

Chemical Analysis Report

NW-DIST-2017-05-09-01

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

Event Description: **Pens/Cant Run WBID 291 489 489A 542 676 586 531**
Request ID: **RQ-2017-05-08-46**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government St
Suite 208A
Pensacola, FL 32502-5794
Attn: Michael King

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 06-JUN-2017 11:01



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: Carpenters Creek Upstream of Ninth Ave

Collection Date/Time: 05/08/2017 10:00

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897207	EPA 180.1 Rev. 2.0	Turbidity	1.5		NTU	P324932	
	EPA 300.0 Rev. 2.1	Chloride	7.6	A	mg Cl/L	P325190	
		Sulfate	4.6	A	mg SO4/L	P325187	
	SM 2120 B	Color (true)	10		PCU	P324902	
	SM 2320 B-97	Total Alkalinity	23		mg CaCO3/L	P325465	
	SM 2540 C-97	TDS	66		mg/L	P325342	
	SM 2540 D-97	TSS	2	I	mg/L	P325326	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325808	
1897211	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P325049	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P325087	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.99		mg N/L	P325000	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P324988	
	SM 5310 B-00	Organic Carbon	1.7		mg C/L	P325232	
1897215	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324940	

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: Carpenters Creek Upstream of Ninth Ave

Collection Date/Time: 05/08/2017 10:00

Field ID: G4NW0415

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897249	EPA 8321B	Sucralose**	0.28		ug/L	P324692	
	USGS O-2060-01	2,4-D	0.051		ug/L	P324620	
		Diuron	0.0062		ug/L	P324620	
		Fenuron	0.0040	U	ug/L	P324620	
		Imidacloprid	0.046		ug/L	P324620	MS
		Bentazon	8.0E-04	U	ug/L	P324620	
		Linuron	0.0040	U	ug/L	P324620	
		Acetaminophen**	0.0080	U	ug/L	P324620	
		MCP	8.0E-04	U	ug/L	P324620	
		Carbamazepine**	0.0016		ug/L	P324620	
		Triclopyr**	0.0040	U	ug/L	P324620	
		Primidone**	0.0040	U	ug/L	P324620	
		Fluridone**	4.0E-04	U	ug/L	P324620	

Sample Location: Thompson Bayou @ Greenbriar Rd.

Collection Date/Time: 05/08/2017 10:45

Field ID: G4NW0240

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897219	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P324932	
	EPA 300.0 Rev. 2.1	Chloride	7.5		mg Cl/L	P325190	
		Sulfate	2.5		mg SO4/L	P325187	
	SM 2120 B	Color (true)	20		PCU	P324902	
	SM 2320 B-97	Total Alkalinity	8.2		mg CaCO3/L	P325466	

Field ID: G4NW0240

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897219	SM 2540 C-97	TDS	40		mg/L	P325342	
	SM 2540 D-97	TSS	2	I	mg/L	P325326	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325468	
1897220	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P325049	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P325087	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.79		mg N/L	P325001	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P324988	
	SM 5310 B-00	Organic Carbon	1.5		mg C/L	P325232	
1897221	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324940	
1897261	EPA 200.7 Rev. 4.4	Calcium	3.77		mg/L	P325369	
		Iron	690		ug/L	P325369	
		Magnesium	1.28		mg/L	P325369	
		Potassium	0.55	I	mg/L	P325369	
		Sodium	4.8		mg/L	P325369	
		Zinc	5.0	U	ug/L	P325369	
	EPA 200.8 Rev. 5.4	Arsenic	0.49		ug/L	P325369	
		Cadmium	0.020	U	ug/L	P325369	
		Chromium	0.40	U	ug/L	P325369	
		Copper	0.24	I	ug/L	P325369	
		Lead	0.18	I	ug/L	P325369	
		Nickel	0.32	I	ug/L	P325369	
		Silver	0.010	U	ug/L	P325369	

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: Clear Creek Dr @ Tecumseh Trail

