

Chemical Analysis Report

SE-DIST-2017-09-19-01

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

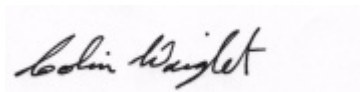
Event Description: **SMP-Broward Yellow**
Request ID: **RQ-2017-09-18-16**
Customer: **SE-DIST**
Project ID: **SMP**

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

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Certified by: Colin Wright, Program Administrator

Date Certified: 11-OCT-2017 11:11



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 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: SOSPIRO CANAL @ LAS OLAS BLVD

Collection Date/Time: 09/18/2017 11:10

Field ID: 420011013

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929338	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P331857	
	SM 2320 B-97	Total Alkalinity	156	A	mg CaCO3/L	P331931	
	SM 2540 D-97	TSS	3	UA	mg/L	P332251	
	SM 4500 F-C-97	Fluoride	0.45		mg F/L	P331936	
1929339	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P331946	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37		mg N/L	P331934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P332147	
	EPA 365.1 Rev. 2.0	Total-P	0.040		mg P/L	P331955	MS
	SM 5310 B-00	Organic Carbon	7.3		mg C/L	P332079	
1929340	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.032		mg P/L	P331881	
1929365	EPA 8321B	Sucralose**	0.066		ug/L	P331679	
	USGS O-2060-01	2,4-D	0.015		ug/L	P331678	
		Diuron	0.075		ug/L	P331678	
		Fenuron	0.011	I	ug/L	P331678	
		Imidacloprid	0.10		ug/L	P331678	
		Bentazon	0.016		ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.011	I	ug/L	P331678	
		MCPD	0.0020	U	ug/L	P331678	
		Carbamazepine**	9.6E-04	I	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	0.020		ug/L	P331678	RPD
1929368	EPA 200.7 Rev. 4.4	Iron	90	U	ug/L	P332266	
	EPA 200.8 Rev. 5.4	Arsenic	2.70		ug/L	P332266	
		Cadmium	0.080	U	ug/L	P332266	
		Chromium	0.30	U	ug/L	P332266	
		Copper	5.8		ug/L	P332266	
		Lead	0.20	U	ug/L	P332266	
		Nickel	0.80	U	ug/L	P332266	
		Silver	0.040	U	ug/L	P332266	
		Zinc	5.0	I	ug/L	P332266	

Ref. Method and Comment:

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 10/06/2017.

Sample Location: SOSPIRO CANAL @ LAS OLAS BLVD

Collection Date/Time: 09/18/2017 11:30

Field ID: 420011013_BLANK

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929341	EPA 180.1 Rev. 2.0	Turbidity	0.15		NTU	P331857	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P331930	
	SM 2540 D-97	TSS	2	U	mg/L	P332249	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P331935	

Field ID: 420011013_BLANK

Matrix: W-EQPMT-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929342	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P332192	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P331937	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P331899	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P331919	
	SM 5310 B-00	Organic Carbon	1.4		mg C/L	P332078	
1929343	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P331879	
1929366	EPA 8321B	Sucralose**	0.010	U	ug/L	P331679	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P331678	
		Diuron	8.0E-04	U	ug/L	P331678	
		Fenuron	0.0080	U	ug/L	P331678	
		Imidacloprid	8.0E-04	U	ug/L	P331678	
		Bentazon	8.0E-04	U	ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.0080	U	ug/L	P331678	
		MCP	0.0020	U	ug/L	P331678	
		Carbamazepine**	4.0E-04	U	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	4.0E-04	U	ug/L	P331678	RPD
1929369	EPA 200.7 Rev. 4.4	Iron	30	U	ug/L	P331862	
		Zinc	5.0	U	ug/L	P331862	
	EPA 200.8 Rev. 5.4	Arsenic	0.25	U	ug/L	P331862	
		Cadmium	0.020	U	ug/L	P331862	
		Chromium	0.40	U	ug/L	P331862	
		Copper	0.20	U	ug/L	P331862	
		Lead	0.050	U	ug/L	P331862	
		Nickel	0.20	U	ug/L	P331862	
		Silver	0.010	U	ug/L	P331862	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The result was confirmed on 09/19/2017

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

SM 5310 B-00: The result was confirmed on 09/22/2017.

