

Chemical Analysis Report

NE-DIST-2019-08-22-01

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

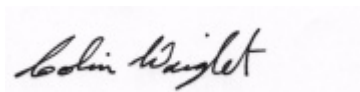
Event Description: **Bmap 1**
Request ID: **RQ-2019-08-19-14**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Colin Wright, Program Administrator

Date Certified: 19-SEP-2019 16:00

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

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: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 08/21/2019 08:35

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113535	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P369923	
		Sulfate	68		mg SO4/L	P369926	
	SM 2120 B	Color (true)	39	A	PCU	P369558	
	SM 2320 B-97	Total Alkalinity	67		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	260	A	mg/L	P369988	
	SM 2540 D-97	TSS	3	IA	mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.095	I	mg F/L	P370028	
2113538	EPA 350.1 Rev. 2.0	Ammonia-N	0.095		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.62		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P369624	
2113541	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.024		mg P/L	P369527	
2113574	EPA 8321B	2,4-D	0.027		ug/L	P369653	
		Acesulfame K**	0.10	U	ug/L	P369557	
		AMPA**	0.10	U	ug/L	P369557	
		Sucralose**	0.22		ug/L	P369557	
		Acetaminophen**	0.0080	U	ug/L	P369653	
		Endothall**	0.25	U	ug/L	P369557	
		Acetamiprid**	0.0020	U	ug/L	P369653	
		Glufosinate**	0.10	U	ug/L	P369557	
		Glyphosate**	0.14	I	ug/L	P369557	
		Afidopyropen**	0.0020	UJ	ug/L	P369653	
		Bentazon	0.14		ug/L	P369653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369653	
		Carbamazepine**	8.0E-04	U	ug/L	P369653	
		Clothianidin**	0.025		ug/L	P369653	
		Dinotefuran**	0.0031	I	ug/L	P369653	
		Diuron	0.0020	U	ug/L	P369653	
		Fenuron	0.016	U	ug/L	P369653	
		Fluridone**	0.86		ug/L	P369653	
		Imazapyr**	0.25		ug/L	P369653	
		Hydrocodone**	0.0020	U	ug/L	P369653	
		Ibuprofen**	0.020	U	ug/L	P369653	
		Imidacloprid	0.034		ug/L	P369653	
		Linuron	0.0040	U	ug/L	P369653	
		Mandestrobin**	0.0020	UJ	ug/L	P369653	
		MCP	0.0058	I	ug/L	P369653	MS
		Naproxen**	0.010	I	ug/L	P369653	
		Primidone**	0.0040	U	ug/L	P369653	
		Pyraclostrobin**	0.0020	U	ug/L	P369653	
		Thiamethoxam**	0.0020	U	ug/L	P369653	

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113574	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P369653	
		Triclopyr**	0.0040	U	ug/L	P369653	

Ref. Method and Comment:

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

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

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 08/21/2019 13:00

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113577	EPA 8321B	2,4-D	0.021		ug/L	P369653	
		Acesulfame K**	0.21	I	ug/L	P369616	
		AMPA**	0.20	I	ug/L	P369616	
		Sucralose**	0.15		ug/L	P369616	
		Acetaminophen**	0.0080	U	ug/L	P369653	
		Endothall**	0.25	U	ug/L	P369616	
		Acetamiprid**	0.0020	U	ug/L	P369653	
		Glufosinate**	0.10	U	ug/L	P369616	
		Glyphosate**	0.29	I	ug/L	P369616	
		Afidopyropen**	0.0020	UJ	ug/L	P369653	
		Bentazon	0.026		ug/L	P369653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369653	
		Carbamazepine**	8.0E-04	U	ug/L	P369653	
		Clothianidin**	0.0020	U	ug/L	P369653	
		Dinotefuran**	0.0020	U	ug/L	P369653	
		Diuron	0.0032	I	ug/L	P369653	
		Fenuron	0.016	U	ug/L	P369653	
		Fluridone**	0.010		ug/L	P369653	
		Imazapyr**	0.16		ug/L	P369653	
		Hydrocodone**	0.0020	U	ug/L	P369653	
		Ibuprofen**	0.020	U	ug/L	P369653	
		Imidacloprid	0.023		ug/L	P369653	
		Linuron	0.0040	U	ug/L	P369653	
		Mandestrobin**	0.0020	UJ	ug/L	P369653	
		MCPP	0.0020	U	ug/L	P369653	MS
		Naproxen**	0.0080	U	ug/L	P369653	
		Primidone**	0.0040	U	ug/L	P369653	
		Pyraclostrobin**	0.0020	U	ug/L	P369653	
		Thiamethoxam**	0.0020	U	ug/L	P369653	
		Tolfenpyrad**	0.0020	U	ug/L	P369653	
		Triclopyr**	0.0040	U	ug/L	P369653	

Ref. Method and Comment:

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

**Sample Location: CRAIG CR 100M DOWN FROM FOOTBRIDGE
IN PARK**

Collection Date/Time: 08/21/2019 12:40

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113532	EPA 180.1 Rev. 2.0	Turbidity	9.5		NTU	P369553	
	EPA 300.0	Bromide	0.98		mg Br/L	P369760	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P370023	
	SM 2540 D-97	TSS	11		mg/L	P369690	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P370027	
2113533	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.068		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P369624	
2113534	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.040		mg P/L	P369526	
2113573	EPA 8321B	2,4-D	0.062		ug/L	P369653	
		Acesulfame K**	0.17	I	ug/L	P369557	
		AMPA**	0.19	I	ug/L	P369557	
		Sucralose**	0.18		ug/L	P369557	
		Acetaminophen**	0.014	I	ug/L	P369653	
		Endothall**	0.25	U	ug/L	P369557	
		Acetamiprid**	0.0020	U	ug/L	P369653	
		Glufosinate**	0.10	U	ug/L	P369557	
		Glyphosate**	0.10	U	ug/L	P369557	
		Afidopyropen**	0.0020	UJ	ug/L	P369653	
		Bentazon	0.027		ug/L	P369653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369653	
		Carbamazepine**	8.0E-04	U	ug/L	P369653	
		Clothianidin**	0.0020	U	ug/L	P369653	
		Dinotefuran**	0.0020	U	ug/L	P369653	
		Diuron	0.0039	I	ug/L	P369653	
		Fenuron	0.016	U	ug/L	P369653	
		Fluridone**	0.0060		ug/L	P369653	
		Imazapyr**	0.093		ug/L	P369653	
		Hydrocodone**	0.0020	U	ug/L	P369653	
		Ibuprofen**	0.020	U	ug/L	P369653	
		Imidacloprid	0.076		ug/L	P369653	
		Linuron	0.0040	U	ug/L	P369653	
		Mandestrobin**	0.0020	UJ	ug/L	P369653	
		MCP	0.010	J	ug/L	P369653	MS
		Naproxen**	0.0080	U	ug/L	P369653	
		Primidone**	0.0040	U	ug/L	P369653	
		Pyraclostrobin**	0.0020	U	ug/L	P369653	
		Thiamethoxam**	0.0020	U	ug/L	P369653	
		Tolfenpyrad**	0.0020	U	ug/L	P369653	
		Triclopyr**	0.0040	U	ug/L	P369653	

Field ID: 20030958

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Refer to the narrative for an explanation of QC Codes. MS accuracy for bentazon and imazapyr could not be assessed due to high concentration of parameter in the spiked sample. J - second source check standards for some analytes were not available for analysis.

Sample Location: BUTCHER PEN CR AT CONFEDERATE

Collection Date/Time: 08/21/2019 10:20

Field ID: 20030082

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113544	EPA 180.1 Rev. 2.0	Turbidity	8.6		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	68		mg Cl/L	P369923	
		Sulfate	34		mg SO4/L	P369926	
		Color (true)	67		PCU	P369561	
	SM 2120 B	Total Alkalinity	106		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	309		mg/L	P369988	
	SM 2540 D-97	TSS	11		mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P370028	
2113545	EPA 350.1 Rev. 2.0	Ammonia-N	0.018		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P369913	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P369624	
2113546	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P369527	
2113584	EPA 200.7 Rev. 4.4	Barium	34.4		ug/L	P369531	
		Calcium	43.3		mg/L	P369531	
		Iron	590		ug/L	P369531	
		Magnesium	10.1		mg/L	P369531	
		Potassium	3.4		mg/L	P369531	
		Sodium	40.2		mg/L	P369531	
		Zinc	7.1	I	ug/L	P369531	
	EPA 200.8 Rev. 5.4	Aluminum	136		ug/L	P369531	
		Antimony	0.57		ug/L	P369531	
		Arsenic	1.98		ug/L	P369531	
		Boron**	64.6		ug/L	P369531	
		Cadmium	0.020	U	ug/L	P369531	
		Chromium	0.61	I	ug/L	P369531	
		Copper	2.05		ug/L	P369531	
		Lead	1.66		ug/L	P369531	
		Nickel	0.76	I	ug/L	P369531	
		Selenium	0.20	U	ug/L	P369531	
		Silver	0.010	U	ug/L	P369531	
		Thallium	0.10	U	ug/L	P369531	

Ref. Method and Comment:

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

Sample Location: TERRAPIN CR @ FAYE RD

Collection Date/Time: 08/21/2019 09:15

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113536	EPA 180.1 Rev. 2.0	Turbidity	18	A	NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	13		mg Cl/L	P369923	
		Sulfate	18		mg SO4/L	P369926	
	SM 2120 B	Color (true)	65	A	PCU	P369562	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	88		mg/L	P369988	
	SM 2540 D-97	TSS	6	I	mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.049	I	mg F/L	P370028	
2113539	EPA 350.1 Rev. 2.0	Ammonia-N	0.025		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.010	I	mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.064		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P369624	
2113542	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.020		mg P/L	P369526	
2113575	EPA 8321B	2,4-D	0.60		ug/L	P369653	
		Acesulfame K**	0.10	U	ug/L	P369616	
		AMPA**	0.10	U	ug/L	P369616	
		Sucralose**	0.020	I	ug/L	P369616	
		Acetaminophen**	0.0080	U	ug/L	P369653	
		Endothall**	0.25	U	ug/L	P369616	
		Acetamiprid**	0.0020	U	ug/L	P369653	
		Glufosinate**	0.10	U	ug/L	P369616	
		Glyphosate**	0.10	U	ug/L	P369616	
		Afidopyropen**	0.0020	UJ	ug/L	P369653	
		Bentazon	8.0E-04	U	ug/L	P369653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369653	
		Carbamazepine**	8.0E-04	U	ug/L	P369653	
		Clothianidin**	0.0020	U	ug/L	P369653	
		Dinotefuran**	0.0020	U	ug/L	P369653	
		Diuron	0.013		ug/L	P369653	
		Fenuron	0.016	U	ug/L	P369653	
		Fluridone**	0.017		ug/L	P369653	
		Imazapyr**	0.037		ug/L	P369653	
		Hydrocodone**	0.0020	U	ug/L	P369653	
		Ibuprofen**	0.020	U	ug/L	P369653	
		Imidacloprid	0.0020	U	ug/L	P369653	
		Linuron	0.0040	U	ug/L	P369653	
		Mandestrobin**	0.0020	UJ	ug/L	P369653	
		MCP	0.0020	U	ug/L	P369653	MS
		Naproxen**	0.0080	U	ug/L	P369653	
		Primidone**	0.0040	U	ug/L	P369653	
		Pyraclostrobin**	0.0020	U	ug/L	P369653	
		Thiamethoxam**	0.0020	U	ug/L	P369653	

Field ID: 20030653

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113575	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P369653	
		Triclopyr**	0.0040	U	ug/L	P369653	

Ref. Method and Comment:

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

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

Sample Location: GOODBYS CR ABOVE WEST BRANCH AT SAN CLERC **Collection Date/Time: 08/21/2019 11:10**

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113537	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P369553	
	EPA 300.0 Rev. 2.1	Chloride	14		mg Cl/L	P369923	
		Sulfate	15		mg SO4/L	P369926	
	SM 2120 B	Color (true)	66		PCU	P369561	
	SM 2320 B-97	Total Alkalinity	100	A	mg CaCO3/L	P370024	
	SM 2540 C-97	TDS	170		mg/L	P369988	
	SM 2540 D-97	TSS	11		mg/L	P369688	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P370028	
2113540	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P370033	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66	J	mg N/L	P369654	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P369825	
	EPA 365.1 Rev. 2.0	Total-P	0.15		mg P/L	P369746	
	SM 5310 B-00	Organic Carbon	8.7		mg C/L	P369624	
2113543	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.043		mg P/L	P369527	
2113576	EPA 8321B	2,4-D	0.033		ug/L	P369653	
		Acesulfame K**	0.10	U	ug/L	P369616	
		AMPA**	0.95		ug/L	P369616	
		Sucralose**	0.047		ug/L	P369616	
		Acetaminophen**	0.011	I	ug/L	P369653	
		Endothall**	0.25	U	ug/L	P369616	
		Acetamiprid**	0.0020	U	ug/L	P369653	
		Glufosinate**	0.10	U	ug/L	P369616	
		Glyphosate**	1.7		ug/L	P369616	
		Afidopyropen**	0.0020	UJ	ug/L	P369653	
		Bentazon	0.012		ug/L	P369653	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P369653	
		Carbamazepine**	8.0E-04	U	ug/L	P369653	
		Clothianidin**	0.039		ug/L	P369653	
		Dinotefuran**	0.0023	I	ug/L	P369653	
		Diuron	1.6		ug/L	P369653	
		Fenuron	0.016	U	ug/L	P369653	
		Fluridone**	0.018		ug/L	P369653	
		Imazapyr**	2.7		ug/L	P369653	
		Hydrocodone**	0.0020	U	ug/L	P369653	
		Ibuprofen**	0.020	U	ug/L	P369653	
		Imidacloprid	0.053		ug/L	P369653	
		Linuron	0.0040	U	ug/L	P369653	
		Mandestrobin**	0.0020	UJ	ug/L	P369653	
		MCP	0.0046	I	ug/L	P369653	MS
		Naproxen**	0.0080	U	ug/L	P369653	
		Primidone**	0.0040	U	ug/L	P369653	
		Pyraclostrobin**	0.0020	U	ug/L	P369653	

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2113576	EPA 8321B	Thiamethoxam**	0.0020	U	ug/L	P369653	
		Tolfenpyrad**	0.0020	U	ug/L	P369653	
		Triclopyr**	0.0040	U	ug/L	P369653	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Refer to the narrative for an explanation of QC Codes.
EPA 8321B: MS accuracy for bentazon and imazapyr could not be assessed due to high concentration of parameter in the spiked sample. J - second source check standards for some analytes were not available for analysis.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369553

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369531

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
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369531

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P369760

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369913

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369526

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

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

Reference Method: EPA 8321B
Batch ID: P369557

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P369616

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: P369653

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P369558

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P369561

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P369562

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P370023

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2320 B-97
Batch ID: P370024

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-97
Batch ID: P369988

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369688

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P369690

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P370027

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P369624

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: P369531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	105		P	85 - 115
Calcium	108		P	85 - 115
Iron	109		P	85 - 115
Magnesium	111		P	85 - 115
Potassium	108		P	85 - 115
Sodium	110		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.1		P	85 - 115
Antimony	96.6		P	85 - 115
Arsenic	103		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.7		P	85 - 115
Chromium	101		P	85 - 115
Copper	101		P	85 - 115
Lead	101		P	85 - 115
Nickel	101		P	85 - 115
Selenium	104		P	85 - 115
Silver	106		P	85 - 115
Thallium	97.7		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P369760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	98.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

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: P369926

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369913

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369526

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

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

Reference Method: EPA 8321B
Batch ID: P369557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.1		P	40 - 150
AMPA	97.9		P	40 - 150
Endothall	96.3		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	122		P	40 - 140
Sucralose	60.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.2		P	40 - 150
AMPA	140		P	40 - 150
Endothall	95.9		P	40 - 150
Glufosinate	113		P	40 - 150
Glyphosate	128		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P369616

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	75.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369653

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	119		P	40 - 160
Acetaminophen	74.9		P	30 - 160
Acetamiprid	82.1		P	40 - 160
Afidopyropen	87.0		P	40 - 160
Bentazon	91.2		P	30 - 160
Benzovindiflupyr	75.2		P	40 - 160
Carbamazepine	78.4		P	40 - 160
Clothianidin	78.0		P	40 - 160
Dinotefuran	82.9		P	40 - 160
Diuron	79.1		P	40 - 160
Fenuron	90.5		P	40 - 160
Fluridone	90.2		P	40 - 160
Hydrocodone	79.3		P	40 - 160
Ibuprofen	86.5		P	30 - 160
Imazapyr	95.6		P	40 - 160
Imidacloprid	86.8		P	40 - 160
Linuron	64.9		P	40 - 160
Mandestrobin	77.1		P	40 - 160
MCPP	144		P	40 - 160
Naproxen	84.0		P	40 - 160
Primidone	78.5		P	40 - 160
Pyraclostrobin	74.5		P	30 - 160
Thiamethoxam	90.7		P	40 - 160
Tolfenpyrad	49.7		P	40 - 160
Triclopyr	102		P	30 - 160

Reference Method: SM 2120 B
Batch ID: P369558

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

Reference Method: SM 2120 B
Batch ID: P369561

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

Reference Method: SM 2120 B
Batch ID: P369562

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P370023

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

Reference Method: SM 2320 B-97
Batch ID: P370024

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

Reference Method: SM 4500 F-C-97
Batch ID: P370027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P369624

