

Chemical Analysis Report

NW-DIST-2021-05-20-01

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

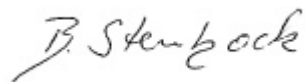
Event Description: **Twin Lakes Run**
Request ID: **RQ-2021-05-17-61**
Customer: **NW-DIST**
Project ID: **SMP**

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

Date Certified: 10-JUN-2021 12:08



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: Twin Lake Eastern Lake

Collection Date/Time: 05/19/2021 12:05

Field ID: G3NW0449

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248864	EPA 180.1 Rev. 2.0	Turbidity	15		NTU	P398534	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P398870	
		Sulfate	6.8		mg SO4/L	P398874	
	SM 2120 B-2011	Color (true)	27		PCU	P398550	
	SM 2320 B-2011	Total Alkalinity	45		mg CaCO3/L	P398632	
	SM 2540 C-2011	TDS	110		mg/L	P399050	
	SM 2540 D-2011	TSS	11	I	mg/L	P398840	
	SM 4500 F-C-2011	Fluoride	0.071	I	mg F/L	P398636	
2248869	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P399166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P398684	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398653	
	EPA 365.1 Rev. 2.0	Total-P	0.096		mg P/L	P398733	
	SM 5310 B-2011	Organic Carbon	8.1		mg C/L	P398807	
2248874	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P398553	
2248896	EPA 8321B	2,4-D	0.0020	U	ug/L	P398662	
		Acesulfame K	0.10	U	ug/L	P398627	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398627	
		Sucralose	1.5		ug/L	P398627	
		Acetaminophen	0.0080	U	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398627	
		Glufosinate	0.10	U	ug/L	P398627	
		Glyphosate	0.10	U	ug/L	P398627	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	8.0E-04	U	ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	0.0027	I	ug/L	P398662	
		Clothianidin	0.0020	U	ug/L	P398662	
		Dinotefuran	0.0043	I	ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.0040	U	ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.030		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCP	0.0020	I	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.0058	I	ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: G3NW0449

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248896	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	

Ref. Method and Comment:
SM 2540 D-2011: The PQL was elevated because of sample matrix interference.

Sample Location: Twin Lake South Lobe

Collection Date/Time: 05/19/2021 11:37

Field ID: G3NW0448

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248865	EPA 180.1 Rev. 2.0	Turbidity	4.4		NTU	P398535	
	EPA 300.0 Rev. 2.1	Chloride	28		mg Cl/L	P398870	
		Sulfate	12		mg SO4/L	P398874	
	SM 2120 B-2011	Color (true)	61	A	PCU	P398548	
	SM 2320 B-2011	Total Alkalinity	95	A	mg CaCO3/L	P398632	
	SM 2540 C-2011	TDS	168		mg/L	P399050	
	SM 2540 D-2011	TSS	6	I	mg/L	P398840	
2248870	SM 4500 F-C-2011	Fluoride	0.23		mg F/L	P398636	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P399166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P398684	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398653	
	EPA 365.1 Rev. 2.0	Total-P	0.47		mg P/L	P398733	
2248875	SM 5310 B-2011	Organic Carbon	10		mg C/L	P398807	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.38		mg P/L	P398553	
2248897	EPA 8321B	2,4-D	0.0020	U	ug/L	P398662	
		Acesulfame K	0.21	I	ug/L	P398627	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398627	
		Sucralose	3.1		ug/L	P398627	
		Acetaminophen	0.0080	U	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398627	
		Glufosinate	0.10	U	ug/L	P398627	
		Glyphosate	0.10	U	ug/L	P398627	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	8.0E-04	U	ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	0.014		ug/L	P398662	
		Clothianidin	0.0020	U	ug/L	P398662	
		Dinotefuran	0.0073	I	ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.030		ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.016		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCP	0.0020	U	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.025		ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: G3NW0448

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248897	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	

