

Chemical Analysis Report

NW-DIST-2017-10-27-02

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

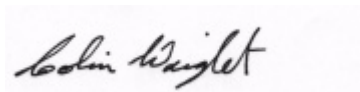
Event Description: **Laurel Hill Run WBID 42 100 101 117 35A 76 92**
Request ID: **RQ-2017-10-23-18**
Customer: **NW-DIST**
Project ID: **SMP**

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: Colin Wright, Program Administrator

Date Certified: 01-DEC-2017 13:48

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: 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: Pond Creek in Mccloud Bay

Collection Date/Time: 10/26/2017 11:00

Field ID: G4NW0349

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940953	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P334220	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P334681	
		Sulfate	1.3		mg SO4/L	P334684	
	SM 2120 B	Color (true)	69		PCU	P334224	
	SM 2320 B-97	Total Alkalinity	3.2		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	31		mg/L	P334826	
	SM 2540 D-97	TSS	11		mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940961	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P334770	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29		mg N/L	P334727	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.021		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P334775	
1940969	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P334215	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Turkey Creek @ Williams Rd

Collection Date/Time: 10/26/2017 11:45

Field ID: G4NW0409

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940954	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P334220	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P334681	
		Sulfate	1.7		mg SO4/L	P334684	
	SM 2120 B	Color (true)	110		PCU	P334224	
	SM 2320 B-97	Total Alkalinity	2.8		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	45		mg/L	P334826	
	SM 2540 D-97	TSS	19		mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940962	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P334727	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.041		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P334775	
1940970	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	I	mg P/L	P334215	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Turkey Creek @ Williams Rd

Collection Date/Time: 10/26/2017 11:45

Field ID: G4NW0409

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940986	EPA 8321B	Sucralose**	0.010	U	ug/L	P334426	

Field ID: G4NW0409

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940986	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335855	
		Diuron	8.0E-04	U	ug/L	P334232	
		Fenuron	0.0080	U	ug/L	P334232	
		Imidacloprid	0.0062		ug/L	P334232	
		Bentazon	0.0012	IQ	ug/L	P335855	
		Linuron	0.0040	U	ug/L	P334232	
		Acetaminophen**	0.0080	U	ug/L	P334232	
		MCP	0.0020	UQ	ug/L	P335855	
		Carbamazepine**	4.0E-04	U	ug/L	P334232	
		Triclopyr**	0.0040	UQ	ug/L	P335855	
		Primidone**	0.0040	U	ug/L	P334232	
		Fluridone**	4.0E-04	U	ug/L	P334232	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies. Results confirmed.

Sample Location: Turkey Creek @ Williams Rd DUP

Collection Date/Time: 10/26/2017 11:55

Field ID: G4NW0409DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940955	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P334220	
	EPA 300.0 Rev. 2.1	Chloride	4.1		mg Cl/L	P334681	
		Sulfate	1.7		mg SO4/L	P334684	
	SM 2120 B	Color (true)	110		PCU	P334225	
	SM 2320 B-97	Total Alkalinity	2.8		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	39		mg/L	P334826	
	SM 2540 D-97	TSS	17		mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940963	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.039		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P334775	
1940971	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.012		mg P/L	P334215	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Turkey Creek @ Williams Rd DUP

Collection Date/Time: 10/26/2017 11:55

Field ID: G4NW0409DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940987	EPA 8321B	Sucralose**	0.010	U	ug/L	P334426	
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335855	
		Diuron	8.0E-04	U	ug/L	P334232	
		Fenuron	0.0080	U	ug/L	P334232	
		Imidacloprid	0.0057		ug/L	P334232	
		Bentazon	9.0E-04	IQ	ug/L	P335855	

Field ID: G4NW0409DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940987	USGS O-2060-01	Linuron	0.0040	U	ug/L	P334232	
		Acetaminophen**	0.0080	U	ug/L	P334232	
		MCP	0.0020	UQ	ug/L	P335855	
		Carbamazepine**	4.0E-04	U	ug/L	P334232	
		Triclopyr**	0.0040	UQ	ug/L	P335855	
		Primidone**	0.0040	U	ug/L	P334232	
		Fluridone**	4.0E-04	U	ug/L	P334232	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies. Results confirmed.