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	92.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113054	Barium	104	105	P/P	80 - 120
2113054	Calcium	109	108	P/P	80 - 120
2113054	Iron	109	108	P/P	80 - 120
2113054	Magnesium	112	111	P/P	80 - 120
2113054	Potassium	115	116	P/P	80 - 120
2113054	Sodium	102	96.5	P/P	80 - 120
2113054	Zinc	103	104	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113054	Aluminum	101	99.5	P/P	80 - 120
2113054	Antimony	96.2	95.9	P/P	80 - 120
2113054	Arsenic	101	100	P/P	80 - 120
2113054	Boron	107	104	P/P	80 - 120
2113054	Cadmium	99.5	101	P/P	80 - 120
2113054	Chromium	103	102	P/P	80 - 120
2113054	Copper	100	100	P/P	80 - 120
2113054	Lead	101	101	P/P	80 - 120
2113054	Nickel	102	102	P/P	80 - 120
2113054	Selenium	101	100	P/P	80 - 120
2113054	Silver	105	107	P/P	80 - 120
2113054	Thallium	98.5	100	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P369760

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113204	Bromide	94.1	96.3	P/P	90 - 110
2113615	Bromide	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113514	Chloride	102		P	90 - 110
2113595	Chloride	103		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113514	Sulfate	100		P	90 - 110
2113595	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113516	Ammonia-N	96.7	96.0	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113540	Kjeldahl Nitrogen	101	87.8	P/F	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369913

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2115025	Kjeldahl Nitrogen	100	94.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113540	NO2NO3-N	96.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113517	Total-P	93.8	95.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369526

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113542	O-Phosphate-P	96.9	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113541	O-Phosphate-P	98.9	98.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P369557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113071	Acesulfame K	86.2	80.2	P/P	40 - 150
2113071	AMPA	58.9	51.1	P/P	40 - 150
2113071	Endothall	56.6	59.5	P/P	40 - 150
2113071	Glufosinate	86.3	81.1	P/P	40 - 150
2113071	Glyphosate	96.9	89.9	P/P	40 - 140
2113071	Sucralose	67.5	74.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113575	Acesulfame K	88.8	91.5	P/P	40 - 150
2113575	AMPA	86.0	94.9	P/P	40 - 150
2113575	Endothall	86.7	89.2	P/P	40 - 150
2113575	Glufosinate	86.6	95.0	P/P	40 - 150
2113575	Glyphosate	93.5	94.9	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P369616

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113575	Sucralose	77.3	72.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P369653

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113573	2,4-D	148	157	P/P	40 - 160
2113573	Acetaminophen	79.6	81.7	P/P	30 - 160
2113573	Acetamiprid	88.9	93.5	P/P	40 - 160
2113573	Afidopyropen	99.8	106	P/P	40 - 160
2113573	Benzovindiflupyr	85.5	86.8	P/P	40 - 160
2113573	Carbamazepine	80.2	82.7	P/P	40 - 160
2113573	Clothianidin	92.6	101	P/P	40 - 160
2113573	Dinotefuran	113	108	P/P	40 - 160
2113573	Diuron	71.9	76.8	P/P	40 - 160
2113573	Fenuron	82.3	85.6	P/P	40 - 160
2113573	Fluridone	80.3	86.2	P/P	40 - 160
2113573	Hydrocodone	82.4	92.5	P/P	40 - 160
2113573	Ibuprofen	105	103	P/P	30 - 160
2113573	Imidacloprid	159	159	P/P	40 - 160
2113573	Linuron	55.5	61.0	P/P	40 - 160
2113573	Mandestrobin	73.0	76.1	P/P	40 - 160
2113573	MCCP	189	201	F/F	40 - 160
2113573	Naproxen	86.4	108	P/P	40 - 160
2113573	Primidone	91.8	96.7	P/P	40 - 160
2113573	Pyraclostrobin	81.6	81.7	P/P	30 - 160
2113573	Thiamethoxam	141	135	P/P	40 - 160
2113573	Tolfenpyrad	67.7	69.6	P/P	40 - 160
2113573	Triclopyr	127	117	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P370027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2114020	Fluoride	97.5	99.4	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113537	Fluoride	99.4	99.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P369624

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2113533	Organic Carbon	95.1	92.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P369553

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113536	Turbidity	2.71	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P369531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113054	Barium	0.233	Spike	P	0 - 20
2113054	Calcium	1.14	Spike	P	0 - 20
2113054	Iron	0.904	Spike	P	0 - 20
2113054	Magnesium	0.760	Spike	P	0 - 20
2113054	Potassium	1.20	Spike	P	0 - 20
2113054	Sodium	3.73	Spike	P	0 - 20
2113054	Zinc	0.805	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P369531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113054	Aluminum	1.31	Spike	P	0 - 20
2113054	Antimony	0.372	Spike	P	0 - 20
2113054	Arsenic	0.665	Spike	P	0 - 20
2113054	Boron	2.33	Spike	P	0 - 20
2113054	Cadmium	1.16	Spike	P	0 - 20
2113054	Chromium	0.575	Spike	P	0 - 20
2113054	Copper	0.424	Spike	P	0 - 20
2113054	Lead	0.0350	Spike	P	0 - 20
2113054	Nickel	0.0118	Spike	P	0 - 20
2113054	Selenium	0.768	Spike	P	0 - 20
2113054	Silver	2.63	Spike	P	0 - 20
2113054	Thallium	1.81	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P369760

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113204	Bromide	1.88	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369923

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113514	Chloride	0.223	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P369926

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113514	Sulfate	0.0501	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P370033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113516	Ammonia-N	0.694	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369654

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113540	Kjeldahl Nitrogen	8.78	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P369913

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2115025	Kjeldahl Nitrogen	4.52	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P369825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113540	NO2NO3-N	0.314	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P369746

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113517	Total-P	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369526

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113542	O-Phosphate-P	0.598	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P369527