Sample Location: Twin Lake

Collection Date/Time: 05/19/2021 11:30

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248866	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P398535	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P398870	
		Sulfate	13		mg SO4/L	P398874	
		Color (true)	50		PCU	P398548	
	SM 2120 B-2011	Total Alkalinity	76		mg CaCO3/L	P398632	
	SM 2540 C-2011	TDS	166		mg/L	P399050	
	SM 2540 D-2011	TSS	3	I	mg/L	P398840	
	SM 4500 F-C-2011	Fluoride	0.22		mg F/L	P398636	
2248871	EPA 350.1 Rev. 2.0	Ammonia-N	0.064		mg N/L	P399166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P398685	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P398653	
	EPA 365.1 Rev. 2.0	Total-P	0.68		mg P/L	P398733	
	SM 5310 B-2011	Organic Carbon	8.4		mg C/L	P398807	
2248876	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.45		mg P/L	P398553	
2248898	EPA 8321B	2,4-D	0.0020	U	ug/L	P398662	
		Acesulfame K	0.17	I	ug/L	P398627	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398627	
		Sucralose	6.5		ug/L	P398627	
		Acetaminophen	0.0080	U	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398627	
		Glufosinate	0.10	U	ug/L	P398627	
		Glyphosate	0.10	U	ug/L	P398627	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	9.5E-04	I	ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	0.018		ug/L	P398662	
		Clothianidin	0.0020	U	ug/L	P398662	
		Dinotefuran	0.016		ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.012	I	ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.044		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCP	0.0028	I	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.029		ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: G3NW0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248898	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	

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.

Sample Location: Kell-Aire Lake

Collection Date/Time: 05/19/2021 13:00

Field ID: G3NW0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248867	EPA 180.1 Rev. 2.0	Turbidity	18		NTU	P398535	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P398870	
		Sulfate	8.8		mg SO4/L	P398874	
		Color (true)	48		PCU	P398550	
	SM 2320 B-2011	Total Alkalinity	58		mg CaCO3/L	P398632	
	SM 2540 C-2011	TDS	124		mg/L	P399050	
	SM 2540 D-2011	TSS	14		mg/L	P398840	
	SM 4500 F-C-2011	Fluoride	0.14		mg F/L	P398636	
2248872	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P399166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.7		mg N/L	P398685	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398653	
	EPA 365.1 Rev. 2.0	Total-P	0.38		mg P/L	P398733	
	SM 5310 B-2011	Organic Carbon	8.6		mg C/L	P398807	
2248877	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.24		mg P/L	P398553	
2248899	EPA 8321B	2,4-D	0.013		ug/L	P398662	
		Acesulfame K	0.15	I	ug/L	P398627	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398627	
		Sucralose	3.0		ug/L	P398627	
		Acetaminophen	0.017	I	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398627	
		Glufosinate	0.10	U	ug/L	P398627	
		Glyphosate	0.62		ug/L	P398627	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	9.7E-04	I	ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	0.0078		ug/L	P398662	
		Clothianidin	0.0074	I	ug/L	P398662	
		Dinotefuran	0.0066	I	ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.015	I	ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.16		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCPP	0.0020	U	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.012	I	ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: G3NW0217

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248899	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	

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.

Sample Location: Coleman Lake

Collection Date/Time: 05/19/2021 12:50

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248868	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P398535	
	EPA 300.0 Rev. 2.1	Chloride	23	A	mg Cl/L	P398954	
		Sulfate	8.6	A	mg SO4/L	P398955	
	SM 2120 B-2011	Color (true)	48		PCU	P398548	
	SM 2320 B-2011	Total Alkalinity	60		mg CaCO3/L	P398632	
	SM 2540 C-2011	TDS	126	A	mg/L	P399050	
	SM 2540 D-2011	TSS	11	A	mg/L	P398840	
	SM 4500 F-C-2011	Fluoride	0.13		mg F/L	P398636	
2248873	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P399166	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.2		mg N/L	P398685	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P398653	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P398733	
	SM 5310 B-2011	Organic Carbon	8.1		mg C/L	P398807	
2248878	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.20		mg P/L	P398553	
2248900	EPA 8321B	2,4-D	0.0088		ug/L	P398662	
		Acesulfame K	0.15	I	ug/L	P398627	
		2,4,5-T	0.0040	U	ug/L	P398662	
		AMPA	0.10	U	ug/L	P398627	
		Sucralose	2.8		ug/L	P398627	
		Acetaminophen	0.0080	U	ug/L	P398662	RPD
		Acetamiprid	0.0020	U	ug/L	P398662	
		Endothall	0.25	U	ug/L	P398627	
		Glufosinate	0.10	U	ug/L	P398627	
		Glyphosate	0.10	U	ug/L	P398627	
		Afidopyropen	0.0020	U	ug/L	P398662	
		Bentazon	0.0014	I	ug/L	P398662	
		Benzovindiflupyr	0.0020	U	ug/L	P398662	
		Carbamazepine	0.0081		ug/L	P398662	
		Clothianidin	0.0088		ug/L	P398662	
		Dinotefuran	0.0071	I	ug/L	P398662	
		Diuron	0.0020	U	ug/L	P398662	
		Fenuron	0.016	U	ug/L	P398662	
		Fluridone	8.0E-04	U	ug/L	P398662	
		Imazapyr	0.024		ug/L	P398662	
		Hydrocodone	0.0020	U	ug/L	P398662	
		Ibuprofen	0.020	U	ug/L	P398662	
		Imidacloprid	0.21		ug/L	P398662	
		Linuron	0.0040	U	ug/L	P398662	
		Mandestrobin	0.0020	U	ug/L	P398662	
		MCPD	0.0022	I	ug/L	P398662	
		Naproxen	0.0080	U	ug/L	P398662	
		Primidone	0.015	I	ug/L	P398662	
		Pyraclostrobin	0.0020	U	ug/L	P398662	

