

Chemical Analysis Report

SO-DIST-2016-05-25-05

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

Event Description: **SMP: Highlands Lakes**

Request ID: **RQ-2016-05-02-36**

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
Timothy W. Fitzpatrick
Liang-Tsair Lin, Ph.D.
Colin Wright, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 20-JUN-2016 11:10



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 group are included in this report: 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: Lake Henry @ SW side

Collection Date/Time: 05/24/2016 09:05

Field ID: G4HL052016-4

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802056	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P305040	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P305473	
		Sulfate	20		mg SO4/L	P305476	
	SM 2120 B	Color (true)	20		PCU	P305065	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P305452	
	SM 2540 C-97	TDS	100	A	mg/L	P305632	
	SM 2540 D-97	TSS	3	I	mg/L	P305823	
	SM 4500 F-C-97	Fluoride	0.066	I	mg F/L	P305459	
1802063	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P305712	
	SM 5310 B-00	Organic Carbon	8.4		mg C/L	P305779	
1802070	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 151 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Lake Henry @ North side

Collection Date/Time: 05/24/2016 09:45

Field ID: G4HL052016-5

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802057	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P305040	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P305473	
		Sulfate	20		mg SO4/L	P305476	
	SM 2120 B	Color (true)	20		PCU	P305065	
	SM 2320 B-97	Total Alkalinity	16		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	103		mg/L	P305632	
	SM 2540 D-97	TSS	2	I	mg/L	P305823	
	SM 4500 F-C-97	Fluoride	0.067	I	mg F/L	P305511	
1802064	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.70		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P305712	
	SM 5310 B-00	Organic Carbon	7.9		mg C/L	P305779	
1802071	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 149 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Pearl Lake @ Southside

Collection Date/Time: 05/24/2016 11:05

Field ID: G4HL052016-8

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802058	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P305040	

Field ID: G4HL052016-8

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802058	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P305473	
		Sulfate	17		mg SO4/L	P305476	
	SM 2120 B	Color (true)	12	A	PCU	P305066	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	74		mg/L	P305632	
	SM 2540 D-97	TSS	2	I	mg/L	P305823	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P305511	
1802065	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P305712	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P305779	
1802072	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 112 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Pearl Lake @ East side

Collection Date/Time: 05/24/2016 11:20

Field ID: G4HL052016-7

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802059	EPA 180.1 Rev. 2.0	Turbidity	0.55		NTU	P305040	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P305473	
		Sulfate	17		mg SO4/L	P305476	
	SM 2120 B	Color (true)	11		PCU	P305066	
	SM 2320 B-97	Total Alkalinity	4.3		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	75		mg/L	P305632	
	SM 2540 D-97	TSS	2	I	mg/L	P305823	
1802066	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P305511	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P305712	
1802073	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P305779	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 112 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Pearl Lake @ North side

Collection Date/Time: 05/24/2016 11:25

Field ID: G4HL052016-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802060	EPA 180.1 Rev. 2.0	Turbidity	0.70		NTU	P305041	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P305566	
		Sulfate	17		mg SO4/L	P305569	

Field ID: G4HL052016-6

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802060	SM 2120 B	Color (true)	11		PCU	P305066	
	SM 2320 B-97	Total Alkalinity	4.1		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	71		mg/L	P305632	
	SM 2540 D-97	TSS	2	U	mg/L	P305823	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P305511	
1802067	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P305505	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P305713	
	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P305779	
1802074	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 112 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Pearl Lake @ Center

Collection Date/Time: 05/24/2016 11:00

Field ID: G4HL052016-10

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802061	EPA 180.1 Rev. 2.0	Turbidity	0.75	A	NTU	P305041	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P305566	
		Sulfate	17		mg SO4/L	P305569	
	SM 2120 B	Color (true)	12		PCU	P305066	
	SM 2320 B-97	Total Alkalinity	4.9		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	76		mg/L	P305633	
	SM 2540 D-97	TSS	3	I	mg/L	P305824	
	SM 4500 F-C-97	Fluoride	0.047	I	mg F/L	P305511	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P305868	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P305721	
1802068	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305110	
	EPA 365.1 Rev. 2.0	Total-P	0.01		mg P/L	P305713	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P305779	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 112 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Sample Location: Pearl Lake @ West side

Collection Date/Time: 05/24/2016 10:50

Field ID: G4HL052016-9

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802062	EPA 180.1 Rev. 2.0	Turbidity	0.60		NTU	P305041	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P305566	
		Sulfate	17		mg SO4/L	P305569	
	SM 2120 B	Color (true)	11		PCU	P305066	

Field ID: G4HL052016-9

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1802062	SM 2320 B-97	Total Alkalinity	4.4		mg CaCO3/L	P305509	
	SM 2540 C-97	TDS	78		mg/L	P305633	
	SM 2540 D-97	TSS	2	I	mg/L	P305824	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P305511	
1802069	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P305657	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P305421	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P305111	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P305713	
	SM 5310 B-00	Organic Carbon	6.2		mg C/L	P305779	
1802076	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P305029	

Ref. Method and Comment:

EPA 180.1 Rev. 2.0: The precision data is unavailable due to the low analyte concentration in the QC sample.