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113541	O-Phosphate-P	0.737	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P369557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113071	Acesulfame K	7.27	Spike	P	0 - 30
2113071	AMPA	10.1	Spike	P	0 - 30
2113071	Endothall	5.05	Spike	P	0 - 30
2113071	Glufosinate	6.28	Spike	P	0 - 30
2113071	Glyphosate	5.31	Spike	P	0 - 30
2113071	Sucralose	9.76	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369616

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113575	Acesulfame K	2.96	Spike	P	0 - 30
2113575	AMPA	9.92	Spike	P	0 - 30
2113575	Endothall	2.85	Spike	P	0 - 30
2113575	Glufosinate	9.24	Spike	P	0 - 30
2113575	Glyphosate	1.50	Spike	P	0 - 30
2113575	Sucralose	6.44	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P369653

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113573	2,4-D	3.76	Spike	P	0 - 30
2113573	Acetaminophen	2.11	Spike	P	0 - 30
2113573	Acetamiprid	5.05	Spike	P	0 - 30
2113573	Afidopyropen	6.02	Spike	P	0 - 30
2113573	Bentazon	1.34	Spike	P	0 - 30
2113573	Benzovindiflupyr	1.58	Spike	P	0 - 30
2113573	Carbamazepine	3.04	Spike	P	0 - 30
2113573	Clothianidin	8.89	Spike	P	0 - 30
2113573	Dinotefuran	3.94	Spike	P	0 - 30
2113573	Diuron	6.21	Spike	P	0 - 30
2113573	Fenuron	3.92	Spike	P	0 - 30
2113573	Fluridone	5.15	Spike	P	0 - 30
2113573	Hydrocodone	11.5	Spike	P	0 - 30
2113573	Ibuprofen	2.29	Spike	P	0 - 30
2113573	Imazapyr	2.15	Spike	P	0 - 30
2113573	Imidacloprid	0.140	Spike	P	0 - 30
2113573	Linuron	9.49	Spike	P	0 - 30
2113573	Mandestrobin	4.10	Spike	P	0 - 30
2113573	MCPP	5.70	Spike	P	0 - 30
2113573	Naproxen	22.5	Spike	P	0 - 30
2113573	Primidone	5.21	Spike	P	0 - 30
2113573	Pyraclostrobin	0.111	Spike	P	0 - 30
2113573	Thiamethoxam	4.53	Spike	P	0 - 30
2113573	Tolfenpyrad	2.84	Spike	P	0 - 30
2113573	Triclopyr	7.97	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P369558

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113535	Color (true)	0.197	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369561

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113565	Color (true)	0.365	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P369562

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113536	Color (true)	0.594	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P370023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114020	Total Alkalinity	1.13	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P370024

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113537	Total Alkalinity	0.380	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P369988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113535	TDS	5.76	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P370027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2114020	Fluoride	1.47	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P370028

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113537	Fluoride	0.0	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P369624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2113533	Organic Carbon	2.19	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2113573
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	128	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.5	P	30 - 160
EPA 8321B	Diuron-d6	87.4	P	30 - 160
EPA 8321B	Endothall-d6	154	P	30 - 160
EPA 8321B	Endothall-d6	154	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	42.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	97.2	P	30 - 160
EPA 8321B	Primidone-d5	116	P	30 - 160
EPA 8321B	Sucralose-d6	74.6	P	30 - 160
EPA 8321B	Sucralose-d6	74.6	P	30 - 160

Lab Sample ID: 2113574
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	156	P	30 - 160
EPA 8321B	Acetaminophen-d4	76.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.6	P	30 - 160
EPA 8321B	Diuron-d6	85.7	P	30 - 160
EPA 8321B	Endothall-d6	79.7	P	30 - 160
EPA 8321B	Endothall-d6	79.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	94.6	P	30 - 160
EPA 8321B	Primidone-d5	106	P	30 - 160
EPA 8321B	Sucralose-d6	86.9	P	30 - 160
EPA 8321B	Sucralose-d6	86.9	P	30 - 160

Lab Sample ID: 2113575
Field Sample ID: 20030653

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	111	P	30 - 160
EPA 8321B	Acetaminophen-d4	80.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.4	P	30 - 160
EPA 8321B	Diuron-d6	89.3	P	30 - 160
EPA 8321B	Endothall-d6	95.2	P	30 - 160
EPA 8321B	Endothall-d6	95.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	103	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.7	P	30 - 160
EPA 8321B	Primidone-d5	111	P	30 - 160
EPA 8321B	Sucralose-d6	77.6	P	30 - 160
EPA 8321B	Sucralose-d6	77.6	P	30 - 160

Lab Sample ID: 2113576
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	97.2	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2113576
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	80.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.3	P	30 - 160
EPA 8321B	Diuron-d6	83.1	P	30 - 160
EPA 8321B	Endothall-d6	76.6	P	30 - 160
EPA 8321B	Endothall-d6	76.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	101	P	30 - 160
EPA 8321B	Ibuprofen-d3	99.8	P	30 - 160
EPA 8321B	Primidone-d5	116	P	30 - 160
EPA 8321B	Sucralose-d6	72.2	P	30 - 160
EPA 8321B	Sucralose-d6	72.2	P	30 - 160

Lab Sample ID: 2113577
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	157	P	30 - 160
EPA 8321B	Acetaminophen-d4	85.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	79.1	P	30 - 160
EPA 8321B	Diuron-d6	85.5	P	30 - 160
EPA 8321B	Endothall-d6	68.8	P	30 - 160
EPA 8321B	Endothall-d6	68.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	81.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.8	P	30 - 160
EPA 8321B	Primidone-d5	103	P	30 - 160
EPA 8321B	Sucralose-d6	44.2	P	30 - 160
EPA 8321B	Sucralose-d6	44.2	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93725

Included Lab Sample IDs: 2113534, 2113541, 2113542, 2113543, 2113546

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.8	P/P	90 - 110
O-Phosphate-P	99.8	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93736