Field ID: G3NW0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2248900	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P398662	
		Tolfenpyrad	0.0020	U	ug/L	P398662	
		Triclopyr	0.0040	U	ug/L	P398662	

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.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398534

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398535

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398870

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398874

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398954

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398955

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399166

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398684

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398685

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P398653

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P398733

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P398553

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

Reference Method: EPA 8321B
 Batch ID: P398627

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: P398662

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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P398662

Component	Result	Code	Units
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: P398548

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P398550

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P398632

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

Reference Method: SM 2540 C-2011
Batch ID: P399050

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P398840

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P398636

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P398807

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: P398870

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: P398874

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398955

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399166

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: P398684

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398685

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398653

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398733

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P398553

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

Reference Method: EPA 8321B
 Batch ID: P398627

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	69.2		P	40 - 150
AMPA	102		P	40 - 150
Endothall	109		P	40 - 150
Glufosinate	97.6		P	40 - 150
Glyphosate	99.7		P	40 - 140
Sucralose	123		P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P398662

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	108		P	40 - 150
2,4,5-T	125		P	40 - 150
Acetaminophen	95.5		P	30 - 150
Acetamiprid	89.1		P	40 - 150
Afidopyropen	65.4		P	40 - 150
Bentazon	109		P	30 - 150
Benzovindiflupyr	95.4		P	40 - 150
Carbamazepine	88.9		P	40 - 150
Clothianidin	99.7		P	40 - 150
Dinotefuran	96.5		P	40 - 150
Diuron	81.6		P	40 - 150
Fenuron	124		P	40 - 150
Fluridone	94.5		P	40 - 150
Hydrocodone	87.3		P	40 - 150
Ibuprofen	74.8		P	40 - 150
Imazapyr	102		P	40 - 150
Imidacloprid	95.0		P	40 - 150
Linuron	80.3		P	40 - 150
Mandestrobin	92.6		P	40 - 150
MCPP	142		P	40 - 150
Naproxen	75.9		P	40 - 150
Primidone	107		P	40 - 150
Pyraclostrobin	85.8		P	40 - 150
Thiamethoxam	91.5		P	40 - 150
Tolfenpyrad	43.5		P	40 - 150
Triclopyr	126		P	40 - 150

Reference Method: SM 2120 B-2011
 Batch ID: P398548

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.7		P	85 - 115

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P398550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P398632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P398636

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

Reference Method: SM 5310 B-2011
Batch ID: P398807

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248794	Chloride	100		P	90 - 110
2248865	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248794	Sulfate	98.2		P	90 - 110
2248865	Sulfate	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398954

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248868	Chloride	98.3		P	90 - 110
2249042	Chloride	97.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248868	Sulfate	98.9		P	90 - 110
2249042	Sulfate	96.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399166

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248146	Ammonia-N	96.8	95.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248799	Kjeldahl Nitrogen	109	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P398653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248869	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P398733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248824	Total-P	103	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398553

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P398553

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248874	O-Phosphate-P	98.1	98.5	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P398627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248597	Acesulfame K	82.6	89.6	P/P	40 - 150
2248597	AMPA	124	131	P/P	40 - 150
2248597	Endothall	88.4	96.4	P/P	40 - 150
2248597	Glufosinate	99.1	106	P/P	40 - 150
2248597	Glyphosate	90.4	96.5	P/P	40 - 140
2248597	Sucralose	126	132	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P398662