SM 2540 C-97: The reported result is consistent with the laboratory conductivity, 112 umhos/cm.

SM 2540 D-97: The precision data is unavailable due to the low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P305040

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P305041

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305473

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305476

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305566

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P305569

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305657

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305868

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305421

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305721

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305110

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305111

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305713

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305029

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

Reference Method: SM 2120 B
Batch ID: P305065

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P305066

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P305452

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

Reference Method: SM 2320 B-97
Batch ID: P305509

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

Reference Method: SM 2540 C-97
Batch ID: P305632

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P305633

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P305823

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P305824

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P305459

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P305511

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P305779

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305473

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305476

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305566

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
-----------	---------	---------	-----------	----------------

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305868

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305421

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305721

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305110

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305111

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305713

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305029

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P305452

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 2320 B-97
Batch ID: P305509

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P305459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P305511

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.7		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P305779

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801904	Chloride	99.1		P	90 - 110
1801920	Chloride	101		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801904	Sulfate	97.1		P	90 - 110
1801920	Sulfate	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802177	Chloride	99.1		P	90 - 110
1802329	Chloride	99.7		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802177	Sulfate	97.2		P	90 - 110
1802329	Sulfate	98.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802044	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305657

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802069	Ammonia-N	98.7	98.3	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1803353	Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305421

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802069	Kjeldahl Nitrogen	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305721

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1804110	Kjeldahl Nitrogen	91.7	92.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305110

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802002	NO2NO3-N	99.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305111

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802069	NO2NO3-N	99.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802045	Total-P	99.0	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802067	Total-P	104	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802070	O-Phosphate-P	98.2	99.4	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P305459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1801861	Fluoride	96.7	97.2	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P305511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802533	Fluoride	100	100	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P305779

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1802063	Organic Carbon	97.0	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P305040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802036	Turbidity	2.51	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801920	Chloride	0.252	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801920	Sulfate	5.26	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802177	Chloride	0.0158	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P305569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802177	Sulfate	0.999	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305505

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802044	Ammonia-N	0.703	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802069	Ammonia-N	0.375	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P305868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1803353	Ammonia-N	1.15	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802069	Kjeldahl Nitrogen	0.862	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P305721

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1804110	Kjeldahl Nitrogen	0.590	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305110

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802002	NO2NO3-N	2.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P305111

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802069	NO2NO3-N	1.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305712

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802045	Total-P	2.52	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P305713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802067	Total-P	2.41	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P305029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802070	O-Phosphate-P	1.21	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P305065

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801922	Color (true)	1.87	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P305066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802058	Color (true)	0.303	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P305452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801861	Total Alkalinity	0.884	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P305509

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802533	Total Alkalinity	0.220	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P305632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802056	TDS	4.98	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P305633

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802187	TDS	2.99	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P305459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1801861	Fluoride	0.492	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P305511

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802533	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P305779

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1802063	Organic Carbon	0.758	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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A69693
Included Lab Sample IDs: 1802070, 1802071, 1802072, 1802073, 1802074, 1802075, 1802076

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110
O-Phosphate-P	99.7	99.0	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A69695
Included Lab Sample IDs: 1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	99.5	P/P	95 - 105

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A69695

Included Lab Sample IDs: 1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

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

Reference Method: SM 2120 B

Run ID: A69704

Included Lab Sample IDs: 1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.4	97.2	P/P	90 - 115
Color (true)	97.2	99.3	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A69717

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.5	P/P	90 - 110
NO2NO3-N	99.5	96.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A69805

Included Lab Sample IDs: 1802056

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

Reference Method: SM 4500 F-C-97

Run ID: A69805

Included Lab Sample IDs: 1802056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A69814

Included Lab Sample IDs: 1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	101	101	P/P	90 - 110
Sulfate	97.6	91.1	P/P	90 - 110
Sulfate	98.3	99.7	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69820

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A69825

Included Lab Sample IDs: 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	103	99.6	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A69825

Included Lab Sample IDs: 1802057, 1802058, 1802059, 1802060, 1802061, 1802062

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69846

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067, 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	91.2	95.2	P/P	90 - 110
Kjeldahl Nitrogen	93.3	91.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69862

Included Lab Sample IDs: 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.4	98.4	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A69914