Included Lab Sample IDs: 2113532, 2113535, 2113536, 2113537, 2113544

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

Reference Method: SM 2120 B

Run ID: A93738

Included Lab Sample IDs: 2113535, 2113536, 2113537, 2113544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 115
Color (true)	102	102	P/P	90 - 115
Color (true)	98.7	102	P/P	90 - 115

Reference Method: SM 5310 B-00

Run ID: A93766

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540, 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	95.6	P/P	90 - 110
Organic Carbon	96.0	95.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93786

Included Lab Sample IDs: 2113573, 2113574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	145	141	P/P	60 - 160
Endothall	101	98.8	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93788

Included Lab Sample IDs: 2113573, 2113574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	99.1	P/P	60 - 160
Glufosinate	98.6	92.0	P/P	60 - 160
Glyphosate	110	111	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93792

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	102	101	P/P	90 - 110
Iron	102	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93792

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	101	98.4	P/P	90 - 110
Sodium	93.5	92.7	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A93817

Included Lab Sample IDs: 2113532

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	106	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93818

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.2	94.2	P/P	90 - 110
Kjeldahl Nitrogen	94.9	93.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93819

Included Lab Sample IDs: 2113535, 2113536, 2113537, 2113544

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A93822

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.3	101	P/P	90 - 110
Magnesium	100	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93824

Included Lab Sample IDs: 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	96.6	140	P/P	60 - 160
Endothall	96.8	96.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A93825

Included Lab Sample IDs: 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.1	94.0	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A93825

Included Lab Sample IDs: 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glufosinate	92.0	92.9	P/P	60 - 160
Glyphosate	111	96.4	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93831

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540, 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93836

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540, 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93861

Included Lab Sample IDs: 2113573, 2113574, 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	73.1	60.7	P/P	60 - 160
Sucralose	83.6	78.2	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93925

Included Lab Sample IDs: 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.7	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93928

Included Lab Sample IDs: 2113532, 2113535, 2113536, 2113537, 2113544

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

Reference Method: SM 4500 F-C-97

Run ID: A93928

Included Lab Sample IDs: 2113532, 2113535, 2113536, 2113537, 2113544

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93933

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540, 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93933

Included Lab Sample IDs: 2113533, 2113538, 2113539, 2113540, 2113545

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.1	98.5	P/P	90 - 110
Ammonia-N	99.0	98.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94112

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	105	P/P	90 - 110
Antimony	97.7	98.8	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Cadmium	104	105	P/P	90 - 110
Copper	106	107	P/P	90 - 110
Lead	105	106	P/P	90 - 110
Nickel	105	107	P/P	90 - 110
Silver	107	107	P/P	90 - 110
Thallium	97.8	97.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2113573, 2113574, 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	106	111	P/P	50 - 150
2,4-D	116	106	P/P	50 - 150
Acetaminophen	109	102	P/P	60 - 160
Acetaminophen	109	109	P/P	60 - 160
Acetamiprid	104	113	P/P	50 - 150
Acetamiprid	113	108	P/P	50 - 150
Afidopyropen	104	99.6	P/P	50 - 150
Afidopyropen	99.6	108	P/P	50 - 150
Bentazon	103	103	P/P	50 - 160
Bentazon	105	103	P/P	50 - 160
Bentazon	108	105	P/P	50 - 160
Benzovindiflupyr	104	110	P/P	50 - 150
Benzovindiflupyr	110	108	P/P	50 - 150
Carbamazepine	112	112	P/P	60 - 150
Carbamazepine	115	112	P/P	60 - 150
Clothianidin	107	104	P/P	60 - 150
Clothianidin	114	107	P/P	60 - 150
Dinotefuran	108	105	P/P	50 - 150
Dinotefuran	109	108	P/P	50 - 150
Diuron	105	107	P/P	60 - 150
Diuron	105	109	P/P	60 - 150
Diuron	107	105	P/P	60 - 150
Fenuron	112	113	P/P	60 - 150
Fenuron	113	110	P/P	60 - 150
Fluridone	123	129	P/P	60 - 160
Fluridone	125	123	P/P	60 - 160
Fluridone	125	123	P/P	60 - 160
Hydrocodone	105	109	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A94124

Included Lab Sample IDs: 2113573, 2113574, 2113575, 2113576, 2113577

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hydrocodone	115	105	P/P	60 - 150
Ibuprofen	64.3	68.3	P/P	50 - 160
Ibuprofen	68.3	103	P/P	50 - 160
Imazapyr	108	110	P/P	50 - 150
Imazapyr	110	103	P/P	50 - 150
Imazapyr	89.5	91.6	P/P	50 - 150
Imidacloprid	102	100	P/P	60 - 150
Imidacloprid	106	102	P/P	60 - 150
Linuron	102	96.3	P/P	60 - 150
Linuron	105	102	P/P	60 - 150
Mandestrobin	108	115	P/P	50 - 150
Mandestrobin	112	108	P/P	50 - 150
MCP	104	109	P/P	50 - 150
MCP	107	104	P/P	50 - 150
Naproxen	135	72.5	P/P	50 - 160
Naproxen	80.9	135	P/P	50 - 160
Primidone	103	101	P/P	60 - 150
Primidone	103	103	P/P	60 - 150
Pyraclostrobin	109	115	P/P	60 - 150
Pyraclostrobin	116	109	P/P	60 - 150
Thiamethoxam	109	117	P/P	50 - 150
Thiamethoxam	117	107	P/P	50 - 150
Tolfenpyrad	113	114	P/P	60 - 150
Tolfenpyrad	114	118	P/P	60 - 150
Triclopyr	108	109	P/P	50 - 150
Triclopyr	108	108	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94206

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	98.9	103	P/P	90 - 110
Selenium	103	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A94208

