

Chemical Analysis Report

SE-DIST-2017-11-16-01

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

Event Description: **SMP-G2 Jupiter Run**
Request ID: **RQ-2017-11-20-16**
Customer: **SE-DIST**
Project ID: **SMP**

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

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Colin Wright, Program Administrator

Date Certified: 08-DEC-2017 10:34



NON-CONFORMANCE REPORT INCLUDED

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: North Fork Upper Cox

Collection Date/Time: 11/15/2017 10:30

Field ID: G2SE0020

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946889	EPA 180.1 Rev. 2.0	Turbidity	0.95	J	NTU	P335461	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P335506	
		Sulfate	1.5	J	mg SO4/L	P335509	
	SM 2120 B	Color (true)	340	J	PCU	P335484	
	SM 2320 B-97	Total Alkalinity	32	J	mg CaCO3/L	P335919	
	SM 2540 C-97	TDS	131	J	mg/L	P335954	
	SM 2540 D-97	TSS	2	UJ	mg/L	P335783	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P335922	
1946890	EPA 350.1 Rev. 2.0	Ammonia-N	0.012	J	mg N/L	P336279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96	J	mg N/L	P336177	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	IJ	mg N/L	P335898	
	EPA 365.1 Rev. 2.0	Total-P	0.017	J	mg P/L	P335873	
	SM 5310 B-00	Organic Carbon	26	J	mg C/L	P335968	
1946891	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UJ	mg P/L	P335476	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 300.0 Rev. 2.1: Sulfate: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2120 B: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2320 B-97: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2540 C-97: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 350.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 351.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 353.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 365.1 Rev. 2.0: Total-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 5310 B-00: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

Sample Location: North Fork Lox @ County Line

Collection Date/Time: 11/15/2017 12:00

Field ID: G2SE0021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946895	EPA 180.1 Rev. 2.0	Turbidity	3.2	AJ	NTU	P335461	
	SM 2320 B-97	Total Alkalinity	45	J	mg CaCO3/L	P335919	
	SM 2540 D-97	TSS	5	IJ	mg/L	P335783	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P335922	
1946897	EPA 350.1 Rev. 2.0	Ammonia-N	0.017	J	mg N/L	P336279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84	J	mg N/L	P336177	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	IJ	mg N/L	P335898	
	EPA 365.1 Rev. 2.0	Total-P	0.027	J	mg P/L	P335873	
	SM 5310 B-00	Organic Carbon	22	J	mg C/L	P335968	
1946899	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.01	IJ	mg P/L	P335476	
1946956	EPA 8321B	Sucralose**	0.24	J	ug/L	P335618	
	USGS O-2060-01	2,4-D	0.0020	UJ	ug/L	P335388	MS
		Diuron	8.0E-04	UJ	ug/L	P335388	
		Fenuron	0.0080	UJ	ug/L	P335388	
		Imidacloprid	0.0025	IJ	ug/L	P335388	

Field ID: G2SE0021

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946956	USGS O-2060-01	Bentazon	0.0091	J	ug/L	P335388	MS
		Linuron	0.0040	UJ	ug/L	P335388	
		Acetaminophen**	0.0080	UJ	ug/L	P335388	
		MCP	0.0020	UJ	ug/L	P335388	
		Carbamazepine**	4.0E-04	UJ	ug/L	P335388	
		Triclopyr**	0.0040	UJ	ug/L	P335388	
		Primidone**	0.0040	UJ	ug/L	P335388	RPD
		Fluridone**	4.0E-04	UJ	ug/L	P335388	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2320 B-97: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 350.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 351.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 353.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 365.1 Rev. 2.0: Total-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

