

Chemical Analysis Report

SO-DIST-2017-02-09-01

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

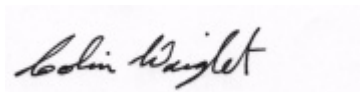
Event Description: **SMP: Florida Keys**
Request ID: **RQ-2017-01-09-05**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901
Attn: Ben Paswater

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
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Certified by: Colin Wright, Program Administrator

Date Certified: 09-MAR-2017 09:36



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: Metals and Nutrients.

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: 8073 #1 SOUTH OF FT. ZACH

Collection Date/Time: 02/08/2017 12:40

Field ID: G5SD020817-1

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871422	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	4	I	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871436	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319611	
1871450	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.09		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	1.9	I	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	8.9	I	ug/L	P319744	

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: 8073 #2

Collection Date/Time: 02/08/2017 13:40

Field ID: G5SD020817-2

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871423	EPA 180.1 Rev. 2.0	Turbidity	0.90		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	126		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	6	I	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871430	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P320116	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P319764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320026	
	EPA 365.1 Rev. 2.0	Total-P	0.01	I	mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	2.0		mg C/L	P319675	
1871437	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319611	
1871451	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.27		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	8.1	I	ug/L	P319744	

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: 8073 #3 ENRG6

Collection Date/Time: 02/08/2017 13:10

Field ID: G5SD020817-3

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871424	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	124		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	3	U	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871431	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P320116	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P319764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320026	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	1.4	I	mg C/L	P319675	
1871438	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319611	
1871452	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.38		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	4.0	U	ug/L	P319744	

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: 8079-ENRG3 SOUTH OF STOCK ISLAND

Collection Date/Time: 02/08/2017 12:10

Field ID: G5SD020817-6

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871425	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	6	I	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871432	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P320116	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.24	I	mg N/L	P319764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320027	
	EPA 365.1 Rev. 2.0	Total-P	0.01	I	mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	1.5	I	mg C/L	P319675	
1871439	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319611	
1871453	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.11		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	4.0	U	ug/L	P319744	

Field ID: G5SD020817-6

Matrix: W-SURF-SLT

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

Sample Location: 8079-ENRG6 OUT BY REEF

Collection Date/Time: 02/08/2017 11:45

Field ID: G5SD020817-7

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871426	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	4	I	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871433	EPA 350.1 Rev. 2.0	Ammonia-N	0.020		mg N/L	P320117	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P319764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.80		mg N/L	P320027	
	EPA 365.1 Rev. 2.0	Total-P	0.045		mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	2.9		mg C/L	P319724	
1871440	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319614	
1871454	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	1.62		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	12.7		ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.95	I	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	61		ug/L	P319744	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.8 Rev. 5.4: The copper result was confirmed in the undigested sample on 03/07/2017.

Sample Location: 8080-ENRG6 OUT BY REEF

Collection Date/Time: 02/08/2017 10:40

Field ID: G5SD020817-8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871427	EPA 180.1 Rev. 2.0	Turbidity	0.30		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	122		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	6	I	mg/L	P320155	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871441	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319614	
1871455	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.34		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	

Field ID: G5SD020817-8

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871455	EPA 200.8 Rev. 5.4	Silver	0.040	U	ug/L	P319744	
		Zinc	6.9	I	ug/L	P319744	

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: 8080-ENRG3 NEARSHORE

Collection Date/Time: 02/08/2017 10:19

Field ID: G5SD020817-9

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871428	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	129		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	9	I	mg/L	P320156	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871434	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P320117	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.23	I	mg N/L	P319764	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320027	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	2.4		mg C/L	P319724	
1871442	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P319614	
1871456	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	2.17		ug/L	P319744	
		Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	9.0	I	ug/L	P319744	

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: 6012C BY BRIDGE NO NAME KEY