Collection Date/Time: 05/08/2017 11:10

Field ID: G4NW0358

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897208	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P324932	
	EPA 300.0 Rev. 2.1	Chloride	8.0		mg Cl/L	P325190	
		Sulfate	3.7		mg SO4/L	P325187	
	SM 2120 B	Color (true)	26		PCU	P324902	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P325466	
	SM 2540 C-97	TDS	48		mg/L	P325342	
	SM 2540 D-97	TSS	2	I	mg/L	P325326	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325468	
1897212	EPA 350.1 Rev. 2.0	Ammonia-N	0.011		mg N/L	P325049	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P325087	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P325000	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P324988	
	SM 5310 B-00	Organic Carbon	2.3		mg C/L	P325232	
1897216	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324940	

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: Jack's Branch @ Jack's Branch Road (Hwy 97) Collection Date/Time: 05/08/2017 11:45

Field ID: G5NW0037

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897209	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P324932	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P325190	
		Sulfate	1.1		mg SO4/L	P325187	
	SM 2120 B	Color (true)	53	A	PCU	P324902	
	SM 2320 B-97	Total Alkalinity	2.1	I	mg CaCO3/L	P325465	
	SM 2540 C-97	TDS	34		mg/L	P325342	
	SM 2540 D-97	TSS	3	I	mg/L	P325326	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325808	
1897213	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P325049	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.22		mg N/L	P325087	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.062		mg N/L	P325001	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P324988	
	SM 5310 B-00	Organic Carbon	5.2		mg C/L	P325232	
1897217	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324940	

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: Ten Mile Creek Pine Forest Road

Collection Date/Time: 05/08/2017 12:15

Field ID: G5NW0051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897210	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P324932	
	EPA 300.0 Rev. 2.1	Chloride	8.0		mg Cl/L	P325190	
		Sulfate	1.4		mg SO4/L	P325187	
	SM 2120 B	Color (true)	57		PCU	P324902	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P325466	
	SM 2540 C-97	TDS	64		mg/L	P325342	
	SM 2540 D-97	TSS	2	I	mg/L	P325326	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P325468	
1897214	EPA 350.1 Rev. 2.0	Ammonia-N	0.022		mg N/L	P325049	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.30		mg N/L	P325087	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.060		mg N/L	P325001	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P324988	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P325232	
1897218	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P324940	

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: Ten Mile Creek Pine Forest Road

Collection Date/Time: 05/08/2017 12:15

Field ID: G5NW0051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897250	EPA 8321B	Sucralose**	0.30		ug/L	P324692	
	USGS O-2060-01	2,4-D	9.6E-04	I	ug/L	P324620	
		Diuron	8.0E-04	U	ug/L	P324620	

Field ID: G5NW0051

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897250	USGS O-2060-01	Fenuron	0.0040	U	ug/L	P324620	
		Imidacloprid	0.0059		ug/L	P324620	MS
		Bentazon	8.0E-04	U	ug/L	P324620	
		Linuron	0.0040	U	ug/L	P324620	
		Acetaminophen**	0.0080	U	ug/L	P324620	
		MCP	8.0E-04	U	ug/L	P324620	
		Carbamazepine**	4.0E-04	U	ug/L	P324620	
		Triclopyr**	0.0040	U	ug/L	P324620	
		Primidone**	0.0049	I	ug/L	P324620	
		Fluridone**	4.0E-04	U	ug/L	P324620	

Sample Location: Elevenmile Creek Upstream of Hwy 90

Collection Date/Time: 05/08/2017 12:40

Field ID: G5NW0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897251	EPA 8321B	Sucralose**	0.17		ug/L	P324692	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P324620	
		Diuron	0.0014	I	ug/L	P324620	
		Fenuron	0.0040	U	ug/L	P324620	
		Imidacloprid	0.15		ug/L	P324620	MS
		Bentazon	0.052		ug/L	P324620	
		Linuron	0.0040	U	ug/L	P324620	
		Acetaminophen**	0.0080	U	ug/L	P324620	
		MCP	8.0E-04	U	ug/L	P324620	
		Carbamazepine**	0.0012	I	ug/L	P324620	
		Triclopyr**	0.0040	U	ug/L	P324620	
		Primidone**	0.0040	U	ug/L	P324620	
		Fluridone**	4.0E-04	U	ug/L	P324620	