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: C-13 EAST/NW 21ST AVE BRIDGE

Collection Date/Time: 09/18/2017 11:55

Field ID: G4SEB011

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929335	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P331857	
	SM 2320 B-97	Total Alkalinity	180		mg CaCO3/L	P331930	
	SM 2540 D-97	TSS	3	I	mg/L	P332249	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P331935	
1929336	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P331948	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P331934	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.15		mg N/L	P332201	
	EPA 365.1 Rev. 2.0	Total-P	0.017		mg P/L	P331919	

Field ID: G4SEB011

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929336	SM 5310 B-00	Organic Carbon	10		mg C/L	P332078	
1929337	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P331879	
1929364	EPA 8321B	Sucralose**	0.014	I	ug/L	P331679	
	USGS O-2060-01	2,4-D	0.011		ug/L	P331678	
		Diuron	0.039		ug/L	P331678	
		Fenuron	0.020	I	ug/L	P331678	
		Imidacloprid	0.050		ug/L	P331678	
		Bentazon	0.027		ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.0080	U	ug/L	P331678	
		MCP	0.0020	U	ug/L	P331678	
		Carbamazepine**	4.0E-04	U	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	0.021		ug/L	P331678	RPD
1929367	EPA 200.7 Rev. 4.4	Iron	310		ug/L	P332020	
		Zinc	5.0	U	ug/L	P332020	
	EPA 200.8 Rev. 5.4	Arsenic	1.71		ug/L	P332020	
		Cadmium	0.020	U	ug/L	P332020	
		Chromium	0.40	U	ug/L	P332020	
		Copper	1.47		ug/L	P332020	
		Lead	0.11	I	ug/L	P332020	
		Nickel	0.20	U	ug/L	P332020	
		Silver	0.010	U	ug/L	P332020	

Ref. Method and Comment:

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: MIDDLE R. CNL NW 31 AVE

Collection Date/Time: 09/18/2017 12:25

Field ID: 28030516

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929326	EPA 180.1 Rev. 2.0	Turbidity	1.6	A	NTU	P331857	
	EPA 300.0 Rev. 2.1	Chloride	41		mg Cl/L	P331959	
		Sulfate	4.6		mg SO4/L	P331961	
	SM 2120 B	Color (true)	43		PCU	P331846	
	SM 2320 B-97	Total Alkalinity	190		mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	269		mg/L	P332173	
	SM 2540 D-97	TSS	2	I	mg/L	P332247	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P331935	
1929329	EPA 350.1 Rev. 2.0	Ammonia-N	0.25		mg N/L	P331948	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P331932	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P331899	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P331919	
	SM 5310 B-00	Organic Carbon	10		mg C/L	P332078	

Field ID: 28030516

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929332	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P331879	
1929361	EPA 8321B	Sucralose**	0.024	I	ug/L	P331679	
	USGS O-2060-01	2,4-D	0.0091		ug/L	P331678	
		Diuron	0.038		ug/L	P331678	
		Fenuron	0.017	I	ug/L	P331678	
		Imidacloprid	0.042		ug/L	P331678	
		Bentazon	0.020		ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.0080	U	ug/L	P331678	
		MCP	0.0020	U	ug/L	P331678	
		Carbamazepine**	4.0E-04	U	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	0.018		ug/L	P331678	RPD

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: CYPRS CR CNL 441 BRDG

Collection Date/Time: 09/18/2017 12:55

Field ID: 28030508

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929327	EPA 180.1 Rev. 2.0	Turbidity	0.65		NTU	P331857	
	EPA 300.0 Rev. 2.1	Chloride	52		mg Cl/L	P331959	
		Sulfate	9.9		mg SO4/L	P331961	
	SM 2120 B	Color (true)	92		PCU	P331846	
	SM 2320 B-97	Total Alkalinity	118		mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	256		mg/L	P332173	
	SM 2540 D-97	TSS	2	I	mg/L	P332247	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P331935	
1929330	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P331948	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P331932	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.016		mg N/L	P331899	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P331919	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P332078	
1929333	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P331879	
1929362	EPA 8321B	Sucralose**	0.010	U	ug/L	P331679	
	USGS O-2060-01	2,4-D	0.016		ug/L	P331678	
		Diuron	0.011		ug/L	P331678	
		Fenuron	0.16		ug/L	P331678	
		Imidacloprid	0.027		ug/L	P331678	
		Bentazon	0.028		ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.0080	U	ug/L	P331678	
		MCP	0.0020	U	ug/L	P331678	

Field ID: 28030508

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929362	USGS O-2060-01	Carbamazepine**	4.0E-04	U	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	0.0019		ug/L	P331678	RPD