Collection Date/Time: 02/08/2017 09:45

Field ID: G5SD020717-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871429	EPA 180.1 Rev. 2.0	Turbidity	0.20		NTU	P319624	
	SM 2320 B-97	Total Alkalinity	125		mg CaCO3/L	P319869	
	SM 2540 D-97	TSS	4	I	mg/L	P320156	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P319874	
1871435	EPA 350.1 Rev. 2.0	Ammonia-N	0.0059		mg N/L	P320117	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.37	I	mg N/L	P319974	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P320027	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P319789	
	SM 5310 B-00	Organic Carbon	2.6		mg C/L	P319724	
1871457	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P319744	
	EPA 200.8 Rev. 5.4	Arsenic	1.63		ug/L	P319744	

Field ID: G5SD020717-5

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1871457	EPA 200.8 Rev. 5.4	Cadmium	0.080	U	ug/L	P319744	
		Chromium	1.6	U	ug/L	P319744	
		Copper	0.80	U	ug/L	P319744	
		Lead	0.50	U	ug/L	P319744	
		Nickel	0.80	U	ug/L	P319744	
		Silver	0.040	U	ug/L	P319744	
		Zinc	7.9	I	ug/L	P319744	

Ref. Method and Comment:

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

Non-Conformance Report

NCR ID: 6245

Event(s)

Job(s)

Sample(s)

Test(s)

SO-DIST-2017-02-09-01

NCR Type: SHIPPING/RECEIVING

NCR Category: Receiving

Observation: 1) Submittal form indicates 3 coolers were shipped for this RQ and only 2 coolers were received. The following samples were not received and are assumed to be in the missing cooler.

G5SD020717-5 W-PO4-F

G5SD020817-6 CHLSUITE-W

G5SD020817-8 W-NH3/W-NO2NO3/W-S-A-TP/W-TKN/W-TOC

2)The bottle received for Field ID:G5SD020817-1 collected at 8072 #1 SOUTH OF FT. ZACH for W-NH3/W-NO2NO3/W-S-A-TP/W-TKN/W-TOC analyses, did not have a cap on the bottle. Sample appeared to be compromised and was not logged in. There will not be data on the final report for this sample.

Resolution: Customers (Rosemary Murpy and Ben Paswater) were notified via email.

On 02/13/2017

Ben Paswater indicated that they were unable to reach some of the sampling point and they missed those bottles and please mark them lost.

Authorised by/Date: Ramsey K. White 3/8/2017

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: P319624

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P319744

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P319744

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P319744

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L
Zinc	1.0	U	ug/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320116

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319764

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319974

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320026

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319789

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319611

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319614

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

Reference Method: SM 2320 B-97
Batch ID: P319869

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

Reference Method: SM 2540 D-97
Batch ID: P320155

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P320156

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P319675

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

Reference Method: SM 5310 B-00
Batch ID: P319724

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P319744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P319744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	103		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	99.2		P	85 - 115
Copper	99.6		P	85 - 115
Lead	100		P	85 - 115
Nickel	100		P	85 - 115
Silver	99.9		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320116

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

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: P319764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319974

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: P320026

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319789

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319611

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319614

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

Reference Method: SM 2320 B-97
Batch ID: P319869

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

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P319675

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

Reference Method: SM 5310 B-00
Batch ID: P319724

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P319744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870810	Iron	103	104	P/P	80 - 120
1871453	Iron	102		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P319744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870810	Arsenic	117	118	P/P	70 - 130
1870810	Cadmium	101	104	P/P	70 - 130
1870810	Chromium	92.6	93.5	P/P	70 - 130
1870810	Copper	97.1	98.7	P/P	70 - 130
1870810	Lead	110	112	P/P	70 - 130
1870810	Nickel	102	103	P/P	70 - 130
1870810	Silver	97.5	99.3	P/P	70 - 130
1870810	Zinc	98.6	100	P/P	70 - 130
1871453	Arsenic	113		P	70 - 130
1871453	Cadmium	98.8		P	70 - 130
1871453	Chromium	87.2		P	70 - 130
1871453	Copper	95.5		P	70 - 130
1871453	Lead	117		P	70 - 130
1871453	Nickel	101		P	70 - 130
1871453	Silver	94.9		P	70 - 130
1871453	Zinc	97.9		P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871430	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871435	Ammonia-N	99.1	98.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871385	Kjeldahl Nitrogen	98.7	99.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319974