Sample Location: Rest Area Run Below Beaver Pond Creek

Collection Date/Time: 05/08/2017 13:05

Field ID: G5NW0068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897252	EPA 8321B	Sucralose**	0.57		ug/L	P324692	
	USGS O-2060-01	2,4-D	0.0026	I	ug/L	P324620	
		Diuron	8.0E-04	U	ug/L	P324620	
		Fenuron	0.0040	U	ug/L	P324620	
		Imidacloprid	0.018		ug/L	P324620	MS
		Bentazon	0.0029	I	ug/L	P324620	
		Linuron	0.0040	U	ug/L	P324620	
		Acetaminophen**	0.0080	U	ug/L	P324620	
		MCP	0.0068		ug/L	P324620	
		Carbamazepine**	0.0030		ug/L	P324620	
		Triclopyr**	0.0040	U	ug/L	P324620	
		Primidone**	0.0040	U	ug/L	P324620	

Field ID: G5NW0068

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1897252	USGS O-2060-01	Fluridone**	4.0E-04	U	ug/L	P324620	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P324932

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325369

Component	Result	Code	Units
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: P325369

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 300.0 Rev. 2.1
Batch ID: P325187

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325190

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325049

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325087

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325000

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325001

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324988

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324940

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

Reference Method: EPA 8321B
Batch ID: P324692

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P324902

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325465

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

Reference Method: SM 2320 B-97
Batch ID: P325466

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
 Batch ID: P325342

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
 Batch ID: P325326

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
 Batch ID: P325468

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
 Batch ID: P325808

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P325232

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

Reference Method: USGS O-2060-01
 Batch ID: P324620

Component	Result	Code	Units
2,4-D	8.0E-04	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	0.0040	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCP	8.0E-04	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: P325369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	107		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	100		P	85 - 115
Sodium	104		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325369

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	105		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	105		P	85 - 115
Copper	103		P	85 - 115
Lead	103		P	85 - 115
Nickel	106		P	85 - 115
Silver	99.1		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325190

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325049

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325087

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325000

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325001

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325001

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	108		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324940

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

Reference Method: EPA 8321B
Batch ID: P324692

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	83.0		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P325465

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P325466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P325468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325808

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P325232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.2		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P324620

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.8		P	40 - 140
Acetaminophen	103		P	40 - 140
Bentazon	65.8		P	40 - 140
Carbamazepine	121		P	40 - 140
Diuron	120		P	40 - 140
Fenuron	107		P	40 - 140
Fluridone	107		P	40 - 140
Imidacloprid	117		P	40 - 160
Linuron	120		P	40 - 140
MCPP	80.9		P	40 - 140
Primidone	104		P	40 - 140
Triclopyr	69.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897181	Calcium	106		P	80 - 120
1897181	Iron	108		P	80 - 120
1897181	Magnesium	109		P	80 - 120
1897181	Potassium	104		P	80 - 120
1897181	Sodium	107		P	80 - 120
1897181	Zinc	99.3		P	80 - 120
1898250	Calcium	103		P	80 - 120
1898250	Iron	107	108	P/P	80 - 120
1898250	Magnesium	107	106	P/P	80 - 120
1898250	Potassium	101	98.8	P/P	80 - 120
1898250	Sodium	104		P	80 - 120
1898250	Zinc	101	103	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325369

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897181	Arsenic	109		P	80 - 120
1897181	Cadmium	106		P	80 - 120
1897181	Chromium	105		P	80 - 120
1897181	Copper	103		P	80 - 120
1897181	Lead	103		P	80 - 120
1897181	Nickel	105		P	80 - 120
1897181	Silver	99.1		P	80 - 120
1898250	Arsenic	108	107	P/P	80 - 120
1898250	Cadmium	106	106	P/P	80 - 120
1898250	Chromium	105	105	P/P	80 - 120
1898250	Copper	103	102	P/P	80 - 120
1898250	Lead	103	103	P/P	80 - 120
1898250	Nickel	104	104	P/P	80 - 120
1898250	Silver	99.7	98.1	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897150	Sulfate	93.8		P	90 - 110
1897207	Sulfate	95.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897150	Chloride	98.1		P	90 - 110
1897207	Chloride	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325049