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: POMPANO CANAL @ SR 811

Collection Date/Time: 09/18/2017 13:20

Field ID: 28030591

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1929328	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P331857	
	EPA 300.0 Rev. 2.1	Chloride	26		mg Cl/L	P331959	
		Sulfate	10		mg SO4/L	P331961	
	SM 2120 B	Color (true)	51	A	PCU	P331846	
	SM 2320 B-97	Total Alkalinity	191		mg CaCO3/L	P331930	
	SM 2540 C-97	TDS	262		mg/L	P332173	
	SM 2540 D-97	TSS	3	I	mg/L	P332247	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P331935	
1929331	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P331948	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.87		mg N/L	P331937	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.092		mg N/L	P331899	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P331919	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P332078	
1929334	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.053		mg P/L	P331879	
1929363	EPA 8321B	Sucralose**	0.046		ug/L	P331679	
	USGS O-2060-01	2,4-D	0.0048	I	ug/L	P331678	
		Diuron	0.0065		ug/L	P331678	
		Fenuron	0.017	I	ug/L	P331678	
		Imidacloprid	0.067		ug/L	P331678	
		Bentazon	0.0089		ug/L	P331678	MS
		Linuron	0.0040	U	ug/L	P331678	
		Acetaminophen**	0.0080	U	ug/L	P331678	
		MCP	0.0087		ug/L	P331678	
		Carbamazepine**	8.9E-04	I	ug/L	P331678	
		Triclopyr**	0.0040	U	ug/L	P331678	
		Primidone**	0.0040	U	ug/L	P331678	
		Fluridone**	0.0032		ug/L	P331678	RPD

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

USGS O-2060-01: MS accuracy for imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report

Method Blank Results

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P331857

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331862

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332020

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332266

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331862

Component	Result	Code	Units
Arsenic	0.25	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332020

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332266

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332266

Component	Result	Code	Units
Chromium	0.30	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331946

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331948

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332192

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331932

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331934

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331937

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331899

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332147

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332201

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331919

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331955

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331879

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331881

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

Reference Method: EPA 8321B
Batch ID: P331679

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P331846

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P331930

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

Reference Method: SM 2320 B-97
Batch ID: P331931

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

Reference Method: SM 2540 C-97
Batch ID: P332173

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P332247

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P332249

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P332251

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P331936

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P332078

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

Reference Method: SM 5310 B-00
Batch ID: P332079

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

Reference Method: USGS O-2060-01
Batch ID: P331678

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	104		P	85 - 115
Zinc	98.0		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	103		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	93.0		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	98.1		P	85 - 115
Copper	96.6		P	85 - 115
Lead	97.3		P	85 - 115
Nickel	97.5		P	85 - 115
Silver	97.5		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332020

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	96.2		P	85 - 115
Copper	99.0		P	85 - 115
Lead	97.1		P	85 - 115
Nickel	101		P	85 - 115
Silver	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.9		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.0		P	85 - 115
Copper	95.9		P	85 - 115
Lead	96.9		P	85 - 115
Nickel	97.6		P	85 - 115
Silver	97.9		P	85 - 115
Zinc	96.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331946

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331948

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332192

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331932

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331934

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331899

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332147

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332201

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331955

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	95.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331879

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331881

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

Reference Method: EPA 8321B
Batch ID: P331679

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	101		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P331930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P331931

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.5		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P331936

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P332078

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.4		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
 Batch ID: P332079

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P331678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	57.1		P	40 - 150
Acetaminophen	127		P	30 - 150
Bentazon	40.3		P	40 - 150
Carbamazepine	130		P	40 - 150
Diuron	111		P	40 - 150
Fenuron	108		P	40 - 150
Fluridone	106		P	40 - 150
Imidacloprid	97.2		P	40 - 160
Linuron	100		P	40 - 150
MCP	59.4		P	40 - 150
Primidone	115		P	40 - 150
Triclopyr	58.2		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P331862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929129	Iron	104		P	80 - 120
1929129	Zinc	101		P	80 - 120
1929490	Iron	104	104	P/P	80 - 120
1929490	Zinc	100	100	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P332020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929868	Iron	109		P	80 - 120
1929868	Zinc	104		P	80 - 120
1930318	Iron	104	108	P/P	80 - 120
1930318	Zinc	98.4	100	P/P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P332266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929368	Iron	102	102	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P331862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929129	Arsenic	87.9		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929129	Cadmium	103		P	80 - 120
1929129	Chromium	97.5		P	80 - 120
1929129	Copper	95.5		P	80 - 120
1929129	Lead	97.5		P	80 - 120
1929129	Nickel	96.9		P	80 - 120
1929129	Silver	95.9		P	80 - 120
1929490	Arsenic	88.9	92.6	P/P	80 - 120
1929490	Cadmium	103	103	P/P	80 - 120
1929490	Chromium	98.0	98.1	P/P	80 - 120
1929490	Copper	96.9	96.5	P/P	80 - 120
1929490	Lead	98.5	97.9	P/P	80 - 120
1929490	Nickel	98.4	99.2	P/P	80 - 120
1929490	Silver	97.0	97.0	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929868	Arsenic	103		P	80 - 120
1929868	Cadmium	105		P	80 - 120
1929868	Chromium	99.8		P	80 - 120
1929868	Copper	98.4		P	80 - 120
1929868	Lead	100		P	80 - 120
1929868	Nickel	100		P	80 - 120
1929868	Silver	99.8		P	80 - 120
1930318	Arsenic	101	102	P/P	80 - 120
1930318	Cadmium	104	107	P/P	80 - 120
1930318	Chromium	99.6	101	P/P	80 - 120
1930318	Copper	95.2	94.8	P/P	80 - 120
1930318	Lead	98.3	99.4	P/P	80 - 120
1930318	Nickel	98.0	97.8	P/P	80 - 120
1930318	Silver	99.6	99.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929368	Arsenic	117	104	P/P	70 - 130
1929368	Cadmium	106	96.5	P/P	70 - 130
1929368	Chromium	99.5	104	P/P	70 - 130
1929368	Copper	108	93.4	P/P	70 - 130
1929368	Lead	114	102	P/P	70 - 130
1929368	Nickel	108	97.3	P/P	70 - 130
1929368	Silver	98.2	90.3	P/P	70 - 130
1929368	Zinc	91.1	91.8	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929428	Chloride	96.5		P	90 - 110
1929519	Chloride	98.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331961