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248252	2,4-D	139	129	P/P	40 - 150
2248252	2,4,5-T	131	132	P/P	40 - 150
2248252	Acetaminophen	144	96.5	P/P	30 - 150
2248252	Acetamiprid	108	113	P/P	40 - 150
2248252	Afidopyrophen	78.7	73.4	P/P	40 - 150
2248252	Bentazon	95.8	90.3	P/P	30 - 150
2248252	Benzovindiflupyr	97.8	94.0	P/P	40 - 150
2248252	Carbamazepine	91.5	84.3	P/P	40 - 150
2248252	Clothianidin	104	98.9	P/P	40 - 150
2248252	Dinotefuran	123	117	P/P	40 - 150
2248252	Diuron	63.7	67.7	P/P	40 - 150
2248252	Fenuron	116	117	P/P	40 - 150
2248252	Fluridone	99.4	90.0	P/P	40 - 150
2248252	Hydrocodone	97.9	95.4	P/P	40 - 150
2248252	Ibuprofen	76.4	60.4	P/P	40 - 150
2248252	Imazapyr	122	116	P/P	40 - 150
2248252	Imidacloprid	146	142	P/P	40 - 150
2248252	Linuron	70.6	68.5	P/P	40 - 150
2248252	Mandestrobin	89.4	87.8	P/P	40 - 150
2248252	MCPP	144	146	P/P	40 - 150
2248252	Naproxen	75.3	86.7	P/P	40 - 150
2248252	Primidone	101	108	P/P	40 - 150
2248252	Pyraclostrobin	83.7	70.4	P/P	40 - 150
2248252	Thiamethoxam	117	112	P/P	40 - 150
2248252	Tolfenpyrad	49.1	51.7	P/P	40 - 150
2248252	Triclopyr	120	140	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P398636

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248865	Fluoride	101	101	P/P	92 - 107

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P398807

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2248786	Organic Carbon	97.5	96.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248624	Turbidity	0.952	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P398535

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248794	Turbidity	4.67	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248794	Chloride	0.199	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248794	Sulfate	0.482	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248868	Chloride	0.198	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P398955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248868	Sulfate	0.451	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P399166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248146	Ammonia-N	0.867	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P398684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248799	Kjeldahl Nitrogen	8.61	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P398685

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248871	Kjeldahl Nitrogen	2.74	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P398653

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248869	NO2NO3-N	0.499	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P398733

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248824	Total-P	1.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P398553

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248874	O-Phosphate-P	0.407	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P398627

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248597	Acesulfame K	8.17	Spike	P	0 - 30
2248597	AMPA	5.33	Spike	P	0 - 30
2248597	Endothall	8.70	Spike	P	0 - 30
2248597	Glufosinate	6.42	Spike	P	0 - 30
2248597	Glyphosate	6.44	Spike	P	0 - 30
2248597	Sucralose	4.40	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P398662

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248252	2,4-D	7.81	Spike	P	0 - 30
2248252	2,4,5-T	0.896	Spike	P	0 - 30
2248252	Acetaminophen	39.5	Spike	F	0 - 30
2248252	Acetamiprid	4.29	Spike	P	0 - 30
2248252	Afidopyropen	6.96	Spike	P	0 - 30
2248252	Bentazon	5.90	Spike	P	0 - 30
2248252	Benzovindiflupyr	3.94	Spike	P	0 - 30
2248252	Carbamazepine	8.22	Spike	P	0 - 30
2248252	Clothianidin	3.88	Spike	P	0 - 30
2248252	Dinotefuran	4.38	Spike	P	0 - 30
2248252	Diuron	6.23	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P398662

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248252	Fenuron	0.443	Spike	P	0 - 30
2248252	Fluridone	9.93	Spike	P	0 - 30
2248252	Hydrocodone	2.63	Spike	P	0 - 30
2248252	Ibuprofen	23.4	Spike	P	0 - 30
2248252	Imazapyr	5.62	Spike	P	0 - 30
2248252	Imidacloprid	2.61	Spike	P	0 - 30
2248252	Linuron	3.01	Spike	P	0 - 30
2248252	Mandestrobin	1.84	Spike	P	0 - 30
2248252	MCCP	1.52	Spike	P	0 - 30
2248252	Naproxen	14.0	Spike	P	0 - 30
2248252	Primidone	7.10	Spike	P	0 - 30
2248252	Pyraclostrobin	17.3	Spike	P	0 - 30
2248252	Thiamethoxam	4.81	Spike	P	0 - 30
2248252	Tolfenpyrad	5.22	Spike	P	0 - 30
2248252	Triclopyr	15.7	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P398548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248865	Color (true)	0.451	Sample	P	0 - 20