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897211	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325087

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897282	Kjeldahl Nitrogen	92.4	97.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325000

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897153	NO2NO3-N	106	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325001

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897213	NO2NO3-N	105	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897212	Total-P	102	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897216	O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P324692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896739	Sucralose	108	104	P/P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P325468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897159	Fluoride	97.9	99.1	P/P	91 - 105

Reference Method: SM 4500 F-C-97
 Batch ID: P325808

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896723	Fluoride	98.7	99.4	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P325232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1897211	Organic Carbon	91.9	92.6	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P324620

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1896649	2,4-D	75.0	66.1	P/P	40 - 140
1896649	Acetaminophen	97.3	101	P/P	40 - 140
1896649	Bentazon	73.9	61.4	P/P	40 - 140
1896649	Carbamazepine	111	115	P/P	40 - 140
1896649	Diuron	102	107	P/P	40 - 140
1896649	Fenuron	118	109	P/P	40 - 140
1896649	Fluridone	90.6	93.1	P/P	40 - 140
1896649	Imidacloprid	213	202	F/F	40 - 160
1896649	Linuron	106	104	P/P	40 - 140
1896649	MCP	69.0	57.4	P/P	40 - 140
1896649	Primidone	108	118	P/P	40 - 140
1896649	Triclopyr	69.4	57.6	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P324932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897192	Turbidity	2.28	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P325369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898250	Calcium	0.759	Spike	P	0 - 20
1898250	Iron	0.0484	Spike	P	0 - 20
1898250	Magnesium	0.229	Spike	P	0 - 20
1898250	Potassium	1.53	Spike	P	0 - 20
1898250	Sodium	0.535	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P325369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898250	Zinc	1.89	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P325369

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1898250	Arsenic	0.662	Spike	P	0 - 20
1898250	Cadmium	0.0367	Spike	P	0 - 20
1898250	Chromium	0.241	Spike	P	0 - 20
1898250	Copper	0.611	Spike	P	0 - 20
1898250	Lead	0.515	Spike	P	0 - 20
1898250	Nickel	0.0386	Spike	P	0 - 20
1898250	Silver	1.65	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897207	Sulfate	0.420	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P325190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897207	Chloride	0.0469	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897211	Ammonia-N	0.435	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325087

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897282	Kjeldahl Nitrogen	3.07	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325000

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897153	NO2NO3-N	1.88	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325001

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897213	NO2NO3-N	0.733	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P324988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897212	Total-P	3.31	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P324940

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897216	O-Phosphate-P	0.200	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P324692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896739	Sucralose	3.67	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P324902

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897209	Color (true)	0.838	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P325465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897738	Total Alkalinity	0.304	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897159	Total Alkalinity	0.405	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P325342

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897159	TDS	4.44	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
 Batch ID: P325468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897159	Fluoride	1.02	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
 Batch ID: P325808

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896723	Fluoride	0.480	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
 Batch ID: P325232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1897211	Organic Carbon	0.694	Spike	P	0 - 20

Reference Method: USGS O-2060-01
 Batch ID: P324620

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1896649	2,4-D	12.1	Spike	P	0 - 30
1896649	Acetaminophen	3.79	Spike	P	0 - 30
1896649	Bentazon	18.3	Spike	P	0 - 30
1896649	Carbamazepine	3.07	Spike	P	0 - 30
1896649	Diuron	5.07	Spike	P	0 - 30
1896649	Fenuron	8.22	Spike	P	0 - 30
1896649	Fluridone	2.71	Spike	P	0 - 30
1896649	Imidacloprid	5.29	Spike	P	0 - 30
1896649	Linuron	1.67	Spike	P	0 - 30
1896649	MCP	18.2	Spike	P	0 - 30
1896649	Primidone	8.62	Spike	P	0 - 30
1896649	Triclopyr	18.6	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: 1897249
 Field Sample ID: G4NW0415