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929428	Sulfate	94.5		P	90 - 110
1929519	Sulfate	97.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331946

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1928834	Ammonia-N	100	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929267	Ammonia-N	106	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332192

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929378	Ammonia-N	104	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331932

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929288	Kjeldahl Nitrogen	95.3	93.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331934

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929438	Kjeldahl Nitrogen	96.0	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929437	Kjeldahl Nitrogen	96.0	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331899

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929329	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332147

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929313	NO2NO3-N	102	101	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332201

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929336	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331919

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929329	Total-P	94.4	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929314	Total-P	88.5	86.8	F/F	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929292	O-Phosphate-P	97.5	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929340	O-Phosphate-P	95.6	97.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P331679

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929018	Sucralose	66.4	66.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929263	Fluoride	94.6	95.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P331936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929338	Fluoride	97.5	98.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P332078

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929231	Organic Carbon	100	98.6	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P332079

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929339	Organic Carbon	94.4	92.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P331678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1929018	2,4-D	50.9	49.1	P/P	40 - 150
1929018	Acetaminophen	80.8	84.6	P/P	30 - 150
1929018	Bentazon	20.5	22.0	F/F	40 - 150
1929018	Carbamazepine	128	131	P/P	40 - 150
1929018	Diuron	99.5	99.0	P/P	40 - 150
1929018	Fenuron	109	105	P/P	40 - 150
1929018	Fluridone	78.9	111	P/P	40 - 150
1929018	Linuron	94.5	94.8	P/P	40 - 150
1929018	MCP	50.2	50.3	P/P	40 - 150
1929018	Primidone	93.5	97.6	P/P	40 - 150
1929018	Triclopyr	43.4	48.6	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P331857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929326	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P331862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929490	Iron	0.823	Spike	P	0 - 20
1929490	Zinc	0.236	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930318	Iron	3.29	Spike	P	0 - 20
1930318	Zinc	1.74	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P332266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929368	Iron	0.178	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P331862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929490	Arsenic	4.08	Spike	P	0 - 20
1929490	Cadmium	0.215	Spike	P	0 - 20
1929490	Chromium	0.0550	Spike	P	0 - 20
1929490	Copper	0.353	Spike	P	0 - 20
1929490	Lead	0.562	Spike	P	0 - 20
1929490	Nickel	0.746	Spike	P	0 - 20
1929490	Silver	0.0420	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1930318	Arsenic	0.973	Spike	P	0 - 20
1930318	Cadmium	2.95	Spike	P	0 - 20
1930318	Chromium	1.26	Spike	P	0 - 20
1930318	Copper	0.401	Spike	P	0 - 20
1930318	Lead	1.16	Spike	P	0 - 20
1930318	Nickel	0.193	Spike	P	0 - 20
1930318	Silver	0.0510	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P332266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929368	Arsenic	10.7	Spike	P	0 - 20
1929368	Cadmium	9.52	Spike	P	0 - 20
1929368	Chromium	4.39	Spike	P	0 - 20
1929368	Copper	11.2	Spike	P	0 - 20
1929368	Lead	10.8	Spike	P	0 - 20
1929368	Nickel	10.8	Spike	P	0 - 20
1929368	Silver	8.38	Spike	P	0 - 20
1929368	Zinc	0.757	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P331959

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929428	Chloride	0.826	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331946

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1928834	Ammonia-N	0.636	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P331948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929267	Ammonia-N	6.03	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P332192

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929378	Ammonia-N	0.798	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929288	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331934

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929438	Kjeldahl Nitrogen	0.807	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P331937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929437	Kjeldahl Nitrogen	0.187	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P331899

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929329	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332147

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929313	NO2NO3-N	1.33	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P332201

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929336	NO2NO3-N	0.281	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929329	Total-P	0.857	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P331955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929314	Total-P	1.70	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929292	O-Phosphate-P	0.351	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P331881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929340	O-Phosphate-P	1.17	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P331679

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929018	Sucralose	0.192	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P331846

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929328	Color (true)	3.42	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P331930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929263	Total Alkalinity	0.384	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P331931

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929338	Total Alkalinity	0.185	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P332173