SM 5310 B-00: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

EPA 8321B: J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

USGS O-2060-01: J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

Sample Location: Tidal Creek to Lox

Collection Date/Time: 11/15/2017 12:40

Field ID: G2SE0027

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946892	EPA 180.1 Rev. 2.0	Turbidity	2.0	J	NTU	P335461	
	SM 2320 B-97	Total Alkalinity	72	J	mg CaCO3/L	P335919	
	SM 2540 D-97	TSS	2	UJ	mg/L	P335783	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P335922	
1946893	EPA 350.1 Rev. 2.0	Ammonia-N	0.032	J	mg N/L	P336279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.75	J	mg N/L	P336047	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.029	J	mg N/L	P335898	
	EPA 365.1 Rev. 2.0	Total-P	0.058	J	mg P/L	P335873	
	SM 5310 B-00	Organic Carbon	18	J	mg C/L	P335968	
1946894	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.036	J	mg P/L	P335476	
1946955	EPA 8321B	Sucralose**	0.11	J	ug/L	P336107	
	USGS O-2060-01	2,4-D	0.032	J	ug/L	P335388	MS
		Diuron	8.0E-04	UJ	ug/L	P335388	
		Fenuron	0.0080	UJ	ug/L	P335388	
		Imidacloprid	0.071	J	ug/L	P335388	
		Bentazon	0.022	J	ug/L	P335388	MS
		Linuron	0.0040	UJ	ug/L	P335388	
		Acetaminophen**	0.0080	UJ	ug/L	P335388	
		MCP	0.0049	IJ	ug/L	P335388	
		Carbamazepine**	4.0E-04	UJ	ug/L	P335388	
		Triclopyr**	0.0040	UJ	ug/L	P335388	
		Primidone**	0.0040	UJ	ug/L	P335388	RPD
		Fluridone**	0.0066	J	ug/L	P335388	

Field ID: G2SE0027

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
Ref. Method and Comment:							
EPA 180.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
SM 2320 B-97: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 350.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 351.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 353.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 365.1 Rev. 2.0: Total-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
SM 5310 B-00: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
EPA 8321B: J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							
USGS O-2060-01: J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.							

Sample Location: SW Fork Lox @ Central Blvd.

Collection Date/Time: 11/15/2017 13:00

Field ID: G2SE0023

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1946896	EPA 180.1 Rev. 2.0	Turbidity	2.0	J	NTU	P335461	
	SM 2320 B-97	Total Alkalinity	92	J	mg CaCO3/L	P335919	
	SM 2540 D-97	TSS	3	IJ	mg/L	P335783	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P335922	
1946898	EPA 350.1 Rev. 2.0	Ammonia-N	0.10	J	mg N/L	P336279	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.82	J	mg N/L	P336047	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.037	J	mg N/L	P335898	
	EPA 365.1 Rev. 2.0	Total-P	0.037	J	mg P/L	P335873	
	SM 5310 B-00	Organic Carbon	13	J	mg C/L	P335968	
1946957	EPA 8321B	Sucralose**	0.25	J	ug/L	P336107	
	USGS O-2060-01	2,4-D	0.0054	IJ	ug/L	P335388	MS
		Diuron	0.0037	J	ug/L	P335388	
		Fenuron	0.0080	UJ	ug/L	P335388	
		Imidacloprid	0.082	J	ug/L	P335388	
		Bentazon	0.011	J	ug/L	P335388	MS
		Linuron	0.0040	UJ	ug/L	P335388	
		Acetaminophen**	0.0080	UJ	ug/L	P335388	
		MCP	0.0020	UJ	ug/L	P335388	
		Carbamazepine**	4.0E-04	UJ	ug/L	P335388	
		Triclopyr**	0.0040	UJ	ug/L	P335388	
		Primidone**	0.0040	UJ	ug/L	P335388	RPD
		Fluridone**	0.016	J	ug/L	P335388	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
SM 2320 B-97: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
EPA 350.1 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
EPA 351.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
EPA 353.2 Rev. 2.0: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
EPA 365.1 Rev. 2.0: Total-P: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
SM 5310 B-00: Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
EPA 8321B: J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.
USGS O-2060-01: Results confirmed in re-extraction. J - Sample cooler was not confirmed to be below 6 degrees Celsius upon receipt at laboratory.

Non-Conformance Report

NCR ID: 6777

Event(s)

SE-DIST-2017-11-16-01
SE-DIST-2017-11-16-01

Job(s)

TLH-2017-11-16-29
TLH-2017-11-16-41

Sample(s)

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: The initial temperature of the samples was not documented upon receipt.

Resolution: The analytical results will be "J" qualified and commented.

