

Chemical Analysis Report

WQAP-2017-07-27-01

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

Event Description: **RUN 16**
Request ID: **RQ-2017-07-24-20**
Customer: **WQAP**
Project ID: **SMP**

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 16-AUG-2017 16:24



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: Mattress Drain

Collection Date/Time: 07/26/2017 10:10

Field ID: G4SW0092

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916938	EPA 180.1 Rev. 2.0	Turbidity	31		NTU	P329272	
	EPA 300.0 Rev. 2.1	Chloride	6.4		mg Cl/L	P329310	
		Sulfate	1.0		mg SO4/L	P329307	
		Color (true)	650	A	PCU	P329257	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P329456	
	SM 2540 C-97	TDS	135		mg/L	P329995	
	SM 2540 D-97	TSS	46		mg/L	P329525	
	SM 4500 F-C-97	Fluoride	0.088	I	mg F/L	P329460	RPD
1916942	EPA 350.1 Rev. 2.0	Ammonia-N	0.20		mg N/L	P329491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.4		mg N/L	P329406	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329402	
	EPA 365.1 Rev. 2.0	Total-P	1.2		mg P/L	P329412	
	SM 5310 B-00	Organic Carbon	50		mg C/L	P329538	
1916946	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	1.0		mg P/L	P329247	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Peace River above Bowlegs

Collection Date/Time: 07/26/2017 11:25

Field ID: G3SW0042

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916939	EPA 180.1 Rev. 2.0	Turbidity	14	A	NTU	P329273	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P329310	
		Sulfate	38		mg SO4/L	P329307	
		Color (true)	310		PCU	P329254	
	SM 2320 B-97	Total Alkalinity	44		mg CaCO3/L	P329456	
	SM 2540 C-97	TDS	196	A	mg/L	P329995	
	SM 2540 D-97	TSS	16		mg/L	P329525	
	SM 4500 F-C-97	Fluoride	0.48		mg F/L	P329460	RPD
1916943	EPA 350.1 Rev. 2.0	Ammonia-N	0.56		mg N/L	P329491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.0		mg N/L	P329406	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P329402	
	EPA 365.1 Rev. 2.0	Total-P	0.69		mg P/L	P329412	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P329538	
1916947	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.50		mg P/L	P329247	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The result was confirmed on 08/04/2017.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Peace River above Bowlegs

Collection Date/Time: 07/26/2017 11:25

Field ID: G3SW0042

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917029	EPA 8321B	Sucralose**	2.2		ug/L	P329067	
	USGS O-2060-01	2,4-D	0.016		ug/L	P329234	
		Diuron	0.0022	I	ug/L	P329234	
		Fenuron	0.0080	U	ug/L	P329234	
		Imidacloprid	0.056		ug/L	P329234	MS
		Bentazon	0.0046		ug/L	P329234	
		Linuron	0.0040	U	ug/L	P329234	
		Acetaminophen**	0.0080	U	ug/L	P329234	
		MCP	0.0020	U	ug/L	P329234	
		Carbamazepine**	0.010		ug/L	P329234	
		Triclopyr**	0.0040	U	ug/L	P329234	
		Primidone**	0.012	I	ug/L	P329234	
		Fluridone**	6.6E-04	I	ug/L	P329234	

Ref. Method and Comment:

EPA 8321B: MS accuracy for sucralose could not be assessed due to high concentration of parameter in the spiked sample.

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

Sample Location: Peace River above Bowlegs Dup

Collection Date/Time: 07/26/2017 11:30

Field ID: G3SW0042

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916940	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P329273	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P329310	
		Sulfate	37		mg SO4/L	P329307	
	SM 2120 B	Color (true)	310		PCU	P329255	
	SM 2320 B-97	Total Alkalinity	44		mg CaCO3/L	P329456	
	SM 2540 C-97	TDS	207		mg/L	P329995	
	SM 2540 D-97	TSS	13		mg/L	P329525	
	SM 4500 F-C-97	Fluoride	0.50		mg F/L	P329460	RPD
	EPA 350.1 Rev. 2.0	Ammonia-N	0.55		mg N/L	P329491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P329406	
1916944	EPA 353.2 Rev. 2.0	NO2NO3-N	0.30		mg N/L	P329402	
	EPA 365.1 Rev. 2.0	Total-P	0.71		mg P/L	P329412	
	SM 5310 B-00	Organic Carbon	28		mg C/L	P329538	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.51		mg P/L	P329247	
	dissolved						