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	116	P	40 - 150
USGS O-2060-01	2,4-D-d3	65.3	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	103	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	123	P	30 - 160
USGS O-2060-01	Diuron-d6	117	P	30 - 150
USGS O-2060-01	Primidone-d5	115	P	30 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1897250
Field Sample ID: G5NW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	129	P	40 - 150
USGS O-2060-01	2,4-D-d3	63.7	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	90.4	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	97.5	P	30 - 160
USGS O-2060-01	Diuron-d6	75.3	P	30 - 150
USGS O-2060-01	Primidone-d5	102	P	30 - 150

Lab Sample ID: 1897251
Field Sample ID: G5NW0126

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	132	P	40 - 150
USGS O-2060-01	2,4-D-d3	61.8	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	57.5	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	116	P	30 - 160
USGS O-2060-01	Diuron-d6	102	P	30 - 150
USGS O-2060-01	Primidone-d5	113	P	30 - 150

Lab Sample ID: 1897252
Field Sample ID: G5NW0068

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	126	P	40 - 150
USGS O-2060-01	2,4-D-d3	60.2	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	99.3	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	91.6	P	30 - 160
USGS O-2060-01	Diuron-d6	81.6	P	30 - 150
USGS O-2060-01	Primidone-d5	96.0	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A76269
Included Lab Sample IDs: 1897207, 1897208, 1897209, 1897210, 1897219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	102	P/P	90 - 110
Chloride	104	102	P/P	90 - 110
Sulfate	97.2	97.3	P/P	90 - 110
Sulfate	97.7	96.8	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A76295
Included Lab Sample IDs: 1897207, 1897208, 1897209, 1897210, 1897219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.6	99.2	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76301

Included Lab Sample IDs: 1897207, 1897208, 1897209, 1897210, 1897219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	102	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76302

Included Lab Sample IDs: 1897215, 1897216, 1897217, 1897218, 1897221

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.9	P/P	90 - 110
O-Phosphate-P	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76314

Included Lab Sample IDs: 1897211, 1897212, 1897213, 1897214, 1897220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	105	106	P/P	90 - 110
NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76336

Included Lab Sample IDs: 1897211, 1897212, 1897213, 1897214, 1897220

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76356

Included Lab Sample IDs: 1897211, 1897212, 1897213, 1897214, 1897220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A76393

Included Lab Sample IDs: 1897211, 1897212, 1897213, 1897214, 1897220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	99.6	P/P	90 - 110
Organic Carbon	99.6	92.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76436

Included Lab Sample IDs: 1897211, 1897212, 1897213, 1897214, 1897220

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.6	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A76477

Included Lab Sample IDs: 1897249, 1897250, 1897251, 1897252

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.2	80.0	P/P	50 - 150
2,4-D	89.2	85.2	P/P	50 - 150
Acetaminophen	122	122	P/P	60 - 150
Acetaminophen	122	122	P/P	60 - 150
Bentazon	102	104	P/P	50 - 150
Bentazon	104	98.8	P/P	50 - 150
Carbamazepine	119	122	P/P	60 - 150
Carbamazepine	122	84.8	P/P	60 - 150
Diuron	132	126	P/P	60 - 150
Diuron	134	132	P/P	60 - 150
Fenuron	110	115	P/P	60 - 150
Fenuron	115	116	P/P	60 - 150
Fluridone	124	122	P/P	60 - 150
Fluridone	126	124	P/P	60 - 150
Imidacloprid	112	122	P/P	60 - 150
Imidacloprid	122	108	P/P	60 - 150
Linuron	115	119	P/P	60 - 150
Linuron	118	115	P/P	60 - 150
MCPP	83.6	88.0	P/P	50 - 150
MCPP	88.0	89.6	P/P	50 - 150
Primidone	105	104	P/P	60 - 150
Primidone	106	105	P/P	60 - 150
Triclopyr	92.8	88.8	P/P	50 - 150
Triclopyr	94.0	92.8	P/P	50 - 150