Authorized by/Date: Kerry Tate 12/1/2017

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry Colin Wright (850) 245-8085
Biology Cheryl Swanson (850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P335461

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335506

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335509

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336279

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336047

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336177

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335898

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335873

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335476

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

Reference Method: EPA 8321B
Batch ID: P335618

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P336107

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P335484

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P335919

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

Reference Method: SM 2540 C-97
Batch ID: P335954

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P335783

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P335922

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P335968

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

Reference Method: USGS O-2060-01
Batch ID: P335388

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335506

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335509

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336279

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	91.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336177

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	99.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335898

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335873

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: P335476

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

Reference Method: EPA 8321B
Batch ID: P335618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	103		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	67.4		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P335919

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

Reference Method: SM 4500 F-C-97
Batch ID: P335922

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.3		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P335968

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: USGS O-2060-01
Batch ID: P335388

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	62.2		P	40 - 150
Acetaminophen	91.4		P	30 - 150
Bentazon	36.9		P	30 - 150
Carbamazepine	94.5		P	40 - 150
Diuron	86.1		P	40 - 150
Fenuron	76.5		P	40 - 150
Fluridone	85.7		P	40 - 150
Imidacloprid	77.2		P	40 - 160
Linuron	78.7		P	40 - 150
MCPP	68.2		P	40 - 150
Primidone	70.7		P	40 - 150
Triclopyr	69.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335506

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946673	Chloride	97.6		P	90 - 110
1946675	Chloride	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946673	Sulfate	98.2		P	90 - 110
1946675	Sulfate	97.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336279

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946666	Ammonia-N	99.4	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946898	Kjeldahl Nitrogen	94.5	98.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336177

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947813	Kjeldahl Nitrogen	88.2	90.8	F/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335898

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946795	NO2NO3-N	106	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P335873

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946898	Total-P	98.4	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P335476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946762	O-Phosphate-P	99.0	95.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P335618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1947129	Sucralose	111	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949632	Sucralose	76.2	82.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P335922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946759	Fluoride	95.8	96.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P335968

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946807	Organic Carbon	95.3	96.1	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P335388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946711	2,4-D	35.3	42.2	F/P	40 - 150
1946711	Acetaminophen	54.7	68.1	P/P	30 - 150
1946711	Bentazon	20.8	24.6	F/F	30 - 150
1946711	Carbamazepine	79.4	99.6	P/P	40 - 150
1946711	Diuron	54.9	72.3	P/P	40 - 150
1946711	Fenuron	62.8	73.2	P/P	40 - 150
1946711	Fluridone	70.6	83.1	P/P	40 - 150
1946711	Imidacloprid	92.0	119	P/P	40 - 160
1946711	Linuron	69.8	86.2	P/P	40 - 150
1946711	MCP	44.5	52.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P335388

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1946711	Primidone	64.2	93.5	P/P	40 - 150
1946711	Triclopyr	46.2	54.4	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P335461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946895	Turbidity	6.21	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335506

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946675	Chloride	0.388	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P335509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946675	Sulfate	0.527	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336279

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946666	Ammonia-N	1.58	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946898	Kjeldahl Nitrogen	2.65	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336177

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1947813	Kjeldahl Nitrogen	2.16	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P335898

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946795	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P335873

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946898	Total-P	4.09	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P335476

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946762	O-Phosphate-P	2.72	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P335618

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1947129	Sucralose	2.46	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P336107

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949632	Sucralose	2.51	Spike	P	0 - 30

Reference Method: SM 2120 B

Batch ID: P335484

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946671	Color (true)	1.30	Sample	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P335919

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946759	Total Alkalinity	0.455	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97

Batch ID: P335954

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946793	TDS	3.05	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P335922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946759	Fluoride	0.487	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P335968

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946807	Organic Carbon	0.504	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P335388

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1946711	2,4-D	17.8	Spike	P	0 - 30
1946711	Acetaminophen	21.8	Spike	P	0 - 30
1946711	Bentazon	17.1	Spike	P	0 - 30
1946711	Carbamazepine	22.4	Spike	P	0 - 30
1946711	Diuron	27.4	Spike	P	0 - 30
1946711	Fenuron	15.4	Spike	P	0 - 30
1946711	Fluridone	16.2	Spike	P	0 - 30
1946711	Imidacloprid	25.3	Spike	P	0 - 30
1946711	Linuron	21.0	Spike	P	0 - 30
1946711	MCPP	15.9	Spike	P	0 - 30
1946711	Primidone	37.2	Spike	F	0 - 30
1946711	Triclopyr	16.3	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 1946955
Field Sample ID: G2SE0027

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	100	P	30 - 160
EPA 8321B	Carbamazepine-d10	63.1	P	30 - 160
EPA 8321B	Diuron-d6	43.6	P	30 - 160
EPA 8321B	Primidone-d5	56.8	P	30 - 160
EPA 8321B	Sucralose-d6	116	P	40 - 160
USGS O-2060-01	2,4-D-d3	39.2	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	100	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	63.1	P	30 - 160
USGS O-2060-01	Diuron-d6	43.6	P	30 - 160
USGS O-2060-01	Primidone-d5	56.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	116	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1946956
Field Sample ID: G2SE0021