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929264	TDS	3.04	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P331935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929263	Fluoride	0.500	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P331936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929338	Fluoride	0.513	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P332078

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929231	Organic Carbon	1.81	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P332079

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929339	Organic Carbon	2.06	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P331678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1929018	2,4-D	3.68	Spike	P	0 - 30
1929018	Acetaminophen	4.69	Spike	P	0 - 30
1929018	Bentazon	4.91	Spike	P	0 - 30
1929018	Carbamazepine	2.58	Spike	P	0 - 30
1929018	Diuron	0.301	Spike	P	0 - 30
1929018	Fenuron	3.35	Spike	P	0 - 30
1929018	Fluridone	34.1	Spike	F	0 - 30
1929018	Imidacloprid	2.73	Spike	P	0 - 30
1929018	Linuron	0.380	Spike	P	0 - 30
1929018	MCP	0.278	Spike	P	0 - 30
1929018	Primidone	4.21	Spike	P	0 - 30
1929018	Triclopyr	11.3	Spike	P	0 - 30

* 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: 1929361
Field Sample ID: 28030516

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	90.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	103	P	30 - 160
EPA 8321B	Diuron-d6	76.6	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	40 - 160
USGS O-2060-01	2,4-D-d3	75.5	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	90.3	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	103	P	30 - 160
USGS O-2060-01	Diuron-d6	76.6	P	30 - 160
USGS O-2060-01	Primidone-d5	114	P	30 - 160
USGS O-2060-01	Sucralose-d6	101	P	40 - 160

Lab Sample ID: 1929362
Field Sample ID: 28030508

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	92.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.9	P	30 - 160
EPA 8321B	Diuron-d6	75.4	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160
EPA 8321B	Sucralose-d6	75.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	74.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	92.3	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	92.9	P	30 - 160
USGS O-2060-01	Diuron-d6	75.4	P	30 - 160
USGS O-2060-01	Primidone-d5	112	P	30 - 160
USGS O-2060-01	Sucralose-d6	75.1	P	40 - 160

Lab Sample ID: 1929363
Field Sample ID: 28030591

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	94.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	95.6	P	30 - 160
EPA 8321B	Diuron-d6	77.3	P	30 - 160
EPA 8321B	Primidone-d5	117	P	30 - 160
EPA 8321B	Sucralose-d6	78.5	P	40 - 160
USGS O-2060-01	2,4-D-d3	77.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	94.2	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	95.6	P	30 - 160
USGS O-2060-01	Diuron-d6	77.3	P	30 - 160
USGS O-2060-01	Primidone-d5	117	P	30 - 160
USGS O-2060-01	Sucralose-d6	78.5	P	40 - 160

Lab Sample ID: 1929364
Field Sample ID: G4SEB011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	98.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	80.2	P	30 - 160
EPA 8321B	Primidone-d5	112	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1929364
Field Sample ID: G4SEB011

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	95.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	81.1	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	98.1	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	105	P	30 - 160
USGS O-2060-01	Diuron-d6	80.2	P	30 - 160
USGS O-2060-01	Primidone-d5	112	P	30 - 160
USGS O-2060-01	Sucralose-d6	95.1	P	40 - 160

Lab Sample ID: 1929365
Field Sample ID: 420011013

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	99.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	115	P	30 - 160
EPA 8321B	Diuron-d6	90.2	P	30 - 160
EPA 8321B	Primidone-d5	122	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	40 - 160
USGS O-2060-01	2,4-D-d3	77.0	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	99.3	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	115	P	30 - 160
USGS O-2060-01	Diuron-d6	90.2	P	30 - 160
USGS O-2060-01	Primidone-d5	122	P	30 - 160
USGS O-2060-01	Sucralose-d6	100	P	40 - 160

Lab Sample ID: 1929366
Field Sample ID: 420011013_BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	133	P	30 - 160
EPA 8321B	Carbamazepine-d10	118	P	30 - 160
EPA 8321B	Diuron-d6	94.6	P	30 - 160
EPA 8321B	Primidone-d5	107	P	30 - 160
EPA 8321B	Sucralose-d6	129	P	40 - 160
USGS O-2060-01	2,4-D-d3	52.0	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	133	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	118	P	30 - 160
USGS O-2060-01	Diuron-d6	94.6	P	30 - 160
USGS O-2060-01	Primidone-d5	107	P	30 - 160
USGS O-2060-01	Sucralose-d6	129	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A78987
Included Lab Sample IDs: 1929326, 1929327, 1929328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Sulfate	98.8	98.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A79014

Included Lab Sample IDs: 1929326, 1929327, 1929328

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	104	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79018