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. The result was confirmed on 08/04/2017.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Peace River above Bowlegs Dup

Collection Date/Time: 07/26/2017 11:30

Field ID: G3SW0042

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917030	EPA 8321B	Sucralose**	2.1		ug/L	P329343	
	USGS O-2060-01	2,4-D	0.018		ug/L	P329234	
		Diuron	0.0020	I	ug/L	P329234	

Field ID: G3SW0042

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917030	USGS O-2060-01	Fenuron	0.0080	U	ug/L	P329234	
		Imidacloprid	0.064		ug/L	P329234	MS
		Bentazon	0.0050		ug/L	P329234	
		Linuron	0.0040	U	ug/L	P329234	
		Acetaminophen**	0.0080	U	ug/L	P329234	
		MCP	0.0020	U	ug/L	P329234	
		Carbamazepine**	0.012		ug/L	P329234	
		Triclopyr**	0.0040	U	ug/L	P329234	
		Primidone**	0.013	I	ug/L	P329234	
		Fluridone**	7.4E-04	I	ug/L	P329234	

Ref. Method and Comment:

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

Sample Location: Blank

Collection Date/Time: 07/26/2017 11:35

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1916941	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P329273	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P329310	
		Sulfate	0.20	U	mg SO4/L	P329307	
	SM 2120 B	Color (true)	2.5	U	PCU	P329255	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P329457	
	SM 2540 C-97	TDS	15	U	mg/L	P329996	
	SM 2540 D-97	TSS	2	U	mg/L	P329526	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P329461	
1916945	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P329491	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P329406	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P329403	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P329412	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P329613	
1916949	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P329247	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Blank

Collection Date/Time: 07/26/2017 11:35

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917031	EPA 8321B	Sucralose**	0.010	U	ug/L	P329343	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P329234	
		Diuron	8.0E-04	U	ug/L	P329234	
		Fenuron	0.0080	U	ug/L	P329234	
		Imidacloprid	8.0E-04	U	ug/L	P329234	MS
		Bentazon	8.0E-04	U	ug/L	P329234	
		Linuron	0.0040	U	ug/L	P329234	

Field ID: BLANK

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1917031	USGS O-2060-01	Acetaminophen**	0.0080	U	ug/L	P329234	
		MCCP	0.0020	U	ug/L	P329234	
		Carbamazepine**	4.0E-04	U	ug/L	P329234	
		Triclopyr**	0.0040	U	ug/L	P329234	
		Primidone**	0.0040	U	ug/L	P329234	
		Fluridone**	4.0E-04	U	ug/L	P329234	

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329272

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329273

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329307

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329310

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P329491

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P329406

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P329402

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329403

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329412

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329247

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

Reference Method: EPA 8321B
Batch ID: P329067

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P329343

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P329254

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P329255

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P329257

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P329456

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P329457

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

Reference Method: SM 2540 C-97
Batch ID: P329995

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P329996

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329525

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P329526

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P329460

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P329538

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

Reference Method: SM 5310 B-00
Batch ID: P329613

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P329234

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: P329307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329310

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329491

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329406

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329402

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: P329403

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329412

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329247

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

Reference Method: EPA 8321B
Batch ID: P329067

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	61.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P329343

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	85.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P329456

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

Reference Method: SM 2320 B-97
Batch ID: P329457

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

Reference Method: SM 4500 F-C-97
Batch ID: P329460

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.1		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P329538

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P329613

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

Reference Method: USGS O-2060-01
Batch ID: P329234

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.0		P	40 - 150
Acetaminophen	58.6		P	30 - 150
Bentazon	88.1		P	40 - 150
Carbamazepine	130		P	40 - 150
Diuron	99.8		P	40 - 150
Fenuron	113		P	40 - 150
Fluridone	89.3		P	40 - 150
Imidacloprid	112		P	40 - 160
Linuron	92.3		P	40 - 150
MCPP	72.8		P	40 - 150
Primidone	80.7		P	40 - 150
Triclopyr	64.7		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916818	Sulfate	93.3		P	90 - 110
1916981	Sulfate	94.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P329310

