

Chemical Analysis Report

WQAP-2017-05-24-07

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

Event Description: **RUN 4**
Request ID: **RQ-2017-05-22-26**
Customer: **WQAP**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Tampa, FL 33637
Attn: Judy Ashton

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 19-JUN-2017 15:49

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: KLOSTERMAN

Collection Date/Time: 05/23/2017 09:30

Field ID: G5SW0039

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901339	EPA 180.1 Rev. 2.0	Turbidity	13		NTU	P325794	
	EPA 300.0 Rev. 2.1	Chloride	5.0E+03		mg Cl/L	P326772	
		Sulfate	740		mg SO4/L	P326774	
	SM 2120 B	Color (true)	99		PCU	P325783	
	SM 2320 B-97	Total Alkalinity	202	A	mg CaCO3/L	P325954	
	SM 2540 C-97	TDS	9.01E+03		mg/L	P326094	
	SM 2540 D-97	TSS	12		mg/L	P326271	
	SM 4500 F-C-97	Fluoride	0.79		mg F/L	P325958	
1901342	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P326127	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.6		mg N/L	P325869	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P326088	
	EPA 365.1 Rev. 2.0	Total-P	0.58		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	23		mg C/L	P326193	
1901345	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.27		mg P/L	P325778	

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: PASADENA

Collection Date/Time: 05/23/2017 10:55

Field ID: G5SW0119

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901340	EPA 180.1 Rev. 2.0	Turbidity	25		NTU	P325794	
	EPA 300.0 Rev. 2.1	Chloride	78		mg Cl/L	P326773	MS
		Sulfate	10		mg SO4/L	P326775	
	SM 2120 B	Color (true)	52	A	PCU	P325906	
	SM 2320 B-97	Total Alkalinity	67		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	226		mg/L	P326093	
	SM 2540 D-97	TSS	38		mg/L	P326269	
	SM 4500 F-C-97	Fluoride	0.24		mg F/L	P325957	RPD
1901343	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	4.8		mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P325887	
	EPA 365.1 Rev. 2.0	Total-P	0.32		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P326158	
1901346	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P325776	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: PP DITCH # 5

Collection Date/Time: 05/23/2017 11:25

Field ID: G5SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901341	EPA 180.1 Rev. 2.0	Turbidity	9.4		NTU	P325794	

Field ID: G5SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901341	EPA 300.0 Rev. 2.1	Chloride	100		mg Cl/L	P326773	MS
		Sulfate	28		mg SO4/L	P326775	
	SM 2120 B	Color (true)	53	A	PCU	P325784	
	SM 2320 B-97	Total Alkalinity	102		mg CaCO3/L	P325953	
	SM 2540 C-97	TDS	337		mg/L	P326093	
	SM 2540 D-97	TSS	21		mg/L	P326269	
	SM 4500 F-C-97	Fluoride	0.22		mg F/L	P325957	RPD
1901344	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P325917	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P325868	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P325887	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P325873	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P326158	
1901347	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P325776	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Chloride: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

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

Sample Location: KLOSTERMAN

Collection Date/Time: 05/23/2017 09:30

Field ID: G5SW0039

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901355	EPA 8321B	Sucralose**	20		ug/L	P325694	
	USGS O-2060-01	2,4-D	0.14		ug/L	P325789	
		Diuron	0.0072		ug/L	P325789	
		Fenuron	0.0040	U	ug/L	P325789	
		Imidacloprid	0.0036		ug/L	P325789	
		Bentazon	0.044		ug/L	P325789	MS
		Linuron	0.0040	U	ug/L	P325789	
		Acetaminophen**	0.0080	U	ug/L	P325789	
		MCPD	0.041		ug/L	P325789	
		Carbamazepine**	0.044		ug/L	P325789	
		Triclopyr**	0.0040	U	ug/L	P325789	
		Primidone**	0.13		ug/L	P325789	
		Fluridone**	0.0047		ug/L	P325789	