Reference Method: SM 2320 B-97

Run ID: A76498

Included Lab Sample IDs: 1897207, 1897208, 1897209, 1897210, 1897219

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

Reference Method: SM 4500 F-C-97

Run ID: A76498

Included Lab Sample IDs: 1897208, 1897210, 1897219

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	97.1	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76530

Included Lab Sample IDs: 1897261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	98.9	P/P	90 - 110
Cadmium	98.9	97.6	P/P	90 - 110
Chromium	101	99.8	P/P	90 - 110
Copper	102	99.7	P/P	90 - 110
Lead	97.5	97.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A76530

Included Lab Sample IDs: 1897261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	102	99.7	P/P	90 - 110
Silver	98.9	96.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76559

Included Lab Sample IDs: 1897249, 1897250, 1897251, 1897252

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	148	88.4	P/P	60 - 150
Sucralose	79.5	93.1	P/P	60 - 150
Sucralose	88.4	98.8	P/P	60 - 150

Reference Method: SM 4500 F-C-97

Run ID: A76661

Included Lab Sample IDs: 1897207, 1897209

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A76793

Included Lab Sample IDs: 1897261

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	102	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	103	103	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Zinc	102	102	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				2.28	
EPA 200.7 Rev. 4.4	Calcium	106	106	103		0.759
	Iron	107	108	107		0.0484
	Magnesium	109	109	107		0.229
	Potassium	100	104	101	98.8	1.53
	Sodium	104	107	104		0.535
	Zinc	101	99.3	101	103	1.89
EPA 200.8 Rev. 5.4	Arsenic	105	109	108	107	0.662
	Cadmium	104	106	106	106	0.0367
	Chromium	105	105	105	105	0.241

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	MS
			LCS	SMP	MS		
EPA 200.8 Rev. 5.4	Copper	103	103	103	102		0.611
	Lead	103	103	103	103		0.515
	Nickel	106	105	104	104		0.0386
	Silver	99.1	99.1	99.7	98.1		1.65
EPA 300.0 Rev. 2.1	Chloride	105	100	98.1		0.0469	
	Sulfate	97.0	95.3	93.8		0.420	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	102			0.435
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.3	92.4	97.2			3.07
EPA 353.2 Rev. 2.0	NO2NO3-N	107	106	108			1.88
	NO2NO3-N	108	105	106			0.733
EPA 365.1 Rev. 2.0	Total-P	98.4	102	98.8			3.31
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.8	100			0.200
EPA 8321B	Sucralose	83.0	108	104			3.67
SM 2120 B	Color (true)					0.838	
SM 2320 B-97	Total Alkalinity	102				0.304	
	Total Alkalinity	103				0.405	
SM 2540 C-97	TDS					4.44	
SM 4500 F-C-97	Fluoride	94.0	97.9	99.1			1.02
	Fluoride	98.9	98.7	99.4			0.480
SM 5310 B-00	Organic Carbon	96.2	91.9	92.6			0.694
USGS O-2060-01	2,4-D	69.8	75.0	66.1			12.1
	Acetaminophen	103	97.3	101			3.79
	Bentazon	65.8	73.9	61.4			18.3
	Carbamazepine	121	111	115			3.07
	Diuron	120	102	107			5.07
	Fenuron	107	118	109			8.22
	Fluridone	107	93.1	90.6			2.71
	Imidacloprid	117	213	202			5.29
	Linuron	120	106	104			1.67
	MCPP	80.9	69.0	57.4			18.2
	Primidone	104	108	118			8.62
	Triclopyr	69.4	69.4	57.6			18.6

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1897207, 1897208, 1897209, 1897210, 1897219
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1897261
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1897261
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1897207, 1897208, 1897209, 1897210, 1897219
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1897207, 1897208, 1897209, 1897210, 1897219
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1897211, 1897212, 1897213, 1897214, 1897220
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1897211, 1897212, 1897213, 1897214, 1897220
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1897211, 1897212, 1897213, 1897214, 1897220
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1897211, 1897212, 1897213, 1897214, 1897220