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916818	Chloride	94.8		P	90 - 110
1916981	Chloride	96.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P329491

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916976	Ammonia-N	101	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329406

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916976	Kjeldahl Nitrogen	95.2	90.1	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916923	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329403

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916977	NO2NO3-N	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329412

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916834	Total-P	98.5	97.0	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P329343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917030	Sucralose	103	92.6	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P329460

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916762	Fluoride	94.3	101	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917171	Fluoride	96.2	95.6	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P329538

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916976	Organic Carbon	99.8		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P329613

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1916007	Organic Carbon	91.3	91.6	P/P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P329234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917511	2,4-D	105	90.3	P/P	40 - 150
1917511	Acetaminophen	126	108	P/P	30 - 150
1917511	Carbamazepine	107	80.9	P/P	40 - 150
1917511	Diuron	64.9	59.2	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
 Batch ID: P329234

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1917511	Fenuron	60.9	48.1	P/P	40 - 150
1917511	Fluridone	47.3	41.3	P/P	40 - 150
1917511	Imidacloprid	162	169	F/F	40 - 160
1917511	Linuron	75.2	78.6	P/P	40 - 150
1917511	MCCP	107	102	P/P	40 - 150
1917511	Primidone	56.6	47.4	P/P	40 - 150
1917511	Triclopyr	92.7	95.2	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916811	Turbidity	0.620	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P329273

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916939	Turbidity	3.64	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916981	Sulfate	1.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
 Batch ID: P329310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916981	Chloride	1.41	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P329491

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916976	Ammonia-N	1.25	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P329406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P329406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916976	Kjeldahl Nitrogen	2.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916923	NO2NO3-N	0.465	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P329403

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916977	NO2NO3-N	0.426	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P329412

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916834	Total-P	1.46	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P329247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916936	O-Phosphate-P	0.271	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P329067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916053	Sucralose	8.70	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P329343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917030	Sucralose	5.37	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P329254

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916818	Color (true)	3.41	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P329255

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916980	Color (true)	2.05	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P329257

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916938	Color (true)	2.07	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P329456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916762	Total Alkalinity	0.105	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P329457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917171	Total Alkalinity	0.199	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P329995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916939	TDS	4.08	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P329996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916975	TDS	2.32	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P329460

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916762	Fluoride	4.56	Spike	F	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P329461

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917171	Fluoride	0.498	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P329538

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916976	Organic Carbon	0.942	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P329613

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1916007	Organic Carbon	0.332	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P329234

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1917511	2,4-D	12.9	Spike	P	0 - 30
1917511	Acetaminophen	15.8	Spike	P	0 - 30
1917511	Bentazon	2.20	Spike	P	0 - 30
1917511	Carbamazepine	27.9	Spike	P	0 - 30
1917511	Diuron	8.16	Spike	P	0 - 30
1917511	Fenuron	23.4	Spike	P	0 - 30
1917511	Fluridone	11.6	Spike	P	0 - 30
1917511	Imidacloprid	3.46	Spike	P	0 - 30
1917511	Linuron	4.42	Spike	P	0 - 30
1917511	MCPP	5.06	Spike	P	0 - 30
1917511	Primidone	17.7	Spike	P	0 - 30
1917511	Triclopyr	2.62	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: 1917029
Field Sample ID: G3SW0042

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	70.2	P	40 - 160
USGS O-2060-01	2,4-D-d3	119	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	117	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	73.1	P	30 - 160
USGS O-2060-01	Diuron-d6	79.9	P	30 - 160
USGS O-2060-01	Primidone-d5	78.1	P	30 - 160

Lab Sample ID: 1917030
Field Sample ID: G3SW0042

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	56.1	P	40 - 160
USGS O-2060-01	2,4-D-d3	118	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1917030
Field Sample ID: G3SW0042

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
USGS O-2060-01	Acetaminophen-d4	130	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	94.7	P	30 - 160
USGS O-2060-01	Diuron-d6	87.4	P	30 - 160
USGS O-2060-01	Primidone-d5	113	P	30 - 160