Reference Method: SM 2120 B-2011

Batch ID: P398550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248838	Color (true)	2.86	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P398632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248865	Total Alkalinity	0.829	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P399050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248868	TDS	5.58	Sample	P	0 - 10

Reference Method: SM 2540 D-2011

Batch ID: P398840

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248868	TSS	7.14	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P398636

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248865	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P398807

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2248786	Organic Carbon	0.776	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2248896

Field Sample ID: G3NW0449

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.7	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	78.1	P	30 - 160
EPA 8321B	Diuron-d6	49.0	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	40 - 160
EPA 8321B	Ibuprofen-d3	59.2	P	30 - 160
EPA 8321B	Primidone-d5	84.1	P	30 - 160
EPA 8321B	Sucralose-d6	41.9	P	30 - 160
EPA 8321B	Sucralose-d6	41.9	P	30 - 160

Lab Sample ID: 2248897

Field Sample ID: G3NW0448

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	145	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	91.8	P	30 - 160
EPA 8321B	Diuron-d6	56.6	P	30 - 160
EPA 8321B	Endothall-d6	109	P	30 - 160
EPA 8321B	Endothall-d6	109	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	112	P	40 - 160
EPA 8321B	Ibuprofen-d3	66.0	P	30 - 160
EPA 8321B	Primidone-d5	131	P	30 - 160
EPA 8321B	Sucralose-d6	35.8	P	30 - 160
EPA 8321B	Sucralose-d6	35.8	P	30 - 160

Lab Sample ID: 2248898

Field Sample ID: G3NW0215

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.8	P	30 - 160
EPA 8321B	Diuron-d6	52.4	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	111	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	111	P	40 - 160
EPA 8321B	Ibuprofen-d3	81.9	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	38.3	P	30 - 160
EPA 8321B	Sucralose-d6	38.3	P	30 - 160

Lab Sample ID: 2248899

Field Sample ID: G3NW0217

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2248899

Field Sample ID: G3NW0217

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	93.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.9	P	30 - 160
EPA 8321B	Diuron-d6	47.5	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	123	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	123	P	40 - 160
EPA 8321B	Ibuprofen-d3	72.0	P	30 - 160
EPA 8321B	Primidone-d5	92.7	P	30 - 160
EPA 8321B	Sucralose-d6	42.1	P	30 - 160
EPA 8321B	Sucralose-d6	42.1	P	30 - 160

Lab Sample ID: 2248900

Field Sample ID: G3NW0216

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	96.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	84.2	P	30 - 160
EPA 8321B	Diuron-d6	56.1	P	30 - 160
EPA 8321B	Endothall-d6	118	P	30 - 160
EPA 8321B	Endothall-d6	118	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	109	P	40 - 160
EPA 8321B	Ibuprofen-d3	64.0	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	42.5	P	30 - 160
EPA 8321B	Sucralose-d6	42.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A105566

Included Lab Sample IDs: 2248864, 2248865, 2248866, 2248867, 2248868

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

Reference Method: SM 2120 B-2011

Run ID: A105570

Included Lab Sample IDs: 2248864, 2248865, 2248866, 2248867, 2248868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	106	102	P/P	90 - 115
Color (true)	99.3	101	P/P	90 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A105571

Included Lab Sample IDs: 2248874, 2248875, 2248876, 2248877, 2248878

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3		P	90 - 110
O-Phosphate-P	99.7	99.7	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A105605

Included Lab Sample IDs: 2248864, 2248865, 2248866, 2248867, 2248868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.2	99.7	P/P	90 - 110
Total Alkalinity	99.7	98.5	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A105605

Included Lab Sample IDs: 2248864, 2248865, 2248866, 2248867, 2248868

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A105611

Included Lab Sample IDs: 2248869, 2248870, 2248871, 2248872, 2248873

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

Reference Method: EPA 8321B

Run ID: A105616

Included Lab Sample IDs: 2248896, 2248897, 2248898, 2248899, 2248900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	71.1	66.7	P/P	60 - 160
Acesulfame K	72.2	71.1	P/P	60 - 160
Endothall	110	117	P/P	60 - 160
Endothall	117	105	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A105625