Sample Location: Field Blank

Collection Date/Time: 10/26/2017 12:00

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940956	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P334220	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P334681	
		Sulfate	0.20	U	mg SO4/L	P334684	
	SM 2120 B	Color (true)	2.5	U	PCU	P334225	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	15	U	mg/L	P334824	
	SM 2540 D-97	TSS	2	U	mg/L	P334834	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940964	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P335015	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P334775	
1940972	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334215	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Field Blank

Collection Date/Time: 10/26/2017 12:00

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940988	EPA 8321B	Sucralose**	0.010	U	ug/L	P334426	
	USGS O-2060-01	2,4-D	0.0020	UQ	ug/L	P335855	
		Diuron	8.0E-04	U	ug/L	P334232	
		Fenuron	0.0080	U	ug/L	P334232	
		Imidacloprid	8.0E-04	U	ug/L	P334232	
		Bentazon	8.0E-04	UQ	ug/L	P335855	
		Linuron	0.0040	U	ug/L	P334232	
		Acetaminophen**	0.0080	U	ug/L	P334232	
		MCP	0.0020	UQ	ug/L	P335855	
		Carbamazepine**	4.0E-04	U	ug/L	P334232	
		Triclopyr**	0.0040	UQ	ug/L	P335855	

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940988	USGS O-2060-01	Primidone**	0.0040	U	ug/L	P334232	
		Fluridone**	4.0E-04	U	ug/L	P334232	

Ref. Method and Comment:

USGS O-2060-01: Sample required re-extraction beyond normal holding time due to reagent performance inconsistencies.

Sample Location: Beech Tree Creek Abv Un-named Rd

Collection Date/Time: 10/26/2017 12:15

Field ID: G4NW0330

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940957	EPA 180.1 Rev. 2.0	Turbidity	23	A	NTU	P334221	
	EPA 300.0 Rev. 2.1	Chloride	2.3		mg Cl/L	P334681	
		Sulfate	0.89		mg SO4/L	P334684	
	SM 2120 B	Color (true)	17	A	PCU	P334226	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	27		mg/L	P334826	
	SM 2540 D-97	TSS	42		mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940965	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.15	I	mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.055		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	3.9		mg C/L	P334886	
1940973	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	I	mg P/L	P334215	

Ref. Method and Comment:

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

SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Long Creek upstream of CR2

Collection Date/Time: 10/26/2017 12:40

Field ID: G4NW0304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940958	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P334221	
	EPA 300.0 Rev. 2.1	Chloride	4.2		mg Cl/L	P334681	
		Sulfate	0.70		mg SO4/L	P334684	
	SM 2120 B	Color (true)	74	A	PCU	P334225	
	SM 2320 B-97	Total Alkalinity	6.0		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	33		mg/L	P334826	
	SM 2540 D-97	TSS	3	I	mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940966	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.022		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P334886	
1940974	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P334215	

Field ID: G4NW0304

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment:							
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.							
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.							

Sample Location: East Branch Pine Log Creek

Collection Date/Time: 10/26/2017 13:00

Field ID: G4NW0208

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940959	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P334221	
	EPA 300.0 Rev. 2.1	Chloride	3.4		mg Cl/L	P334681	
		Sulfate	0.95		mg SO4/L	P334684	
	SM 2120 B	Color (true)	110		PCU	P334225	
	SM 2320 B-97	Total Alkalinity	6.3		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	45		mg/L	P334826	
	SM 2540 D-97	TSS	2	I	mg/L	P334836	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940967	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.065		mg N/L	P334613	
	EPA 365.1 Rev. 2.0	Total-P	0.059		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	9.8		mg C/L	P334886	
1940975	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.033		mg P/L	P334215	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Eightmile Creek & CR181