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	97.9	P/P	90 - 110
Organic Carbon	97.9	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A69916

Included Lab Sample IDs: 1802068

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A69935

Included Lab Sample IDs: 1802068

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69947

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
-----------	---------	---------	------------	----------------

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A69947

Included Lab Sample IDs: 1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.5	P/P	90 - 110
Total-P	98.5	99.0	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				2.51	
EPA 300.0 Rev. 2.1	Chloride	99.6	101 99.1		0.252	
	Chloride	100	99.1 99.7		0.0158	
	Sulfate	97.5	99.4 97.1		5.26	
	Sulfate	97.9	97.2 98.4		0.999	
EPA 350.1 Rev. 2.0	Ammonia-N	100	100 101			0.703
	Ammonia-N	97.1	98.7 98.3			0.375
	Ammonia-N	103	102 103			1.15
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110	103 102			0.862
	Kjeldahl Nitrogen	98.0	91.7 92.3			0.590
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.0 101			2.00
	NO2NO3-N	102	99.5 101			1.50
EPA 365.1 Rev. 2.0	Total-P	101	99.0 102			2.52
	Total-P	103	104 101			2.41
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	98.2 99.4			1.21
SM 2120 B	Color (true)				1.87	
	Color (true)				0.303	
SM 2320 B-97	Total Alkalinity	103			0.884	
	Total Alkalinity	103			0.220	
SM 2540 C-97	TDS				4.98	
	TDS				2.99	
SM 4500 F-C-97	Fluoride	98.3	96.7 97.2			0.492
	Fluoride	97.7	100 100			0.0
SM 5310 B-00	Organic Carbon	97.2	97.0 96.0			0.758

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1802070, 1802071, 1802072, 1802073, 1802074, 1802075, 1802076
SM 2120 B / E31780	True Color measured at 450 nm	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	05/25/2016			05/25/2016 16:22	Sima Feizi	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
EPA 300.0 Rev. 2.1	05/25/2016			06/02/2016	Elisa J Lutz	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
EPA 350.1 Rev. 2.0	05/25/2016			06/02/2016	Diana M. Turner	1802063, 1802064, 1802065, 1802066, 1802067
	05/25/2016			06/06/2016	Diana M. Turner	1802069
	05/25/2016			06/08/2016	Diana M. Turner	1802068
EPA 351.2 Rev. 2.0	05/25/2016	06/02/2016	Sofia Elnemr	06/03/2016	Christopher Armour	1802063, 1802064, 1802065, 1802066, 1802067, 1802069
	05/25/2016	06/07/2016	Sofia Elnemr	06/08/2016	Christopher Armour	1802068
EPA 353.2 Rev. 2.0	05/25/2016			05/26/2016	Peter D. Kaus	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069
EPA 365.1 Rev. 2.0	05/25/2016	06/07/2016	Vijayalakshmi Reddy	06/09/2016	Virginia P. Brown	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069
EPA 365.1 Rev. 2.0 dissolved	05/25/2016			05/25/2016 14:52	Julia Storbeck	1802070
	05/25/2016			05/25/2016 15:18	Julia Storbeck	1802071
	05/25/2016			05/25/2016 15:19	Julia Storbeck	1802072
	05/25/2016			05/25/2016 15:20	Julia Storbeck	1802073
	05/25/2016			05/25/2016 15:21	Julia Storbeck	1802074
	05/25/2016			05/25/2016 15:22	Julia Storbeck	1802075, 1802076
SM 2120 B	05/25/2016			05/25/2016 17:38	Chrisoulla Rakowski	1802056
	05/25/2016			05/25/2016 17:39	Chrisoulla Rakowski	1802057
	05/25/2016			05/25/2016 17:43	Chrisoulla Rakowski	1802058
	05/25/2016			05/25/2016 17:44	Chrisoulla Rakowski	1802059
	05/25/2016			05/25/2016 17:45	Chrisoulla Rakowski	1802060, 1802061
	05/25/2016			05/25/2016 17:46	Chrisoulla Rakowski	1802062
SM 2320 B-97	05/25/2016			06/01/2016	Dale L. Simmons	1802056
	05/25/2016			06/02/2016	Dale L. Simmons	1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 2540 C-97	05/25/2016			05/27/2016	Yijie Li	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 2540 D-97	05/25/2016			05/27/2016	Yijie Li	1802056, 1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 4500 F-C-97	05/25/2016			06/01/2016	Dale L. Simmons	1802056
	05/25/2016			06/02/2016	Dale L. Simmons	1802057, 1802058, 1802059, 1802060, 1802061, 1802062
SM 5310 B-00	05/25/2016			06/08/2016	Diana M. Turner	1802063, 1802064, 1802065, 1802066, 1802067, 1802068, 1802069