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	72.6	P	30 - 160
EPA 8321B	Diuron-d6	53.6	P	30 - 160
EPA 8321B	Primidone-d5	66.4	P	30 - 160
EPA 8321B	Sucralose-d6	158	P	40 - 160
USGS O-2060-01	2,4-D-d3	46.0	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	122	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	72.6	P	30 - 160
USGS O-2060-01	Diuron-d6	53.6	P	30 - 160
USGS O-2060-01	Primidone-d5	66.4	P	30 - 160
USGS O-2060-01	Sucralose-d6	158	P	40 - 160

Lab Sample ID: 1946957
Field Sample ID: G2SE0023

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.3	P	30 - 160
EPA 8321B	Diuron-d6	47.9	P	30 - 160
EPA 8321B	Primidone-d5	61.8	P	30 - 160
EPA 8321B	Sucralose-d6	101	P	40 - 160
USGS O-2060-01	2,4-D-d3	35.8	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	105	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	68.3	P	30 - 160
USGS O-2060-01	Diuron-d6	47.9	P	30 - 160
USGS O-2060-01	Primidone-d5	61.8	P	30 - 160
USGS O-2060-01	Sucralose-d6	101	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80230
Included Lab Sample IDs: 1946889

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80322
Included Lab Sample IDs: 1946889, 1946892, 1946895, 1946896

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A80325
Included Lab Sample IDs: 1946891, 1946894, 1946899

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80325

Included Lab Sample IDs: 1946891, 1946894, 1946899

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

Reference Method: SM 2120 B

Run ID: A80326

Included Lab Sample IDs: 1946889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	107	P/P	85 - 115

Reference Method: USGS O-2060-01

Run ID: A80485

Included Lab Sample IDs: 1946955, 1946956, 1946957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	75.7	74.3	P/P	50 - 150
Acetaminophen	71.9	87.5	P/P	60 - 150
Bentazon	99.6	109	P/P	50 - 150
Carbamazepine	90.9	102	P/P	60 - 150
Diuron	69.9	89.2	P/P	60 - 150
Fenuron	73.2	86.1	P/P	60 - 150
Fluridone	90.5	108	P/P	60 - 160
Imidacloprid	67.9	77.8	P/P	60 - 150
Linuron	74.8	99.2	P/P	60 - 150
MCP	79.6	90.3	P/P	50 - 150
Primidone	66.0	78.0	P/P	60 - 150
Triclopyr	81.4	86.6	P/P	50 - 160

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80516

Included Lab Sample IDs: 1946890, 1946893, 1946897, 1946898

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO ₂ NO ₃ -N	101	101	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A80534

Included Lab Sample IDs: 1946889, 1946892, 1946895, 1946896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.2	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80534

Included Lab Sample IDs: 1946889, 1946892, 1946895, 1946896

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.1	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80538

Included Lab Sample IDs: 1946893

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

Reference Method: SM 5310 B-00

Run ID: A80544

Included Lab Sample IDs: 1946890, 1946893, 1946897, 1946898

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	96.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80548

Included Lab Sample IDs: 1946890, 1946897, 1946898

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	97.5	99.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80568

Included Lab Sample IDs: 1946955, 1946956, 1946957

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	101	128	P/P	60 - 150
Sucralose	109	107	P/P	60 - 150
Sucralose	74.5	109	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80614

Included Lab Sample IDs: 1946893, 1946898

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.7	95.9	P/P	90 - 110
Kjeldahl Nitrogen	95.9	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80627