Included Lab Sample IDs: 2248896, 2248897, 2248898, 2248899, 2248900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	114	115	P/P	60 - 160
Sucralose	115	119	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A105627

Included Lab Sample IDs: 2248896, 2248897, 2248898, 2248899, 2248900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	119	124	P/P	60 - 160
AMPA	124	103	P/P	60 - 160
Glufosinate	107	102	P/P	60 - 160
Glufosinate	98.1	107	P/P	60 - 160
Glyphosate	102	107	P/P	60 - 160
Glyphosate	107	106	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A105658

Included Lab Sample IDs: 2248864, 2248865, 2248866, 2248867, 2248868

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Chloride	102	102	P/P	90 - 110
Sulfate	100	99.9	P/P	90 - 110
Sulfate	102	102	P/P	90 - 110
Sulfate	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A105667

Included Lab Sample IDs: 2248869, 2248870, 2248871, 2248872, 2248873

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

Reference Method: SM 5310 B-2011

Run ID: A105673

Included Lab Sample IDs: 2248869, 2248870, 2248871, 2248872, 2248873

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105725

Included Lab Sample IDs: 2248871, 2248872, 2248873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A105752

Included Lab Sample IDs: 2248896, 2248897, 2248898, 2248899, 2248900

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.5	93.3	P/P	50 - 150
2,4,5-T	94.0	88.4	P/P	50 - 150
Acetaminophen	99.1	91.3	P/P	60 - 160
Acetamiprid	104	96.6	P/P	50 - 150
Afidopyropen	93.9	79.5	P/P	50 - 150
Bentazon	104	119	P/P	50 - 160
Benzovindiflupyr	110	87.2	P/P	50 - 150
Carbamazepine	92.4	86.5	P/P	60 - 150
Clothianidin	109	98.3	P/P	60 - 150
Dinotefuran	105	100	P/P	50 - 150
Diuron	99.2	87.5	P/P	60 - 160
Fenuron	105	103	P/P	60 - 150
Fluridone	115	87.4	P/P	60 - 160
Hydrocodone	101	103	P/P	60 - 150
Ibuprofen	70.7	99.2	P/P	50 - 160
Imazapyr	104	100	P/P	50 - 150
Imidacloprid	88.8	92.5	P/P	60 - 150
Linuron	96.3	82.7	P/P	60 - 150
Mandestrobin	115	89.5	P/P	50 - 150
MCPP	92.6	89.2	P/P	50 - 150
Naproxen	91.1	93.2	P/P	50 - 160
Primidone	96.0	98.7	P/P	60 - 150
Pyraclostrobin	101	85.4	P/P	60 - 150
Thiamethoxam	103	95.3	P/P	50 - 150
Tolfenpyrad	101	82.7	P/P	60 - 150
Triclopyr	97.3	91.8	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A105791

Included Lab Sample IDs: 2248869, 2248870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	91.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A105849