Included Lab Sample IDs: 2113584

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.6	99.4	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					2.71	
EPA 200.7 Rev. 4.4	Barium	105	104	105			0.233
	Calcium	108	109	108			1.14
	Iron	109	109	108			0.904
	Magnesium	111	112	111			0.760
	Potassium	108	115	116			1.20
	Sodium	110	102	96.5			3.73
	Zinc	105	103	104			0.805
EPA 200.8 Rev. 5.4	Aluminum	99.1	101	99.5			1.31
	Antimony	96.6	96.2	95.9			0.372
	Arsenic	103	101	100			0.665
	Boron	101	107	104			2.33
	Cadmium	99.7	99.5	101			1.16
	Chromium	101	103	102			0.575
	Copper	101	100	100			0.424
	Lead	101	101	101			0.0350
	Nickel	101	102	102			0.0118
	Selenium	104	101	100			0.768
	Silver	106	105	107			2.63
	Thallium	97.7	98.5	100			1.81
EPA 300.0	Bromide	98.7	94.1	96.3	97.3		1.88
EPA 300.0 Rev. 2.1	Chloride	99.4	102	103		0.223	
	Sulfate	99.8	100	102		0.0501	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	96.7	96.0			0.694
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.1	101	87.8			8.78
	Kjeldahl Nitrogen	101	100	94.6			4.52
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	97.5	96.5	96.0			0.314
EPA 365.1 Rev. 2.0	Total-P	96.2	93.8	95.2			1.43
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	96.9	97.6			0.598
	O-Phosphate-P	102	98.9	98.0			0.737
EPA 8321B	2,4-D	119	148	157			3.76
	Acesulfame K	95.1	86.2	80.2			7.27
	Acesulfame K	95.2	88.8	91.5			2.96
	Acetaminophen	74.9	79.6	81.7			2.11
	Acetamiprid	82.1	88.9	93.5			5.05
	Afidopyropen	87.0	99.8	106			6.02
	AMPA	97.9	58.9	51.1			10.1
	AMPA	140	86.0	94.9			9.92
	Bentazon	91.2					1.34
	Benzovindiflupyr	75.2	85.5	86.8			1.58
	Carbamazepine	78.4	80.2	82.7			3.04
	Clothianidin	78.0	92.6	101			8.89
	Dinotefuran	82.9	113	108			3.94
	Diuron	79.1	71.9	76.8			6.21
	Endothall	96.3	56.6	59.5			5.05
	Endothall	95.9	86.7	89.2			2.85
	Fenuron	90.5	82.3	85.6			3.92
	Fluridone	90.2	80.3	86.2			5.15
	Glufosinate	110	86.3	81.1			6.28
	Glufosinate	113	86.6	95.0			9.24
	Glyphosate	122	96.9	89.9			5.31
	Glyphosate	128	93.5	94.9			1.50
	Hydrocodone	79.3	82.4	92.5			11.5
	Ibuprofen	86.5	105	103			2.29

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Imazapyr	95.6				2.15
	Imidacloprid	86.8	159	159		0.140
	Linuron	64.9	55.5	61.0		9.49
	Mandestrobin	77.1	73.0	76.1		4.10
	MCPP	144	189	201		5.70
	Naproxen	84.0	86.4	108		22.5
	Primidone	78.5	91.8	96.7		5.21
	Pyraclostrobin	74.5	81.6	81.7		0.111
	Sucralose	60.4	67.5	74.8		9.76
	Sucralose	75.2	77.3	72.4		6.44
	Thiamethoxam	90.7	141	135		4.53
	Tolfenpyrad	49.7	67.7	69.6		2.84
	Triclopyr	102	127	117		7.97
SM 2120 B	Color (true)	101			0.197	
	Color (true)	102			0.365	
	Color (true)	102			0.594	
SM 2320 B-97	Total Alkalinity	103			1.13	
	Total Alkalinity	103			0.380	
SM 2540 C-97	TDS				5.76	
SM 4500 F-C-97	Fluoride	98.1	97.5	99.4		1.47
	Fluoride	98.6	99.4	99.4		0.0
SM 5310 B-00	Organic Carbon	92.3	95.1	92.1		2.19

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2113532, 2113535, 2113536, 2113537, 2113544
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2113584
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2113584
EPA 300.0 / E31780	Bromide in aqueous matrices	2113532
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2113535, 2113536, 2113537, 2113544
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2113535, 2113536, 2113537, 2113544
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2113533, 2113538, 2113539, 2113540, 2113545
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2113533, 2113538, 2113539, 2113540, 2113545
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2113533, 2113538, 2113539, 2113540, 2113545
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2113533, 2113538, 2113539, 2113540, 2113545
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2113534, 2113541, 2113542, 2113543, 2113546
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2113573, 2113574, 2113575, 2113576, 2113577
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2113573, 2113574, 2113575, 2113576, 2113577
SM 2120 B / E31780	True Color measured at 450 nm	2113535, 2113536, 2113537, 2113544
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2113532, 2113535, 2113536, 2113537, 2113544
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2113535, 2113536, 2113537, 2113544

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2113532, 2113535, 2113536, 2113537, 2113544
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2113532, 2113535, 2113536, 2113537, 2113544
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2113533, 2113538, 2113539, 2113540, 2113545