Lab Sample ID: 1917031
Field Sample ID: BLANK

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Sucralose-d6	86.4	P	40 - 160
USGS O-2060-01	2,4-D-d3	82.4	P	40 - 160
USGS O-2060-01	Acetaminophen-d4	144	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	131	P	30 - 160
USGS O-2060-01	Diuron-d6	129	P	30 - 160
USGS O-2060-01	Primidone-d5	153	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A77948
Included Lab Sample IDs: 1916938, 1916939, 1916940, 1916941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	99.8	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A77996
Included Lab Sample IDs: 1916946, 1916947, 1916948, 1916949

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

Reference Method: SM 2120 B
Run ID: A77997
Included Lab Sample IDs: 1916938, 1916939, 1916940, 1916941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	102	P/P	85 - 115
Color (true)	102	103	P/P	85 - 115
Color (true)	103	105	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A78004
Included Lab Sample IDs: 1916938, 1916939, 1916940, 1916941

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A78053

Included Lab Sample IDs: 1916942, 1916943, 1916944, 1916945

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78069

Included Lab Sample IDs: 1916942, 1916943, 1916944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.1	98.6	P/P	90 - 110
Total-P	99.2	97.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A78079

Included Lab Sample IDs: 1916938, 1916939, 1916940, 1916941

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

Reference Method: SM 4500 F-C-97

Run ID: A78079

Included Lab Sample IDs: 1916938, 1916939, 1916940, 1916941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	97.0	P/P	90 - 110
Fluoride	96.1	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A78080

Included Lab Sample IDs: 1916945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A78081

Included Lab Sample IDs: 1916942, 1916943, 1916944, 1916945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.4	94.3	P/P	90 - 110
Kjeldahl Nitrogen	94.3	92.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A78091

Included Lab Sample IDs: 1916942, 1916943, 1916944, 1916945

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

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-00

Run ID: A78115

Included Lab Sample IDs: 1916942, 1916943, 1916944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.6	98.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A78156

Included Lab Sample IDs: 1916945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	98.0	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A78239

Included Lab Sample IDs: 1917029, 1917030, 1917031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	82.2	63.0	P/P	50 - 150
Acetaminophen	132	138	P/P	60 - 150
Bentazon	111	98.9	P/P	50 - 150
Carbamazepine	130	136	P/P	60 - 150
Diuron	112	131	P/P	60 - 150
Fenuron	141	129	P/P	60 - 150
Fluridone	117	97.4	P/P	60 - 160
Imidacloprid	121	118	P/P	60 - 150
Linuron	122	118	P/P	60 - 150
MCPP	93.8	92.5	P/P	50 - 150
Primidone	101	105	P/P	60 - 150
Triclopyr	91.3	94.3	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A78247

Included Lab Sample IDs: 1917029, 1917031

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	115	76.8	P/P	60 - 160
Sucralose	67.8	85.9	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A78315

Included Lab Sample IDs: 1917030

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	111	160	P/P	60 - 160

* 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	MS
						SMP	
EPA 180.1 Rev. 2.0	Turbidity					0.620	
	Turbidity					3.64	
EPA 300.0 Rev. 2.1	Chloride	97.5	96.1	94.8		1.41	
	Sulfate	94.3	94.3	93.3		1.37	
EPA 350.1 Rev. 2.0	Ammonia-N	99.1	101	99.2			1.25
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	95.2	90.1			2.67
EPA 353.2 Rev. 2.0	NO2NO3-N	105	102				0.465
	NO2NO3-N	104	101	100			0.426
EPA 365.1 Rev. 2.0	Total-P	99.4	98.5	97.0			1.46
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104					0.271
EPA 8321B	Sucralose	61.6					8.70
	Sucralose	85.0	103	92.6			5.37
SM 2120 B	Color (true)					3.41	
	Color (true)					2.05	
	Color (true)					2.07	
SM 2320 B-97	Total Alkalinity	102				0.105	
	Total Alkalinity	102				0.199	
SM 2540 C-97	TDS					4.08	
	TDS					2.32	
SM 4500 F-C-97	Fluoride	95.1	94.3	101			4.56
	Fluoride	96.1	96.2	95.6			0.498
SM 5310 B-00	Organic Carbon	95.6	99.8				0.942
	Organic Carbon	96.4	91.3	91.6			0.332
USGS O-2060-01	2,4-D	69.0	105	90.3			12.9
	Acetaminophen	58.6	126	108			15.8
	Bentazon	88.1					2.20
	Carbamazepine	130	107	80.9			27.9
	Diuron	99.8	64.9	59.2			8.16
	Fenuron	113	60.9	48.1			23.4
	Fluridone	89.3	47.3	41.3			11.6
	Imidacloprid	112	162	169			3.46
	Linuron	92.3	75.2	78.6			4.42
	MCP	72.8	107	102			5.06
	Primidone	80.7	56.6	47.4			17.7
	Triclopyr	64.7	92.7	95.2			2.62