Included Lab Sample IDs: 2248869, 2248870, 2248871, 2248872, 2248873

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.3	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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.952	
	Turbidity					4.67	
EPA 300.0 Rev. 2.1	Chloride	99.4	100	100		0.199	
	Chloride	95.0	98.3	97.1		0.198	
	Sulfate	101	98.2	98.9		0.482	
	Sulfate	99.6	98.9	96.1		0.451	
EPA 350.1 Rev. 2.0	Ammonia-N	101	96.8	95.8			0.867
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	109	98.7			8.61
	Kjeldahl Nitrogen	106					2.74
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100			0.499
EPA 365.1 Rev. 2.0	Total-P	108	103	101			1.50
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.9	98.1	98.5			0.407
EPA 8321B	2,4-D	108	139	129			7.81
	2,4,5-T	125	131	132			0.896
	Acesulfame K	69.2	82.6	89.6			8.17
	Acetaminophen	95.5	144	96.5			39.5
	Acetamiprid	89.1	108	113			4.29
	Afidopyropen	65.4	78.7	73.4			6.96
	AMPA	102	124	131			5.33
	Bentazon	109	95.8	90.3			5.90
	Benzovindiflupyr	95.4	97.8	94.0			3.94
	Carbamazepine	88.9	91.5	84.3			8.22
	Clothianidin	99.7	104	98.9			3.88
	Dinotefuran	96.5	123	117			4.38
	Diuron	81.6	63.7	67.7			6.23
	Endothall	109	88.4	96.4			8.70
	Fenuron	124	116	117			0.443
	Fluridone	94.5	99.4	90.0			9.93
	Glufosinate	97.6	99.1	106			6.42
	Glyphosate	99.7	90.4	96.5			6.44
	Hydrocodone	87.3	97.9	95.4			2.63
	Ibuprofen	74.8	76.4	60.4			23.4
	Imazapyr	102	122	116			5.62
	Imidacloprid	95.0	146	142			2.61
	Linuron	80.3	70.6	68.5			3.01
	Mandestrobin	92.6	89.4	87.8			1.84
	MCPP	142	144	146			1.52
	Naproxen	75.9	75.3	86.7			14.0
	Primidone	107	101	108			7.10
	Pyraclostrobin	85.8	83.7	70.4			17.3
	Sucralose	123	126	132			4.40
	Thiamethoxam	91.5	117	112			4.81
	Tolfenpyrad	43.5	49.1	51.7			5.22
	Triclopyr	126	120	140			15.7
SM 2120 B-2011	Color (true)	99.7				0.451	
	Color (true)	102				2.86	
SM 2320 B-2011	Total Alkalinity	99.2				0.829	
SM 2540 C-2011	TDS					5.58	
SM 2540 D-2011	TSS					7.14	
SM 4500 F-C-2011	Fluoride	104	101	101			0.0
SM 5310 B-2011	Organic Carbon	99.2	97.5	96.5			0.776

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2248864, 2248865, 2248866, 2248867, 2248868
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2248864, 2248865, 2248866, 2248867, 2248868
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2248864, 2248865, 2248866, 2248867, 2248868
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2248869, 2248870, 2248871, 2248872, 2248873
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2248869, 2248870, 2248871, 2248872, 2248873
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2248869, 2248870, 2248871, 2248872, 2248873
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2248869, 2248870, 2248871, 2248872, 2248873
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2248874, 2248875, 2248876, 2248877, 2248878
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2248896, 2248897, 2248898, 2248899, 2248900
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2248896, 2248897, 2248898, 2248899, 2248900
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2248864, 2248865, 2248866, 2248867, 2248868
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2248864, 2248865, 2248866, 2248867, 2248868
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2248864, 2248865, 2248866, 2248867, 2248868
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2248864, 2248865, 2248866, 2248867, 2248868
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2248864, 2248865, 2248866, 2248867, 2248868
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2248869, 2248870, 2248871, 2248872, 2248873

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	05/20/2021			05/20/2021 16:01	Yen Ta	2248864, 2248865, 2248866, 2248867, 2248868
EPA 300.0 Rev. 2.1	05/20/2021			05/27/2021 02:28	Lipi Saha	2248865
	05/20/2021			05/27/2021 04:52	Lipi Saha	2248864
	05/20/2021			05/27/2021 05:04	Lipi Saha	2248866
	05/20/2021			05/27/2021 05:16	Lipi Saha	2248867
	05/20/2021			05/27/2021 13:07	Lipi Saha	2248868
EPA 350.1 Rev. 2.0	05/20/2021			06/03/2021 11:48	Roberta Tatti	2248869
	05/20/2021			06/03/2021 11:50	Roberta Tatti	2248870
	05/20/2021			06/03/2021 11:51	Roberta Tatti	2248871
	05/20/2021			06/03/2021 11:52	Roberta Tatti	2248872
	05/20/2021			06/03/2021 11:54	Roberta Tatti	2248873
EPA 351.2 Rev. 2.0	05/20/2021	05/24/2021 12:59	Benjamin T. Nordmann	05/26/2021 15:30	Virginia P. Brown	2248871
	05/20/2021	05/24/2021 12:59	Benjamin T. Nordmann	05/26/2021 15:35	Virginia P. Brown	2248872
	05/20/2021	05/24/2021 12:59	Benjamin T. Nordmann	05/26/2021 15:37	Virginia P. Brown	2248873
	05/20/2021	05/24/2021 12:59	Benjamin T. Nordmann	05/27/2021 18:07	Virginia P. Brown	2248869
	05/20/2021	05/24/2021 12:59	Benjamin T. Nordmann	05/27/2021 18:09	Virginia P. Brown	2248870
EPA 353.2 Rev. 2.0	05/20/2021			05/24/2021 10:16	Beverly Y. Sanders	2248869
	05/20/2021			05/24/2021 10:22	Beverly Y. Sanders	2248870
	05/20/2021			05/24/2021 10:23	Beverly Y. Sanders	2248871
	05/20/2021			05/24/2021 10:24	Beverly Y. Sanders	2248872
	05/20/2021			05/24/2021 10:26	Beverly Y. Sanders	2248873
EPA 365.1 Rev. 2.0	05/20/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:24	Shengyu Ding	2248869
	05/20/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:27	Shengyu Ding	2248870
	05/20/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:28	Shengyu Ding	2248871
	05/20/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:30	Shengyu Ding	2248872
	05/20/2021	05/25/2021 12:56	Yen Ta	05/26/2021 11:31	Shengyu Ding	2248873
EPA 365.1 Rev. 2.0 dissolved	05/20/2021			05/20/2021 16:33	Ping Hua	2248874
	05/20/2021			05/20/2021 16:38	Ping Hua	2248878
	05/20/2021			05/20/2021 17:01	Ping Hua	2248875, 2248877
	05/20/2021			05/20/2021 17:02	Ping Hua	2248876
EPA 8321B	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 10:07	Pramila Ghimire	2248896
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 11:02	Pramila Ghimire	2248897
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 11:16	Pramila Ghimire	2248898
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 11:30	Pramila Ghimire	2248899
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 11:43	Pramila Ghimire	2248900
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 11:57	Juyoung Kim	2248896
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 12:07	Juyoung Kim	2248897
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 12:29	Juyoung Kim	2248898
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 12:40	Juyoung Kim	2248899