Collection Date/Time: 10/26/2017 13:45

Field ID: G3NW0136

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1940960	EPA 180.1 Rev. 2.0	Turbidity	2.7		NTU	P334221	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P334687	
		Sulfate	0.67		mg SO4/L	P334690	
	SM 2120 B	Color (true)	120		PCU	P334225	
	SM 2320 B-97	Total Alkalinity	10		mg CaCO3/L	P334548	
	SM 2540 C-97	TDS	50		mg/L	P334827	
	SM 2540 D-97	TSS	2	I	mg/L	P334837	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P334863	
1940968	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P334768	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P334731	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.070		mg N/L	P334639	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P334395	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P334886	
1940976	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334215	

Ref. Method and Comment:
 SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
 SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334220

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334221

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334681

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334684

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334687

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334690

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334768

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334770

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

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: P334727

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334731

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334613

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334639

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334395

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334215

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

Reference Method: EPA 8321B
Batch ID: P334426

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P334224

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P334225

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P334226

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P334548

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

Reference Method: SM 2540 C-97
Batch ID: P334824

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P334826

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P334827

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334834

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334836

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P334837

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P334863

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: P334775

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

Reference Method: SM 5310 B-00
Batch ID: P334886

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

Reference Method: USGS O-2060-01
Batch ID: P334232

Component	Result	Code	Units
Acetaminophen	0.0080	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
Primidone	0.0040	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P335855

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
MCP	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334681

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334684

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334687

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334690

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334768

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334770

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

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: P334727

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334731

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334613

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334639

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334395

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334215

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.2		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P334426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	114		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P334548

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

Reference Method: SM 4500 F-C-97
Batch ID: P334863

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P334775

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

Reference Method: SM 5310 B-00
Batch ID: P334886

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P334232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetaminophen	89.6		P	30 - 150
Carbamazepine	114		P	40 - 150
Diuron	107		P	40 - 150
Fenuron	108		P	40 - 150
Fluridone	110		P	40 - 150
Imidacloprid	106		P	40 - 160
Linuron	110		P	40 - 150
Primidone	104		P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	101		P	40 - 150
Bentazon	93.5		P	30 - 150
MCP	94.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P335855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Triclopyr	94.6		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940816	Chloride	96.0		P	90 - 110
1940903	Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334684

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940816	Sulfate	98.5		P	90 - 110
1940903	Sulfate	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941216	Chloride	98.0		P	90 - 110
1941238	Chloride	97.5		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P334690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941216	Sulfate	96.9		P	90 - 110
1941238	Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P334768

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940962	Ammonia-N	101	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P334770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941243	Ammonia-N	104	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P335015

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940458	Ammonia-N	105	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940921	Kjeldahl Nitrogen	96.0	99.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334731

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941095	Kjeldahl Nitrogen	97.8	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940919	NO2NO3-N	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334639

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940968	NO2NO3-N	107	107	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334395

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940961	Total-P	97.1	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334215

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940969	O-Phosphate-P	95.5	90.2	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P334426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940829	Sucralose	88.8	97.9	P/P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P334775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940820	Organic Carbon	97.0	97.8	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P334886

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940965	Organic Carbon	97.4	97.3	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P334232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941073	Acetaminophen	98.3	103	P/P	30 - 150
1941073	Carbamazepine	133	136	P/P	40 - 150
1941073	Diuron	105	109	P/P	40 - 150
1941073	Fenuron	107	102	P/P	40 - 150
1941073	Fluridone	112	114	P/P	40 - 150
1941073	Imidacloprid	147	150	P/P	40 - 160
1941073	Linuron	109	114	P/P	40 - 150
1941073	Primidone	125	124	P/P	40 - 150

Reference Method: USGS O-2060-01
Batch ID: P335855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1940704	2,4-D	84.2	80.2	P/P	40 - 150
1940704	Bentazon	83.8	80.9	P/P	30 - 150
1940704	MCP	64.0	60.9	P/P	40 - 150
1940704	Triclopyr	60.1	58.3	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940907	Turbidity	8.47	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P334221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940957	Turbidity	13.7	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940816	Chloride	0.561	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334684