Sample Location: PP DITCH # 5

Collection Date/Time: 05/23/2017 11:25

Field ID: G5SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901356	EPA 8321B	Sucralose**	3.0		ug/L	P325694	
	USGS O-2060-01	2,4-D	0.0084		ug/L	P325789	
		Diuron	0.0058		ug/L	P325789	
		Fenuron	0.0040	U	ug/L	P325789	
		Imidacloprid	0.020		ug/L	P325789	
		Bentazon	0.0029	I	ug/L	P325789	MS

Field ID: G5SW0118

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1901356	USGS O-2060-01	Linuron	0.0040	U	ug/L	P325789	
		Acetaminophen**	0.0080	U	ug/L	P325789	
		MCPD	0.0020	U	ug/L	P325789	
		Carbamazepine**	0.0026		ug/L	P325789	
		Triclopyr**	0.0040	U	ug/L	P325789	
		Primidone**	0.015	I	ug/L	P325789	
		Fluridone**	9.6E-04	I	ug/L	P325789	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P325794

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326772

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326773

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326774

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326775

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P325917

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

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P326127

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: P325868

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325869

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325778

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

Reference Method: EPA 8321B
Batch ID: P325694

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P325783

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2120 B
Batch ID: P325784

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P325906

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P325953

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

Reference Method: SM 2320 B-97
Batch ID: P325954

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

Reference Method: SM 2540 C-97
Batch ID: P326093

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P326094

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326269

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P326271

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
 Batch ID: P325958

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
 Batch ID: P326158

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

Reference Method: SM 5310 B-00
 Batch ID: P326193

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

Reference Method: USGS O-2060-01
 Batch ID: P325789

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	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326772

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326773

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

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P326774

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326127

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325869

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325778

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

Reference Method: EPA 8321B
Batch ID: P325694

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	76.7		P	40 - 140

Reference Method: SM 2320 B-97
Batch ID: P325953

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

Reference Method: SM 2320 B-97
Batch ID: P325954

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P325958

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P326158

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.0		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P326193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.2		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P325789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	66.6		P	40 - 140
Acetaminophen	48.4		P	40 - 140
Bentazon	63.2		P	40 - 140
Carbamazepine	92.2		P	40 - 140

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P325789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	89.0		P	40 - 140
Fenuron	88.8		P	40 - 140
Fluridone	85.0		P	40 - 140
Imidacloprid	77.0		P	40 - 160
Linuron	74.6		P	40 - 140
MCPP	81.2		P	40 - 140
Primidone	78.6		P	40 - 140
Triclopyr	77.4		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326772

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900916	Chloride	103		P	90 - 110
1900917	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901061	Chloride	110		F	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326774

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900916	Sulfate	101		P	90 - 110
1900917	Sulfate	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900983	Sulfate	102		P	90 - 110
1901061	Sulfate	107		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901171	Ammonia-N	97.9	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326127

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901230	Ammonia-N	108	108	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901296	Kjeldahl Nitrogen	103	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325869

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901231	Kjeldahl Nitrogen	98.1	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901163	NO2NO3-N	96.2	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902452	NO2NO3-N	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901297	Total-P	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901093	O-Phosphate-P	96.6	97.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325778

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901235	O-Phosphate-P	101	102	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P325694

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900888	Sucralose	99.0	68.0	P/P	40 - 140

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901426	Fluoride	94.3	98.5	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P325958

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1901339	Fluoride	94.4	96.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P326158

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1902401	Organic Carbon	92.5	92.8	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P326193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900849	Organic Carbon	97.8	96.4	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P325789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1900995	2,4-D	71.4	63.8	P/P	40 - 140
1900995	Acetaminophen	79.2	75.4	P/P	40 - 140
1900995	Bentazon	31.4	28.0	F/F	40 - 140
1900995	Carbamazepine	69.6	62.2	P/P	40 - 140
1900995	Diuron	57.8	52.0	P/P	40 - 140
1900995	Fenuron	49.4	67.6	P/P	40 - 140
1900995	Fluridone	75.0	65.6	P/P	40 - 140
1900995	Imidacloprid	120	111	P/P	40 - 160
1900995	Linuron	77.0	70.4	P/P	40 - 140
1900995	MCP	64.0	54.2	P/P	40 - 140
1900995	Primidone	64.2	62.4	P/P	40 - 140
1900995	Triclopyr	67.4	63.2	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P325794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901123	Turbidity	2.44	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326772