Included Lab Sample IDs: 1946890, 1946893, 1946897, 1946898

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80699

Included Lab Sample IDs: 1946890, 1946897

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.3	104	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		Precision	
					LCS	MS
EPA 180.1 Rev. 2.0	Turbidity				6.21	
EPA 300.0 Rev. 2.1	Chloride	97.8	95.8	97.6	0.388	
	Sulfate	98.7	97.0	98.2	0.527	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	99.4	101		1.58
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	91.8	94.5	98.9		2.65
	Kjeldahl Nitrogen	99.0	88.2	90.8		2.16
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	104	106	106		0.0
EPA 365.1 Rev. 2.0	Total-P	102	98.4	103		4.09
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	107	99.0	95.8		2.72
EPA 8321B	Sucralose	103	111	108		2.46
	Sucralose	67.4	76.2	82.2		2.51
SM 2120 B	Color (true)				1.30	
SM 2320 B-97	Total Alkalinity	103			0.455	
SM 2540 C-97	TDS				3.05	
SM 4500 F-C-97	Fluoride	94.3	95.8	96.3		0.487
SM 5310 B-00	Organic Carbon	97.0	95.3	96.1		0.504
USGS O-2060-01	2,4-D	62.2	35.3	42.2		17.8
	Acetaminophen	91.4	54.7	68.1		21.8
	Bentazon	36.9	20.8	24.6		17.1
	Carbamazepine	94.5	79.4	99.6		22.4
	Diuron	86.1	54.9	72.3		27.4
	Fenuron	76.5	62.8	73.2		15.4
	Fluridone	85.7	70.6	83.1		16.2
	Imidacloprid	77.2	92.0	119		25.3
	Linuron	78.7	69.8	86.2		21.0
	MCPP	68.2	44.5	52.2		15.9
	Primidone	70.7	64.2	93.5		37.2
	Triclopyr	69.0	46.2	54.4		16.3

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1946889, 1946892, 1946895, 1946896
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1946889
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1946889
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1946890, 1946893, 1946897, 1946898
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1946890, 1946893, 1946897, 1946898
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1946890, 1946893, 1946897, 1946898
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1946890, 1946893, 1946897, 1946898
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1946891, 1946894, 1946899
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1946955, 1946956, 1946957
SM 2120 B / E31780	True Color measured at 450 nm	1946889
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1946889, 1946892, 1946895, 1946896
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1946889
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1946889, 1946892, 1946895, 1946896
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1946889, 1946892, 1946895, 1946896
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1946890, 1946893, 1946897, 1946898

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1946955, 1946956, 1946957
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1946955, 1946956, 1946957

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	11/16/2017			11/16/2017 16:18	DeAsia Armster	1946889, 1946892, 1946895, 1946896
EPA 300.0 Rev. 2.1	11/16/2017			11/17/2017	Julia Storbeck	1946889
EPA 350.1 Rev. 2.0	11/16/2017			11/30/2017	Sofia Elnemr	1946890, 1946893, 1946897, 1946898
EPA 351.2 Rev. 2.0	11/16/2017	11/29/2017	Adrian Shelby	11/30/2017	Joseph Suarez	1946893, 1946898
	11/16/2017	12/01/2017	Adrian Shelby	12/04/2017	Joseph Suarez	1946890, 1946897
EPA 353.2 Rev. 2.0	11/16/2017			11/27/2017	Beverly Y. Sanders	1946890, 1946893, 1946897, 1946898
EPA 365.1 Rev. 2.0	11/16/2017	11/27/2017	Sima Feizi	11/28/2017	Lipi Saha	1946890, 1946893, 1946897, 1946898
EPA 365.1 Rev. 2.0 dissolved	11/16/2017			11/16/2017 14:26	Megan Treadwell	1946891
	11/16/2017			11/16/2017 14:27	Megan Treadwell	1946894
	11/16/2017			11/16/2017 14:36	Megan Treadwell	1946899
EPA 8321B	11/16/2017	11/22/2017	Mohammad Ghaffari	11/29/2017	Mohammad Ghaffari	1946956
	11/16/2017	11/30/2017	Juyoung Kim	11/30/2017	Juyoung Kim	1946955, 1946957
SM 2120 B	11/16/2017			11/16/2017 17:06	Tanya Welborn	1946889
SM 2320 B-97	11/16/2017			11/28/2017	Dale L. Simmons	1946889, 1946892, 1946895, 1946896
SM 2540 C-97	11/16/2017			11/17/2017	DeAsia Armster	1946889
SM 2540 D-97	11/16/2017			11/17/2017	DeAsia Armster	1946889, 1946892, 1946895, 1946896
SM 4500 F-C-97	11/16/2017			11/28/2017	Dale L. Simmons	1946889, 1946892, 1946895, 1946896
SM 5310 B-00	11/16/2017			11/27/2017	Ping Hua	1946890, 1946893, 1946897, 1946898
USGS O-2060-01	11/16/2017	11/20/2017	Hoor Shaik	11/22/2017	Mohammad Ghaffari	1946955, 1946956, 1946957