Included Lab Sample IDs: 1929326, 1929327, 1929328, 1929335, 1929338, 1929341

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79026

Included Lab Sample IDs: 1929332, 1929333, 1929334, 1929337, 1929340, 1929343

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79032

Included Lab Sample IDs: 1929329, 1929330, 1929331, 1929342

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79041

Included Lab Sample IDs: 1929369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cadmium	103	104	P/P	90 - 110
Chromium	101	102	P/P	90 - 110
Copper	102	101	P/P	90 - 110
Lead	99.3	99.4	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Silver	97.8	97.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79042

Included Lab Sample IDs: 1929369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	103	103	P/P	95 - 105
Zinc	99.4	100	P/P	95 - 105

Reference Method: SM 2320 B-97

Run ID: A79043

Included Lab Sample IDs: 1929326, 1929327, 1929328, 1929335, 1929338, 1929341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	99.2	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A79043

Included Lab Sample IDs: 1929326, 1929327, 1929328, 1929335, 1929338, 1929341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A79043

Included Lab Sample IDs: 1929326, 1929327, 1929328, 1929335, 1929338, 1929341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	99.1	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79044

Included Lab Sample IDs: 1929329, 1929330, 1929331, 1929336, 1929339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	103	P/P	90 - 110
Ammonia-N	103	101	P/P	90 - 110
Ammonia-N	106	107	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A79060

Included Lab Sample IDs: 1929366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.7	99.0	P/P	50 - 150
Acetaminophen	106	104	P/P	60 - 150
Bentazon	101	100	P/P	50 - 150
Carbamazepine	123	122	P/P	60 - 150
Diuron	107	104	P/P	60 - 150
Fenuron	103	103	P/P	60 - 150
Fluridone	109	106	P/P	60 - 160
Imidacloprid	94.5	94.9	P/P	60 - 150
Linuron	101	106	P/P	60 - 150
MCPD	93.8	93.9	P/P	50 - 150
Primidone	95.0	96.6	P/P	60 - 150
Triclopyr	94.8	96.6	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79065

Included Lab Sample IDs: 1929331

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79072

Included Lab Sample IDs: 1929369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	94.0	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A79086

Included Lab Sample IDs: 1929361, 1929362, 1929363, 1929364, 1929365, 1929366

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	135	125	P/P	60 - 150
Sucralose	140	135	P/P	60 - 150

Reference Method: SM 5310 B-00

Run ID: A79090

Included Lab Sample IDs: 1929329, 1929330, 1929331, 1929336, 1929339, 1929342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	101	P/P	90 - 110
Organic Carbon	99.2	98.6	P/P	90 - 110
Organic Carbon	99.4	93.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79092

Included Lab Sample IDs: 1929329, 1929330

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	100	P/P	90 - 110
Kjeldahl Nitrogen	98.6	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79094

Included Lab Sample IDs: 1929336, 1929339

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79103

Included Lab Sample IDs: 1929329, 1929330, 1929336, 1929342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79110

Included Lab Sample IDs: 1929339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A79113

Included Lab Sample IDs: 1929331, 1929342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	107	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79116

Included Lab Sample IDs: 1929367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	105	104	P/P	90 - 110
Zinc	99.7	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79125

Included Lab Sample IDs: 1929339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A79139

Included Lab Sample IDs: 1929342

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79142

Included Lab Sample IDs: 1929336

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

Reference Method: USGS O-2060-01

Run ID: A79179

Included Lab Sample IDs: 1929361, 1929362, 1929363, 1929364, 1929365

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	107	113	P/P	50 - 150
2,4-D	120	107	P/P	50 - 150
Acetaminophen	100	101	P/P	60 - 150
Acetaminophen	101	100	P/P	60 - 150
Bentazon	128	143	P/P	50 - 150
Bentazon	143	139	P/P	50 - 150
Carbamazepine	111	114	P/P	60 - 150
Carbamazepine	112	111	P/P	60 - 150
Diuron	103	108	P/P	60 - 150
Diuron	103	103	P/P	60 - 150
Fenuron	103	97.8	P/P	60 - 150
Fenuron	97.8	99.4	P/P	60 - 150
Fluridone	116	115	P/P	60 - 160
Fluridone	116	116	P/P	60 - 160
Imidacloprid	95.6	95.5	P/P	60 - 150
Imidacloprid	99.9	95.6	P/P	60 - 150
Linuron	102	104	P/P	60 - 150
Linuron	107	102	P/P	60 - 150
MCPP	110	102	P/P	50 - 150
MCPP	97.1	110	P/P	50 - 150
Primidone	103	97.4	P/P	60 - 150
Primidone	97.4	103	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A79179

Included Lab Sample IDs: 1929361, 1929362, 1929363, 1929364, 1929365

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	109	116	P/P	50 - 150
Triclopyr	116	117	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A79192

Included Lab Sample IDs: 1929368

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79198

Included Lab Sample IDs: 1929367

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	107	104	P/P	90 - 110
Cadmium	102	104	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Copper	106	101	P/P	90 - 110
Lead	99.4	101	P/P	90 - 110
Nickel	105	101	P/P	90 - 110
Silver	99.3	99.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79221