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900916	Chloride	0.798	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901061	Chloride	0.161	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326774

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900916	Sulfate	0.523	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P326775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901061	Sulfate	0.331	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P325917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901171	Ammonia-N	0.630	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326127

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901230	Ammonia-N	0.236	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901296	Kjeldahl Nitrogen	2.22	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P325869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901231	Kjeldahl Nitrogen	1.23	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P325887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901163	NO2NO3-N	1.92	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P326088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902452	NO2NO3-N	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P325873

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901297	Total-P	0.399	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325776

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901093	O-Phosphate-P	1.03	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P325778

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901235	O-Phosphate-P	1.18	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P325694

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900888	Sucralose	3.15	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P325783

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901170	Color (true)	4.92	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P325784

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901341	Color (true)	0.820	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P325906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901340	Color (true)	4.23	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P325953

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901426	Total Alkalinity	0.344	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P325954

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901339	Total Alkalinity	0.861	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P326093

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901301	TDS	7.23	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P326094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901517	TDS	3.10	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P325957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901426	Fluoride	3.38	Spike	F	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P325958

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1901339	Fluoride	1.00	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P326158

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1902401	Organic Carbon	0.239	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P326193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900849	Organic Carbon	1.25	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P325789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1900995	2,4-D	10.5	Spike	P	0 - 30
1900995	Acetaminophen	4.92	Spike	P	0 - 30
1900995	Bentazon	11.4	Spike	P	0 - 30
1900995	Carbamazepine	11.2	Spike	P	0 - 30
1900995	Diuron	10.6	Spike	P	0 - 30
1900995	Fenuron	23.4	Spike	P	0 - 30
1900995	Fluridone	13.4	Spike	P	0 - 30
1900995	Imidacloprid	7.63	Spike	P	0 - 30
1900995	Linuron	8.96	Spike	P	0 - 30
1900995	MCP	16.6	Spike	P	0 - 30
1900995	Primidone	2.84	Spike	P	0 - 30
1900995	Triclopyr	6.43	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: 1901355
Field Sample ID: G5SW0039

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	81.0	P	40 - 150
USGS O-2060-01	2,4-D-d3	80.4	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	97.1	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	90.6	P	30 - 160
USGS O-2060-01	Diuron-d6	72.5	P	30 - 160
USGS O-2060-01	Primidone-d5	88.8	P	30 - 150

Lab Sample ID: 1901356
Field Sample ID: G5SW0118

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	144	P	40 - 150
USGS O-2060-01	2,4-D-d3	69.7	P	30 - 150
USGS O-2060-01	Acetaminophen-d4	116	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	75.0	P	30 - 160
USGS O-2060-01	Diuron-d6	56.9	P	30 - 160
USGS O-2060-01	Primidone-d5	95.1	P	30 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A76655
Included Lab Sample IDs: 1901345, 1901346, 1901347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A76655

Included Lab Sample IDs: 1901345, 1901346, 1901347

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.1	100	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A76656

Included Lab Sample IDs: 1901339, 1901341

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A76659

Included Lab Sample IDs: 1901339, 1901340, 1901341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	102	P/P	95 - 105

Reference Method: SM 2120 B

Run ID: A76660

Included Lab Sample IDs: 1901340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	101	P/P	85 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76697

Included Lab Sample IDs: 1901343, 1901344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	94.0	94.0	P/P	90 - 110
NO2NO3-N	97.0	96.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76718

Included Lab Sample IDs: 1901343, 1901344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.2	P/P	90 - 110
Ammonia-N	99.4	100	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A76730