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1872466	Kjeldahl Nitrogen	98.0	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870680	NO2NO3-N	102	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871432	NO2NO3-N	102	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P319789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871432	Total-P	92.2	92.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319611

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871099	O-Phosphate-P	101	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P319614

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871440	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P319874

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870554	Fluoride	93.0	94.2	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P319675

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1870679	Organic Carbon	92.5	93.0	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P319724

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1871433	Organic Carbon	95.2	93.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P319624

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871389	Turbidity	2.89	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P319744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870810	Iron	0.896	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P319744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870810	Arsenic	1.28	Spike	P	0 - 20
1870810	Cadmium	2.57	Spike	P	0 - 20
1870810	Chromium	1.00	Spike	P	0 - 20
1870810	Copper	1.59	Spike	P	0 - 20
1870810	Lead	1.89	Spike	P	0 - 20
1870810	Nickel	1.16	Spike	P	0 - 20
1870810	Silver	1.84	Spike	P	0 - 20
1870810	Zinc	1.67	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871430	Ammonia-N	1.05	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P320117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871435	Ammonia-N	0.536	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871385	Kjeldahl Nitrogen	1.02	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P319974

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1872466	Kjeldahl Nitrogen	4.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870680	NO2NO3-N	1.42	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P320027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871432	NO2NO3-N	1.93	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P319789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871432	Total-P	0.460	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P319611

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871099	O-Phosphate-P	1.69	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P319614

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871440	O-Phosphate-P	0.0	Spike	P	0 - 20

Reference Method: SM 2320 B-97

Batch ID: P319869

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870554	Total Alkalinity	0.615	Sample	P	0 - 4.8

Reference Method: SM 4500 F-C-97

Batch ID: P319874

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870554	Fluoride	0.987	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00

Batch ID: P319675

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1870679	Organic Carbon	0.491	Spike	P	0 - 20

Reference Method: SM 5310 B-00

Batch ID: P319724

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1871433	Organic Carbon	2.02	Spike	P	0 - 20

* 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 Calibration Verification

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A74375

Included Lab Sample IDs: 1871436, 1871437, 1871438, 1871439, 1871440, 1871441, 1871442

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110
O-Phosphate-P	101	100	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A74381

Included Lab Sample IDs: 1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: SM 5310 B-00

Run ID: A74405

Included Lab Sample IDs: 1871430, 1871431, 1871432

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	99.8	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A74422

Included Lab Sample IDs: 1871433, 1871434, 1871435

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

Reference Method: SM 2320 B-97

Run ID: A74479

Included Lab Sample IDs: 1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110
Total Alkalinity	105	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A74479

Included Lab Sample IDs: 1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	94.2	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74496

Included Lab Sample IDs: 1871430, 1871431, 1871432, 1871433, 1871434

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A74504

Included Lab Sample IDs: 1871430, 1871431, 1871432, 1871433, 1871434, 1871435

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

Run ID: A74504

Included Lab Sample IDs: 1871430, 1871431, 1871432, 1871433, 1871434, 1871435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.8	P/P	90 - 110
Total-P	99.8	98.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A74541

Included Lab Sample IDs: 1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A74547

Included Lab Sample IDs: 1871430, 1871431, 1871432, 1871433, 1871434, 1871435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A74554

Included Lab Sample IDs: 1871435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A74577

Included Lab Sample IDs: 1871430, 1871431, 1871432, 1871433, 1871434, 1871435

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.1	P/P	90 - 110
Ammonia-N	102	100	P/P	90 - 110
Ammonia-N	98.1	95.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A74785

Included Lab Sample IDs: 1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	108	107	P/P	90 - 110
Cadmium	105	103	P/P	90 - 110
Chromium	102	98.1	P/P	90 - 110
Copper	103	98.8	P/P	90 - 110
Nickel	104	101	P/P	90 - 110
Silver	105	103	P/P	90 - 110
Zinc	105	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A74915