Included Lab Sample IDs: 1929368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	106	P/P	90 - 110
Cadmium	105	102	P/P	90 - 110
Copper	101	105	P/P	90 - 110
Lead	100	101	P/P	90 - 110
Nickel	100	105	P/P	90 - 110
Silver	99.8	99.5	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79258

Included Lab Sample IDs: 1929368

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A79317

Included Lab Sample IDs: 1929368

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chromium	97.3	95.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					0.0	
EPA 200.7 Rev. 4.4	Iron	104	104	104	104		0.823
	Iron	105	109	104	108		3.29
	Iron	103	102	102			0.178
	Zinc	98.0	101	100	100		0.236
	Zinc	99.3	104	98.4	100		1.74
EPA 200.8 Rev. 5.4	Arsenic	93.0	87.9	88.9	92.6		4.08
	Arsenic	103	103	101	102		0.973
	Arsenic	97.9	117	104			10.7
	Cadmium	102	103	103	103		0.215
	Cadmium	102	105	104	107		2.95
	Cadmium	101	106	96.5			9.52
	Chromium	98.1	97.5	98.0	98.1		0.0550
	Chromium	96.2	99.8	99.6	101		1.26
	Chromium	97.0	99.5	104			4.39
	Copper	96.6	95.5	96.9	96.5		0.353
	Copper	99.0	98.4	95.2	94.8		0.401
	Copper	95.9	108	93.4			11.2
	Lead	97.3	97.5	98.5	97.9		0.562
	Lead	97.1	100	98.3	99.4		1.16
	Lead	96.9	114	102			10.8
	Nickel	97.5	96.9	98.4	99.2		0.746
	Nickel	101	100	98.0	97.8		0.193
	Nickel	97.6	108	97.3			10.8
	Silver	97.5	95.9	97.0	97.0		0.0420
	Silver	99.3	99.8	99.6	99.6		0.0510
	Silver	97.9	98.2	90.3			8.38
	Zinc	96.0	91.1	91.8			0.757
EPA 300.0 Rev. 2.1	Chloride	95.9	96.5	98.7		0.826	
	Sulfate	96.0	94.5	97.2			
EPA 350.1 Rev. 2.0	Ammonia-N	106	100	99.2			0.636
	Ammonia-N	104	106	99.5			6.03
	Ammonia-N	105	104	103			0.798
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4	95.3	93.2			2.00
	Kjeldahl Nitrogen	98.8	96.0	96.9			0.807
	Kjeldahl Nitrogen	107	96.0	96.2			0.187
EPA 353.2 Rev. 2.0	NO2NO3-N	104	104	104			0.0
	NO2NO3-N	102	102	101			1.33
	NO2NO3-N	104	105	104			0.281
EPA 365.1 Rev. 2.0	Total-P	95.4	94.4	95.3			0.857
	Total-P	95.8	88.5	86.8			1.70
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	106	97.5	98.0			0.351
	O-Phosphate-P	102	95.6	97.1			1.17
EPA 8321B	Sucralose	101	66.4	66.7			0.192
SM 2120 B	Color (true)					3.42	
SM 2320 B-97	Total Alkalinity	101				0.384	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 2320 B-97	Total Alkalinity	101			0.185	
SM 2540 C-97	TDS				3.04	
SM 4500 F-C-97	Fluoride	95.5	94.6	95.1		0.500
	Fluoride	96.9	97.5	98.3		0.513
SM 5310 B-00	Organic Carbon	99.4	100	98.6		1.81
	Organic Carbon	99.8	94.4	92.1		2.06
USGS O-2060-01	2,4-D	57.1	50.9	49.1		3.68
	Acetaminophen	127	80.8	84.6		4.69
	Bentazon	40.3	20.5	22.0		4.91
	Carbamazepine	130	128	131		2.58
	Diuron	111	99.5	99.0		0.301
	Fenuron	108	109	105		3.35
	Fluridone	106	78.9	111		34.1
	Imidacloprid	97.2				2.73
	Linuron	100	94.5	94.8		0.380
	MCP	59.4	50.2	50.3		0.278
	Primidone	115	93.5	97.6		4.21
	Triclopyr	58.2	43.4	48.6		11.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1929367, 1929368, 1929369
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1929367, 1929368, 1929369
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1929326, 1929327, 1929328
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1929326, 1929327, 1929328
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1929329, 1929330, 1929331, 1929336, 1929339, 1929342
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1929329, 1929330, 1929331, 1929336, 1929339, 1929342
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1929329, 1929330, 1929331, 1929336, 1929339, 1929342
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1929329, 1929330, 1929331, 1929336, 1929339, 1929342
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1929332, 1929333, 1929334, 1929337, 1929340, 1929343
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1929361, 1929362, 1929363, 1929364, 1929365, 1929366
SM 2120 B / E31780	True Color measured at 450 nm	1929326, 1929327, 1929328
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1929326, 1929327, 1929328
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1929329, 1929330, 1929331, 1929336, 1929339, 1929342
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1929361, 1929362, 1929363, 1929364, 1929365, 1929366