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 12:50	Juyoung Kim	2248900
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 18:30	Pramila Ghimire	2248896
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 19:17	Pramila Ghimire	2248897
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 19:29	Pramila Ghimire	2248898
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 19:41	Pramila Ghimire	2248899
	05/20/2021	05/24/2021 08:30	Pramila Ghimire	05/24/2021 19:52	Pramila Ghimire	2248900
	05/20/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 08:23	Juyoung Kim	2248896
	05/20/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 08:58	Juyoung Kim	2248897
	05/20/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 09:32	Juyoung Kim	2248898
	05/20/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 10:07	Juyoung Kim	2248899
SM 2120 B-2011	05/20/2021	05/25/2021 09:00	Hoor Shaik	05/27/2021 10:42	Juyoung Kim	2248900
	05/20/2021			05/20/2021 16:16	Sarah A Nixon	2248865
	05/20/2021			05/20/2021 16:19	Sarah A Nixon	2248866
	05/20/2021			05/20/2021 16:21	Sarah A Nixon	2248868
	05/20/2021			05/20/2021 16:38	Sarah A Nixon	2248864
SM 2320 B-2011	05/20/2021			05/20/2021 16:39	Sarah A Nixon	2248867
	05/20/2021			05/22/2021 08:10	Dale L. Simmons	2248865
	05/20/2021			05/22/2021 11:34	Dale L. Simmons	2248864
	05/20/2021			05/22/2021 11:48	Dale L. Simmons	2248866
	05/20/2021			05/22/2021 12:03	Dale L. Simmons	2248867
SM 2540 C-2011	05/20/2021			05/22/2021 12:17	Dale L. Simmons	2248868
	05/20/2021			05/25/2021 15:06	Yijie Li	2248864, 2248865, 2248866, 2248867, 2248868
SM 2540 D-2011	05/20/2021			05/25/2021 15:06	Yijie Li	2248864, 2248865, 2248866, 2248867, 2248868
SM 4500 F-C-2011	05/20/2021			05/22/2021 07:58	Dale L. Simmons	2248865
	05/20/2021			05/22/2021 11:34	Dale L. Simmons	2248864
	05/20/2021			05/22/2021 11:48	Dale L. Simmons	2248866
	05/20/2021			05/22/2021 12:03	Dale L. Simmons	2248867
	05/20/2021			05/22/2021 12:17	Dale L. Simmons	2248868
SM 5310 B-2011	05/20/2021			05/25/2021 07:07	Madeline Gruver	2248869
	05/20/2021			05/25/2021 07:20	Madeline Gruver	2248870
	05/20/2021			05/25/2021 07:33	Madeline Gruver	2248871
	05/20/2021			05/25/2021 07:46	Madeline Gruver	2248872
	05/20/2021			05/25/2021 07:59	Madeline Gruver	2248873