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940816	Sulfate	0.558	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941216	Chloride	0.620	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941216	Sulfate	0.669	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940962	Ammonia-N	0.635	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P334770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941243	Ammonia-N	0.252	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940458	Ammonia-N	0.758	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940921	Kjeldahl Nitrogen	2.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P334731

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941095	Kjeldahl Nitrogen	3.96	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940919	NO2NO3-N	0.363	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P334639

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940968	NO2NO3-N	0.353	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334395

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940961	Total-P	5.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334215

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940969	O-Phosphate-P	5.17	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P334426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940829	Sucralose	9.28	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P334224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940905	Color (true)	2.75	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P334225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940958	Color (true)	2.39	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P334226

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940957	Color (true)	0.212	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P334548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941093	Total Alkalinity	0.961	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P334824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940678	TDS	3.04	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P334826

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940850	TDS	5.02	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P334827

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941094	TDS	6.62	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P334863

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942677	Fluoride	0.506	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P334775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940820	Organic Carbon	0.412	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P334886

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940965	Organic Carbon	0.0855	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P334232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941073	Acetaminophen	4.98	Spike	P	0 - 30
1941073	Carbamazepine	2.78	Spike	P	0 - 30
1941073	Diuron	3.60	Spike	P	0 - 30
1941073	Fenuron	4.64	Spike	P	0 - 30
1941073	Fluridone	1.61	Spike	P	0 - 30
1941073	Imidacloprid	1.88	Spike	P	0 - 30
1941073	Linuron	4.36	Spike	P	0 - 30
1941073	Primidone	0.498	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P335855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1940704	2,4-D	4.91	Spike	P	0 - 30
1940704	Bentazon	3.52	Spike	P	0 - 30
1940704	MCP	4.91	Spike	P	0 - 30
1940704	Triclopyr	3.14	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: 1940986
Field Sample ID: G4NW0409

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	98.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	136	P	30 - 160
EPA 8321B	Diuron-d6	94.5	P	30 - 160
EPA 8321B	Primidone-d5	133	P	30 - 160
EPA 8321B	Sucralose-d6	96.9	P	40 - 160
USGS O-2060-01	2,4-D-d3	71.1	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	98.6	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	136	P	30 - 160
USGS O-2060-01	Diuron-d6	94.5	P	30 - 160
USGS O-2060-01	Primidone-d5	133	P	30 - 160
USGS O-2060-01	Sucralose-d6	96.9	P	40 - 160

Lab Sample ID: 1940987
Field Sample ID: G4NW0409DUP

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	108	P	30 - 160
EPA 8321B	Carbamazepine-d10	150	P	30 - 160
EPA 8321B	Diuron-d6	108	P	30 - 160
EPA 8321B	Primidone-d5	147	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	40 - 160
USGS O-2060-01	2,4-D-d3	55.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	108	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	150	P	30 - 160
USGS O-2060-01	Diuron-d6	108	P	30 - 160
USGS O-2060-01	Primidone-d5	147	P	30 - 160
USGS O-2060-01	Sucralose-d6	108	P	40 - 160

Lab Sample ID: 1940988
Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	124	P	30 - 160
EPA 8321B	Diuron-d6	115	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1940988
Field Sample ID: Field Blank

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Primidone-d5	125	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	40 - 160
USGS O-2060-01	2,4-D-d3	79.3	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	113	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	124	P	30 - 160
USGS O-2060-01	Diuron-d6	115	P	30 - 160
USGS O-2060-01	Primidone-d5	125	P	30 - 160
USGS O-2060-01	Sucralose-d6	110	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A79865

Included Lab Sample IDs: 1940969, 1940970, 1940971, 1940972, 1940973, 1940974, 1940975, 1940976

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	103	98.2	P/P	90 - 110
O-Phosphate-P	98.2	98.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A79866

Included Lab Sample IDs: 1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

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

Reference Method: SM 2120 B

Run ID: A79867

Included Lab Sample IDs: 1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79947