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1897215, 1897216, 1897217, 1897218, 1897221
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1897249, 1897250, 1897251, 1897252
SM 2120 B / E31780	True Color measured at 450 nm	1897207, 1897208, 1897209, 1897210, 1897219
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1897207, 1897208, 1897209, 1897210, 1897219
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1897207, 1897208, 1897209, 1897210, 1897219
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1897207, 1897208, 1897209, 1897210, 1897219
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1897207, 1897208, 1897209, 1897210, 1897219
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1897211, 1897212, 1897213, 1897214, 1897220
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1897249, 1897250, 1897251, 1897252
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1897249, 1897250, 1897251, 1897252

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/09/2017			05/09/2017 15:52	Sima Feizi	1897207, 1897208, 1897209, 1897210, 1897219
EPA 200.7 Rev. 4.4	05/09/2017	05/16/2017	Elliott D. Healy	05/31/2017	Betina Topolski	1897261
EPA 200.8 Rev. 5.4	05/09/2017	05/16/2017	Elliott D. Healy	05/18/2017	Betina Topolski	1897261
EPA 300.0 Rev. 2.1	05/09/2017			05/11/2017	Ping Hua	1897207
	05/09/2017			05/12/2017	Ping Hua	1897208, 1897209, 1897210, 1897219
EPA 350.1 Rev. 2.0	05/09/2017			05/10/2017	Julie Michelle Frank	1897211, 1897212, 1897213, 1897214, 1897220
EPA 351.2 Rev. 2.0	05/09/2017	05/11/2017	Adrian Shelby	05/15/2017	Joseph Suarez	1897211, 1897212, 1897213, 1897214, 1897220
EPA 353.2 Rev. 2.0	05/09/2017			05/10/2017	Beverly Y. Sanders	1897211, 1897212, 1897213, 1897214, 1897220
EPA 365.1 Rev. 2.0	05/09/2017	05/10/2017	Vijayalakshmi Reddy	05/11/2017	Lipi Saha	1897211, 1897212, 1897213, 1897214, 1897220
EPA 365.1 Rev. 2.0 dissolved	05/09/2017			05/09/2017 14:43	Anthony C. Onicha	1897216
	05/09/2017			05/09/2017 14:57	Anthony C. Onicha	1897215
	05/09/2017			05/09/2017 14:58	Anthony C. Onicha	1897217
	05/09/2017			05/09/2017 14:59	Anthony C. Onicha	1897218
	05/09/2017			05/09/2017 15:00	Anthony C. Onicha	1897221
EPA 8321B	05/09/2017	05/17/2017	Mohammad Ghaffari	05/18/2017	Mohammad Ghaffari	1897250
	05/09/2017	05/17/2017	Mohammad Ghaffari	05/19/2017	Mohammad Ghaffari	1897249, 1897251, 1897252
SM 2120 B	05/09/2017			05/09/2017 14:34	Julia Storbeck	1897209
	05/09/2017			05/09/2017 14:38	Julia Storbeck	1897207
	05/09/2017			05/09/2017 14:39	Julia Storbeck	1897208
	05/09/2017			05/09/2017 14:40	Julia Storbeck	1897210
	05/09/2017			05/09/2017 14:41	Julia Storbeck	1897219
SM 2320 B-97	05/09/2017			05/17/2017	Dale L. Simmons	1897207, 1897208, 1897209, 1897210, 1897219
SM 2540 C-97	05/09/2017			05/10/2017	Yijie Li	1897207, 1897208, 1897209, 1897210, 1897219
SM 2540 D-97	05/09/2017			05/10/2017	Yijie Li	1897207, 1897208, 1897209, 1897210, 1897219
SM 4500 F-C-97	05/09/2017			05/17/2017	Dale L. Simmons	1897208, 1897210, 1897219
	05/09/2017			05/24/2017	Dale L. Simmons	1897207, 1897209
SM 5310 B-00	05/09/2017			05/12/2017	Christopher Armour	1897211, 1897212, 1897213, 1897214, 1897220
USGS O-2060-01	05/09/2017	05/10/2017	Hoor Shaik	05/17/2017	Juyoung Kim	1897249, 1897250, 1897251, 1897252