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1929361, 1929362, 1929363, 1929364, 1929365, 1929366

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	09/19/2017			09/19/2017 16:12	DeAsia Armster	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
EPA 200.7 Rev. 4.4	09/19/2017	09/19/2017	Elliott D. Healy	09/20/2017	Betina Topolski	1929369
	09/19/2017	09/21/2017	Elliott D. Healy	09/22/2017	Betina Topolski	1929367
	09/19/2017	09/26/2017	Elliott D. Healy	09/27/2017	Betina Topolski	1929368
EPA 200.8 Rev. 5.4	09/19/2017	09/19/2017	Elliott D. Healy	09/20/2017	Nadine Brooks	1929369
	09/19/2017	09/19/2017	Elliott D. Healy	09/21/2017	Robert K Palmer	1929369
	09/19/2017	09/21/2017	Elliott D. Healy	09/27/2017	Nadine Brooks	1929367
	09/19/2017	09/26/2017	Elliott D. Healy	09/28/2017	Nadine Brooks	1929368
	09/19/2017	09/26/2017	Elliott D. Healy	09/29/2017	Nadine Brooks	1929368
	09/19/2017	09/26/2017	Elliott D. Healy	10/03/2017	Robert K Palmer	1929368
EPA 300.0 Rev. 2.1	09/19/2017			09/20/2017	Julia Storbeck	1929326, 1929327, 1929328
EPA 350.1 Rev. 2.0	09/19/2017			09/20/2017	Sofia Elnemr	1929329, 1929330, 1929331, 1929336, 1929339
	09/19/2017			09/22/2017	Sofia Elnemr	1929342
EPA 351.2 Rev. 2.0	09/19/2017	09/21/2017	Adrian Shelby	09/21/2017	Tanya Welborn	1929329, 1929330
	09/19/2017	09/21/2017	Adrian Shelby	09/22/2017	Tanya Welborn	1929331, 1929336, 1929339, 1929342
EPA 353.2 Rev. 2.0	09/19/2017			09/20/2017	Beverly Y. Sanders	1929329, 1929330, 1929331, 1929342
	09/19/2017			09/22/2017	Beverly Y. Sanders	1929336
	09/19/2017			09/25/2017	Beverly Y. Sanders	1929339
EPA 365.1 Rev. 2.0	09/19/2017	09/20/2017	Sima Feizi	09/21/2017	Lipi Saha	1929331
	09/19/2017	09/20/2017	Sima Feizi	09/22/2017	Lipi Saha	1929329, 1929330, 1929336, 1929342
	09/19/2017	09/21/2017	Sima Feizi	09/22/2017	Lipi Saha	1929339
EPA 365.1 Rev. 2.0 dissolved	09/19/2017			09/19/2017 15:03	Megan Treadwell	1929340
	09/19/2017			09/19/2017 15:26	Megan Treadwell	1929333
	09/19/2017			09/19/2017 15:27	Megan Treadwell	1929334
	09/19/2017			09/19/2017 15:28	Megan Treadwell	1929337
	09/19/2017			09/19/2017 15:29	Megan Treadwell	1929343
	09/19/2017			09/19/2017 15:53	Megan Treadwell	1929332
EPA 8321B	09/19/2017	09/19/2017	Hoor Shaik	09/21/2017	Juyoung Kim	1929361, 1929362, 1929363, 1929364, 1929365, 1929366
SM 2120 B	09/19/2017			09/19/2017 14:44	Tanya Welborn	1929326
	09/19/2017			09/19/2017 14:45	Tanya Welborn	1929327
	09/19/2017			09/19/2017 14:47	Tanya Welborn	1929328
SM 2320 B-97	09/19/2017			09/21/2017	Dale L. Simmons	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
SM 2540 C-97	09/19/2017			09/21/2017	Yijie Li	1929326, 1929327, 1929328
SM 2540 D-97	09/19/2017			09/21/2017	Yijie Li	1929326, 1929327, 1929328, 1929335, 1929338, 1929341
SM 4500 F-C-97	09/19/2017			09/21/2017	Dale L. Simmons	1929326, 1929327, 1929328, 1929335, 1929338, 1929341

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-00	09/19/2017			09/21/2017	Ping Hua	1929329, 1929330, 1929331, 1929336, 1929342
	09/19/2017			09/22/2017	Ping Hua	1929339
USGS O-2060-01	09/19/2017	09/19/2017	Hoor Shaik	09/21/2017	Julie Michelle Frank	1929366
	09/19/2017	09/19/2017	Hoor Shaik	09/27/2017	Julie Michelle Frank	1929361, 1929362, 1929363, 1929364, 1929365