Included Lab Sample IDs: 1940967

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

Reference Method: EPA 8321B

Run ID: A79980

Included Lab Sample IDs: 1940986, 1940987, 1940988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	112	118	P/P	60 - 150
Sucralose	118	115	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A79984

Included Lab Sample IDs: 1940968

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

Reference Method: SM 2320 B-97

Run ID: A79986

Included Lab Sample IDs: 1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A79996

Included Lab Sample IDs: 1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940968

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80017

Included Lab Sample IDs: 1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80039

Included Lab Sample IDs: 1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	101	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Chloride	99.9	101	P/P	90 - 110
Sulfate	100	101	P/P	90 - 110
Sulfate	101	100	P/P	90 - 110
Sulfate	99.9	98.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80077

Included Lab Sample IDs: 1940961, 1940962, 1940963, 1940965, 1940966, 1940967, 1940968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	104	P/P	90 - 110
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	104	103	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80078

Included Lab Sample IDs: 1940961, 1940962, 1940963, 1940964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.5	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A80108

Included Lab Sample IDs: 1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	99.0	P/P	90 - 110
Fluoride	99.0	99.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80113

Included Lab Sample IDs: 1940965, 1940966, 1940967, 1940968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.6	97.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80133

Included Lab Sample IDs: 1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.2	97.1	P/P	90 - 110
Kjeldahl Nitrogen	97.1	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80156

Included Lab Sample IDs: 1940964

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.6	97.2	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A80527

Included Lab Sample IDs: 1940986, 1940987, 1940988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	96.6	97.3	P/P	50 - 150
Bentazon	110	113	P/P	50 - 150
MCP	93.1	96.8	P/P	50 - 150
Triclopyr	93.4	86.6	P/P	50 - 150

Reference Method: USGS O-2060-01

Run ID: A80584

Included Lab Sample IDs: 1940986, 1940987, 1940988

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	94.5	97.3	P/P	60 - 150
Carbamazepine	111	109	P/P	60 - 150
Diuron	105	109	P/P	60 - 150
Fenuron	106	104	P/P	60 - 150
Fluridone	113	109	P/P	60 - 160
Imidacloprid	102	97.2	P/P	60 - 150
Linuron	109	116	P/P	60 - 150
Primidone	107	101	P/P	60 - 150

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		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					8.47	
	Turbidity					13.7	
EPA 300.0 Rev. 2.1	Chloride	96.2	96.0	97.3		0.561	
	Chloride	98.8	98.0	97.5		0.620	
	Sulfate	98.5	98.5	99.9		0.558	
	Sulfate	96.6	96.9	95.9		0.669	
EPA 350.1 Rev. 2.0	Ammonia-N	99.5	101	100			0.635
	Ammonia-N	99.4	104	105			0.252
	Ammonia-N	105	105	104			0.758
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	96.0	99.3			2.95
	Kjeldahl Nitrogen	103	97.8	103			3.96
EPA 353.2 Rev. 2.0	NO2NO3-N	105	107	106			0.363
	NO2NO3-N	110	107	107			0.353
EPA 365.1 Rev. 2.0	Total-P	102	97.1	103			5.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.2	95.5	90.2			5.17
EPA 8321B	Sucralose	114	88.8	97.9			9.28
SM 2120 B	Color (true)					2.75	
	Color (true)					2.39	
	Color (true)					0.212	
SM 2320 B-97	Total Alkalinity	103				0.961	
SM 2540 C-97	TDS					3.04	
	TDS					5.02	
	TDS					6.62	
SM 4500 F-C-97	Fluoride	96.6					0.506
SM 5310 B-00	Organic Carbon	100	97.0	97.8			0.412
	Organic Carbon	97.1	97.4	97.3			0.0855
USGS O-2060-01	2,4-D	101	84.2	80.2			4.91
	Acetaminophen	89.6	98.3	103			4.98
	Bentazon	93.5	83.8	80.9			3.52
	Carbamazepine	114	133	136			2.78
	Diuron	107	105	109			3.60
	Fenuron	108	107	102			4.64
	Fluridone	110	112	114			1.61
	Imidacloprid	106	147	150			1.88
	Linuron	110	109	114			4.36
	MCPP	94.7	64.0	60.9			4.91
	Primidone	104	125	124			0.498
	Triclopyr	94.6	60.1	58.3			3.14