Included Lab Sample IDs: 1901339, 1901340, 1901341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	106	P/P	90 - 110
Total Alkalinity	104	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A76730

Included Lab Sample IDs: 1901339, 1901340, 1901341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	95.7	P/P	90 - 110
Fluoride	95.7	94.3	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A76745

Included Lab Sample IDs: 1901355, 1901356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	110	79.5	P/P	60 - 150
Sucralose	61.5	105	P/P	60 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A76768

Included Lab Sample IDs: 1901342, 1901343, 1901344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	104	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76779

Included Lab Sample IDs: 1901343, 1901344

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A76795

Included Lab Sample IDs: 1901342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A76797

Included Lab Sample IDs: 1901342

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A76815

Included Lab Sample IDs: 1901342

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

Reference Method: SM 5310 B-00

Run ID: A76825

Included Lab Sample IDs: 1901343, 1901344

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

Reference Method: SM 5310 B-00

Run ID: A76825

Included Lab Sample IDs: 1901343, 1901344

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.5	94.6	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A76846

Included Lab Sample IDs: 1901342

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

Reference Method: USGS O-2060-01

Run ID: A76863

Included Lab Sample IDs: 1901355, 1901356

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	84.8	84.8	P/P	50 - 150
Acetaminophen	104	96.8	P/P	60 - 150
Bentazon	112	111	P/P	50 - 150
Carbamazepine	105	107	P/P	60 - 150
Diuron	98.4	97.6	P/P	60 - 150
Fenuron	112	110	P/P	60 - 150
Fluridone	112	108	P/P	60 - 160
Imidacloprid	96.4	93.2	P/P	60 - 150
Linuron	88.4	100	P/P	60 - 150
MCPP	94.0	95.2	P/P	50 - 150
Primidone	95.2	98.4	P/P	60 - 150
Triclopyr	95.6	94.8	P/P	50 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77076

Included Lab Sample IDs: 1901339, 1901340, 1901341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	98.4	P/P	90 - 110
Chloride	97.5	98.9	P/P	90 - 110
Chloride	99.7	100	P/P	90 - 110
Sulfate	101	105	P/P	90 - 110
Sulfate	103	99.7	P/P	90 - 110
Sulfate	106	101	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				2.44	
EPA 300.0 Rev. 2.1	Chloride	101	103 101		0.798	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 300.0 Rev. 2.1	Chloride	107	110		0.161	
	Sulfate	98.4	101	99.1	0.523	
	Sulfate	106	107	102	0.331	
EPA 350.1 Rev. 2.0	Ammonia-N	96.5	97.9	98.8		0.630
	Ammonia-N	103	108	108		0.236
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.3	103	101		2.22
	Kjeldahl Nitrogen	101	98.1	99.6		1.23
EPA 353.2 Rev. 2.0	NO2NO3-N	100	96.2	98.2		1.92
	NO2NO3-N	104	105	103		1.15
EPA 365.1 Rev. 2.0	Total-P	102	102	101		0.399
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	96.6	97.6		1.03
	O-Phosphate-P	100	101	102		1.18
EPA 8321B	Sucralose	76.7	99.0	68.0		3.15
SM 2120 B	Color (true)				4.92	
	Color (true)				0.820	
	Color (true)				4.23	
SM 2320 B-97	Total Alkalinity	103			0.344	
	Total Alkalinity	104			0.861	
SM 2540 C-97	TDS				7.23	
	TDS				3.10	
SM 4500 F-C-97	Fluoride	95.8	94.3	98.5		3.38
	Fluoride	94.8	94.4	96.4		1.00
SM 5310 B-00	Organic Carbon	93.0	92.5	92.8		0.239
	Organic Carbon	97.2	97.8	96.4		1.25
USGS O-2060-01	2,4-D	66.6	71.4	63.8		10.5
	Acetaminophen	48.4	79.2	75.4		4.92
	Bentazon	63.2	31.4	28.0		11.4
	Carbamazepine	92.2	69.6	62.2		11.2
	Diuron	89.0	57.8	52.0		10.6
	Fenuron	88.8	49.4	67.6		23.4
	Fluridone	85.0	75.0	65.6		13.4
	Imidacloprid	77.0	120	111		7.63
	Linuron	74.6	77.0	70.4		8.96
	MCP	81.2	64.0	54.2		16.6
	Primidone	78.6	64.2	62.4		2.84
	Triclopyr	77.4	67.4	63.2		6.43