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	08/22/2019			08/22/2019 15:30	Rosalyn Ballman	2113532, 2113535, 2113536, 2113537, 2113544
EPA 200.7 Rev. 4.4	08/22/2019	08/22/2019 16:00	Elliott D. Healy	08/26/2019 11:15	Alexander Thompson	2113584
	08/22/2019	08/22/2019 16:00	Elliott D. Healy	08/27/2019 14:31	Alexander Thompson	2113584
EPA 200.8 Rev. 5.4	08/22/2019	08/22/2019 16:00	Elliott D. Healy	09/11/2019 02:01	Robert K Palmer	2113584
	08/22/2019	08/22/2019 16:00	Elliott D. Healy	09/12/2019 13:11	Robert K Palmer	2113584
	08/22/2019	08/22/2019 16:00	Elliott D. Healy	09/13/2019 22:39	Robert K Palmer	2113584
EPA 300.0	08/22/2019			08/27/2019 06:15	Jhamieka S. Greenwood	2113532
EPA 300.0 Rev. 2.1	08/22/2019			08/28/2019 14:22	Jhamieka S. Greenwood	2113535
	08/22/2019			08/28/2019 14:58	Jhamieka S. Greenwood	2113536
	08/22/2019			08/28/2019 15:10	Jhamieka S. Greenwood	2113537
	08/22/2019			08/28/2019 15:22	Jhamieka S. Greenwood	2113544
EPA 350.1 Rev. 2.0	08/22/2019			08/30/2019 14:41	Ping Hua	2113533
	08/22/2019			08/30/2019 14:43	Ping Hua	2113538
	08/22/2019			08/30/2019 14:44	Ping Hua	2113539
	08/22/2019			08/30/2019 14:52	Ping Hua	2113540
	08/22/2019			08/30/2019 14:53	Ping Hua	2113545
EPA 351.2 Rev. 2.0	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 19:45	Julia Storbeck	2113540
	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 19:57	Julia Storbeck	2113533
	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 19:59	Julia Storbeck	2113538
	08/22/2019	08/26/2019 11:25	Sima Feizi	08/26/2019 20:01	Julia Storbeck	2113539
	08/22/2019	08/29/2019 11:55	Sima Feizi	08/30/2019 11:35	Joseph Suarez	2113545
EPA 353.2 Rev. 2.0	08/22/2019			08/28/2019 11:00	Beverly Y. Sanders	2113540
	08/22/2019			08/28/2019 11:07	Beverly Y. Sanders	2113533
	08/22/2019			08/28/2019 11:09	Beverly Y. Sanders	2113538
	08/22/2019			08/28/2019 11:10	Beverly Y. Sanders	2113539
	08/22/2019			08/28/2019 11:11	Beverly Y. Sanders	2113545
EPA 365.1 Rev. 2.0	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:37	Lipi Saha	2113533
	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:38	Lipi Saha	2113538, 2113539
	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:39	Lipi Saha	2113540
	08/22/2019	08/27/2019 13:00	Lipi Saha	08/28/2019 11:40	Lipi Saha	2113545
EPA 365.1 Rev. 2.0 dissolved	08/22/2019			08/22/2019 13:20	Ping Hua	2113542
	08/22/2019			08/22/2019 13:23	Ping Hua	2113534
	08/22/2019			08/22/2019 13:26	Ping Hua	2113541
	08/22/2019			08/22/2019 13:33	Ping Hua	2113543
	08/22/2019			08/22/2019 13:35	Ping Hua	2113546
EPA 8321B	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/23/2019 18:56	Rebecca Ware	2113573
	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/23/2019 19:10	Rebecca Ware	2113574
	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/26/2019 14:13	Rebecca Ware	2113573
	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/26/2019 14:24	Rebecca Ware	2113574

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/29/2019 01:07	Rebecca Ware	2113573
	08/22/2019	08/23/2019 09:45	Rebecca Ware	08/29/2019 01:19	Rebecca Ware	2113574
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/26/2019 15:28	Rebecca Ware	2113575
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/26/2019 15:39	Rebecca Ware	2113576
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/26/2019 15:50	Rebecca Ware	2113577
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/27/2019 11:37	Rebecca Ware	2113575
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/27/2019 11:50	Rebecca Ware	2113576
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/27/2019 12:04	Rebecca Ware	2113577
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/28/2019 16:31	Rebecca Ware	2113575
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/28/2019 16:42	Rebecca Ware	2113576
	08/22/2019	08/26/2019 09:30	Rebecca Ware	08/28/2019 16:54	Rebecca Ware	2113577
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 06:47	Juyoung Kim	2113573
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 07:22	Juyoung Kim	2113574
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 07:57	Juyoung Kim	2113575
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 08:31	Juyoung Kim	2113576
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 09:40	Juyoung Kim	2113577
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 22:21	Juyoung Kim	2113574
	08/22/2019	08/27/2019 13:30	Hoor Shaik	08/30/2019 23:30	Juyoung Kim	2113576
SM 2120 B	08/22/2019			08/22/2019 17:18	Madeline Funaro	2113535
	08/22/2019			08/22/2019 17:52	Madeline Funaro	2113537, 2113544
	08/22/2019			08/22/2019 18:01	Madeline Funaro	2113536
SM 2320 B-97	08/22/2019			08/29/2019 21:47	Dale L. Simmons	2113532
	08/22/2019			08/29/2019 22:53	Dale L. Simmons	2113537
	08/22/2019			08/29/2019 23:16	Dale L. Simmons	2113535
	08/22/2019			08/29/2019 23:28	Dale L. Simmons	2113536
	08/22/2019			08/29/2019 23:40	Dale L. Simmons	2113544
SM 2540 C-97	08/22/2019			08/23/2019 18:44	Rosalyn Ballman	2113535, 2113536, 2113537, 2113544
SM 2540 D-97	08/22/2019			08/23/2019 18:44	Rosalyn Ballman	2113532, 2113535, 2113536, 2113537, 2113544
SM 4500 F-C-97	08/22/2019			08/29/2019 21:47	Dale L. Simmons	2113532
	08/22/2019			08/29/2019 22:43	Dale L. Simmons	2113537
	08/22/2019			08/29/2019 23:16	Dale L. Simmons	2113535
	08/22/2019			08/29/2019 23:28	Dale L. Simmons	2113536
	08/22/2019			08/29/2019 23:40	Dale L. Simmons	2113544
SM 5310 B-00	08/22/2019			08/23/2019 21:54	Madeline Funaro	2113533
	08/22/2019			08/24/2019 02:28	Madeline Funaro	2113538
	08/22/2019			08/24/2019 02:42	Madeline Funaro	2113539
	08/22/2019			08/24/2019 02:54	Madeline Funaro	2113540
	08/22/2019			08/24/2019 03:09	Madeline Funaro	2113545