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1940969, 1940970, 1940971, 1940972, 1940973, 1940974, 1940975, 1940976
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1940986, 1940987, 1940988
SM 2120 B / E31780	True Color measured at 450 nm	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1940986, 1940987, 1940988
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1940986, 1940987, 1940988

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	10/27/2017			10/27/2017 17:19	Tanya Welborn	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
EPA 300.0 Rev. 2.1	10/27/2017			11/02/2017	Julia Storbeck	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
EPA 350.1 Rev. 2.0	10/27/2017			11/06/2017	Sofia Elnemr	1940961, 1940962, 1940963, 1940965, 1940966, 1940967, 1940968
	10/27/2017			11/08/2017	Sofia Elnemr	1940964
EPA 351.2 Rev. 2.0	10/27/2017	11/06/2017	Adrian Shelby	11/07/2017	Joseph Suarez	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967, 1940968
EPA 353.2 Rev. 2.0	10/27/2017			11/02/2017	Beverly Y. Sanders	1940968
	10/27/2017			11/03/2017	Beverly Y. Sanders	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940967
EPA 365.1 Rev. 2.0	10/27/2017	10/31/2017	Sima Feizi	11/01/2017	Lipi Saha	1940967
	10/27/2017	10/31/2017	Sima Feizi	11/02/2017	Lipi Saha	1940961, 1940962, 1940963, 1940964, 1940965, 1940966, 1940968
EPA 365.1 Rev. 2.0 dissolved	10/27/2017			10/27/2017 15:38	Megan Treadwell	1940970
	10/27/2017			10/27/2017 15:39	Megan Treadwell	1940971
	10/27/2017			10/27/2017 15:40	Megan Treadwell	1940972
	10/27/2017			10/27/2017 15:41	Megan Treadwell	1940973, 1940974
	10/27/2017			10/27/2017 15:46	Megan Treadwell	1940975
	10/27/2017			10/27/2017 15:47	Megan Treadwell	1940976
	10/27/2017			10/27/2017 15:50	Megan Treadwell	1940969
EPA 8321B	10/27/2017	11/01/2017	Juyoung Kim	11/02/2017	Juyoung Kim	1940986, 1940987, 1940988
SM 2120 B	10/27/2017			10/27/2017 16:28	Tanya Welborn	1940953, 1940954
	10/27/2017			10/27/2017 16:31	Tanya Welborn	1940955
	10/27/2017			10/27/2017 16:32	Tanya Welborn	1940956
	10/27/2017			10/27/2017 16:35	Tanya Welborn	1940958, 1940959
	10/27/2017			10/27/2017 16:36	Tanya Welborn	1940960
	10/27/2017			10/27/2017 16:38	Tanya Welborn	1940957
SM 2320 B-97	10/27/2017			11/02/2017	Dale L. Simmons	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 2540 C-97	10/27/2017			11/01/2017	Yijie Li	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 2540 D-97	10/27/2017			11/01/2017	Yijie Li	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 4500 F-C-97	10/27/2017			11/07/2017	Dale L. Simmons	1940953, 1940954, 1940955, 1940956, 1940957, 1940958, 1940959, 1940960
SM 5310 B-00	10/27/2017			11/06/2017	Ping Hua	1940965, 1940966, 1940967, 1940968
	10/27/2017			11/07/2017	Ping Hua	1940961, 1940962, 1940963, 1940964
USGS O-2060-01	10/27/2017	11/01/2017	Hoor Shaik	11/04/2017	Julie Michelle Frank	1940986, 1940987, 1940988
	10/27/2017	11/27/2017	Hoor Shaik	11/28/2017	Julie Michelle Frank	1940986, 1940987, 1940988