Included Lab Sample IDs: 1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	109	109	P/P	90 - 110
Lead	109	109	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						2.89	
EPA 200.7 Rev. 4.4	Iron	105	103	104	102			0.896
EPA 200.8 Rev. 5.4	Arsenic	103	117	118	113			1.28
	Cadmium	99.0	101	104	98.8			2.57
	Chromium	99.2	92.6	93.5	87.2			1.00
	Copper	99.6	97.1	98.7	95.5			1.59
	Lead	100	110	112	117			1.89
	Nickel	100	102	103	101			1.16
	Silver	99.9	97.5	99.3	94.9			1.84
	Zinc	102	98.6	100	97.9			1.67
EPA 350.1 Rev. 2.0	Ammonia-N	103	103	102				1.05
	Ammonia-N	99.0	99.1	98.5				0.536
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.3	98.7	99.8				1.02
	Kjeldahl Nitrogen	101	98.0	103				4.12
EPA 353.2 Rev. 2.0	NO2NO3-N	102	102	104				1.42
	NO2NO3-N	103	102	104				1.93
EPA 365.1 Rev. 2.0	Total-P	97.0	92.2	92.6				0.460
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	104	101	98.9				1.69
	O-Phosphate-P	103	100	100				0.0
SM 2320 B-97	Total Alkalinity	103					0.615	
SM 4500 F-C-97	Fluoride	98.6	93.0	94.2				0.987
SM 5310 B-00	Organic Carbon	97.3	92.5	93.0				0.491
	Organic Carbon	97.4	95.2	93.2				2.02

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1871430, 1871431, 1871432, 1871433, 1871434, 1871435

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1871436, 1871437, 1871438, 1871439, 1871440, 1871441, 1871442
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1871430, 1871431, 1871432, 1871433, 1871434, 1871435

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	02/09/2017			02/09/2017 16:21	Julie Michelle Frank	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
EPA 200.7 Rev. 4.4	02/09/2017	02/13/2017	Elliott D. Healy	02/16/2017	Joshua Ayres	1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457
EPA 200.8 Rev. 5.4	02/09/2017	02/13/2017	Elliott D. Healy	02/28/2017	Betina Topolski	1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457
	02/09/2017	02/13/2017	Elliott D. Healy	03/06/2017	Betina Topolski	1871450, 1871451, 1871452, 1871453, 1871454, 1871455, 1871456, 1871457
EPA 350.1 Rev. 2.0	02/09/2017			02/17/2017	Sofia Elnemr	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 351.2 Rev. 2.0	02/09/2017	02/14/2017	Adrian Shelby	02/15/2017	Joseph Suarez	1871430, 1871431, 1871432, 1871433, 1871434
	02/09/2017	02/16/2017	Adrian Shelby	02/17/2017	Joseph Suarez	1871435
EPA 353.2 Rev. 2.0	02/09/2017			02/17/2017	Beverly Y. Sanders	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 365.1 Rev. 2.0	02/09/2017	02/14/2017	Adrian Shelby	02/15/2017	Lipi Saha	1871430, 1871431, 1871432, 1871433, 1871434, 1871435
EPA 365.1 Rev. 2.0 dissolved	02/09/2017			02/09/2017 14:41	Lipi Saha	1871436, 1871437
	02/09/2017			02/09/2017 14:42	Lipi Saha	1871438
	02/09/2017			02/09/2017 14:43	Lipi Saha	1871439
	02/09/2017			02/09/2017 14:50	Lipi Saha	1871440
	02/09/2017			02/09/2017 14:53	Lipi Saha	1871441, 1871442
SM 2320 B-97	02/09/2017			02/15/2017	Dale L. Simmons	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 2540 D-97	02/09/2017			02/14/2017	Sima Feizi	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 4500 F-C-97	02/09/2017			02/15/2017	Dale L. Simmons	1871422, 1871423, 1871424, 1871425, 1871426, 1871427, 1871428, 1871429
SM 5310 B-00	02/09/2017			02/10/2017	Julie Michelle Frank	1871430, 1871431, 1871432
	02/09/2017			02/11/2017	Julie Michelle Frank	1871433, 1871434, 1871435