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1901339, 1901340, 1901341
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1901339, 1901340, 1901341
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1901339, 1901340, 1901341
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1901342, 1901343, 1901344
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1901342, 1901343, 1901344
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1901342, 1901343, 1901344
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1901342, 1901343, 1901344

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	1901345, 1901346, 1901347
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1901355, 1901356
SM 2120 B / E31780	True Color measured at 450 nm	1901339, 1901340, 1901341
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1901339, 1901340, 1901341
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1901339, 1901340, 1901341
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1901339, 1901340, 1901341
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1901339, 1901340, 1901341
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1901342, 1901343, 1901344
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1901355, 1901356
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1901355, 1901356

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	05/24/2017			05/24/2017 16:45	Sima Feizi	1901339, 1901340, 1901341
EPA 300.0 Rev. 2.1	05/24/2017			06/12/2017	Julia Storbeck	1901339
	05/24/2017			06/13/2017	Julia Storbeck	1901340, 1901341
EPA 350.1 Rev. 2.0	05/24/2017			05/26/2017	Julia Storbeck	1901343, 1901344
	05/24/2017			06/01/2017	Julie Michelle Frank	1901342
EPA 351.2 Rev. 2.0	05/24/2017	05/26/2017	Adrian Shelby	05/31/2017	Joseph Suarez	1901343, 1901344
	05/24/2017	05/26/2017	Adrian Shelby	06/01/2017	Joseph Suarez	1901342
EPA 353.2 Rev. 2.0	05/24/2017			05/26/2017	Beverly Y. Sanders	1901343, 1901344
	05/24/2017			06/01/2017	Beverly Y. Sanders	1901342
EPA 365.1 Rev. 2.0	05/24/2017	05/26/2017	Adrian Shelby	05/31/2017	Beverly Y. Sanders	1901342, 1901343, 1901344
EPA 365.1 Rev. 2.0 dissolved	05/24/2017			05/24/2017 15:27	Julia Storbeck	1901346
	05/24/2017			05/24/2017 15:32	Julia Storbeck	1901347
	05/24/2017			05/24/2017 15:34	Julia Storbeck	1901345
EPA 8321B	05/24/2017	05/27/2017	Mohammad Ghaffari	05/27/2017	Mohammad Ghaffari	1901356
	05/24/2017	05/27/2017	Mohammad Ghaffari	05/28/2017	Mohammad Ghaffari	1901355
SM 2120 B	05/24/2017			05/24/2017 15:29	Tanya Welborn	1901339
	05/24/2017			05/24/2017 15:34	Tanya Welborn	1901341
	05/24/2017			05/24/2017 17:37	Tanya Welborn	1901340
SM 2320 B-97	05/24/2017			05/27/2017	Dale L. Simmons	1901339, 1901340, 1901341
SM 2540 C-97	05/24/2017			05/26/2017	Yijie Li	1901339, 1901340, 1901341
SM 2540 D-97	05/24/2017			05/26/2017	Yijie Li	1901339, 1901340, 1901341
SM 4500 F-C-97	05/24/2017			05/27/2017	Dale L. Simmons	1901339, 1901340, 1901341
SM 5310 B-00	05/24/2017			06/01/2017	Julie Michelle Frank	1901343, 1901344
	05/24/2017			06/03/2017	Julie Michelle Frank	1901342
USGS O-2060-01	05/24/2017	05/30/2017	Hoor Shaik	05/31/2017	Juyoung Kim	1901355, 1901356