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1916938, 1916939, 1916940, 1916941
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1916938, 1916939, 1916940, 1916941
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1916938, 1916939, 1916940, 1916941
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1916942, 1916943, 1916944, 1916945
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1916942, 1916943, 1916944, 1916945
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1916942, 1916943, 1916944, 1916945
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1916942, 1916943, 1916944, 1916945
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1916946, 1916947, 1916948, 1916949

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1917029, 1917030, 1917031
SM 2120 B / E31780	True Color measured at 450 nm	1916938, 1916939, 1916940, 1916941
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1916938, 1916939, 1916940, 1916941
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1916938, 1916939, 1916940, 1916941
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1916938, 1916939, 1916940, 1916941
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1916938, 1916939, 1916940, 1916941
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1916942, 1916943, 1916944, 1916945
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1917029, 1917030, 1917031
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1917029, 1917030, 1917031

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	07/27/2017			07/27/2017 17:18	DeAsia Armster	1916938, 1916939, 1916940, 1916941
EPA 300.0 Rev. 2.1	07/27/2017			07/28/2017	Julia Storbeck	1916938, 1916939, 1916940, 1916941
EPA 350.1 Rev. 2.0	07/27/2017			08/01/2017	Sofia Elnemr	1916942, 1916943, 1916944, 1916945
EPA 351.2 Rev. 2.0	07/27/2017	07/31/2017	Adrian Shelby	08/01/2017	Joseph Suarez	1916942, 1916943, 1916944, 1916945
EPA 353.2 Rev. 2.0	07/27/2017			07/31/2017	Beverly Y. Sanders	1916942, 1916943, 1916944, 1916945
EPA 365.1 Rev. 2.0	07/27/2017	07/31/2017	Adrian Shelby	08/01/2017	Lipi Saha	1916942, 1916943, 1916944, 1916945
EPA 365.1 Rev. 2.0 dissolved	07/27/2017			07/27/2017 15:52	Ping Hua	1916949
	07/27/2017			07/27/2017 15:53	Ping Hua	1916946
	07/27/2017			07/27/2017 15:55	Ping Hua	1916947
	07/27/2017			07/27/2017 15:56	Ping Hua	1916948
EPA 8321B	07/27/2017	07/27/2017	Julie Michelle Frank	08/04/2017	Mohammad Ghaffari	1917029
	07/27/2017	08/04/2017	Julie Michelle Frank	08/04/2017	Mohammad Ghaffari	1917031
	07/27/2017	08/04/2017	Julie Michelle Frank	08/09/2017	Mohammad Ghaffari	1917030
SM 2120 B	07/27/2017			07/27/2017 15:24	Tanya Welborn	1916941
	07/27/2017			07/27/2017 15:40	Tanya Welborn	1916938
	07/27/2017			07/27/2017 15:54	Tanya Welborn	1916939
	07/27/2017			07/27/2017 15:55	Tanya Welborn	1916940
SM 2320 B-97	07/27/2017			08/01/2017	Dale L. Simmons	1916938, 1916939, 1916940, 1916941
SM 2540 C-97	07/27/2017			07/31/2017	DeAsia Armster	1916938, 1916939, 1916940, 1916941
SM 2540 D-97	07/27/2017			07/31/2017	DeAsia Armster	1916938, 1916939, 1916940, 1916941
SM 4500 F-C-97	07/27/2017			08/01/2017	Dale L. Simmons	1916938, 1916939, 1916940, 1916941
SM 5310 B-00	07/27/2017			08/02/2017	Ping Hua	1916942, 1916943, 1916944
	07/27/2017			08/03/2017	Ping Hua	1916945
USGS O-2060-01	07/27/2017	08/02/2017	Fe-Val Siddell	08/05/2017	Juyoung Kim	1917029, 1917030, 1917031