2264985
	07/26/2021			07/28/2021 17:09	Dale L. Simmons	2264967
	07/26/2021			07/28/2021 17:23	Dale L. Simmons	2264968
	07/26/2021			07/28/2021 17:32	Dale L. Simmons	2264973
	07/26/2021			07/28/2021 17:39	Dale L. Simmons	2264976
	07/26/2021			07/28/2021 17:53	Dale L. Simmons	2264979
SM 2340B	07/26/2021			07/28/2021 18:02	Dale L. Simmons	2264980
	07/26/2021			08/10/2021 00:03	Josef B Mick	2265002
	07/26/2021			08/12/2021 12:25	Josef B Mick	2265004
	07/26/2021			08/12/2021 14:12	Josef B Mick	2265001
	07/26/2021			08/12/2021 14:18	Josef B Mick	2265003

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2540 C-2011	07/26/2021			07/30/2021 15:15	Yijie Li	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 2540 D-2011	07/26/2021			07/30/2021 15:15	Yijie Li	2264967, 2264968, 2264973, 2264976, 2264979, 2264980, 2264985
SM 4500 F-C-2011	07/26/2021			07/28/2021 16:31	Dale L. Simmons	2264985
	07/26/2021			07/28/2021 17:09	Dale L. Simmons	2264967
	07/26/2021			07/28/2021 17:23	Dale L. Simmons	2264968
	07/26/2021			07/28/2021 17:32	Dale L. Simmons	2264973
	07/26/2021			07/28/2021 17:39	Dale L. Simmons	2264976
	07/26/2021			07/28/2021 17:53	Dale L. Simmons	2264979
	07/26/2021			07/28/2021 18:02	Dale L. Simmons	2264980
SM 5310 B-2011	07/26/2021			08/09/2021 16:18	Madeline Gruver	2264982
	07/26/2021			08/09/2021 17:11	Madeline Gruver	2264970
	07/26/2021			08/09/2021 18:31	Madeline Gruver	2264969
	07/26/2021			08/09/2021 18:57	Madeline Gruver	2264974
	07/26/2021			08/09/2021 19:11	Madeline Gruver	2264977
	07/26/2021			08/09/2021 19:24	Madeline Gruver	2264981
	07/26/2021			08/09/2021 19:39	Madeline Gruver	2264986