

Chemical Analysis Report

NE-DIST-2016-06-15-02

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

Event Description: **UEC South**
Request ID: **RQ-2016-06-13-10**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Jacksonville, FL 32256-7577
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Certified by: Timothy Fitzpatrick, Program Administrator

Date Certified: 08-JUL-2016 16:07

A handwritten signature in black ink, appearing to read 'Timothy W. Fitzpatrick', with a stylized flourish at the end.

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: Wildwood Creek @ Wildwood Drive

Collection Date/Time: 06/14/2016 09:27

Field ID: 27010189

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808261	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P306328	
	EPA 300.0 Rev. 2.1	Chloride	33		mg Cl/L	P306618	
		Sulfate	8.2		mg SO4/L	P306621	
	SM 2120 B	Color (true)	670		PCU	P306245	
	SM 2320 B-97	Total Alkalinity	8.9		mg CaCO3/L	P306671	
	SM 2540 C-97	TDS	194		mg/L	P306887	
	SM 2540 D-97	TSS	4	I	mg/L	P306865	
	SM 4500 F-C-97	Fluoride	0.059	I	mg F/L	P306378	
1808264	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P306629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P306355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.040		mg N/L	P306484	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P306387	
	SM 5310 B-00	Organic Carbon	55		mg C/L	P306615	
1808267	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.088		mg P/L	P306249	

Ref. Method and Comment:

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

Sample Location: Cracker Branch @ 204

Collection Date/Time: 06/14/2016 10:00

Field ID: 27010060

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808262	EPA 180.1 Rev. 2.0	Turbidity	1.5	A	NTU	P306328	
	EPA 300.0 Rev. 2.1	Chloride	25		mg Cl/L	P306618	
		Sulfate	3.0		mg SO4/L	P306621	
	SM 2120 B	Color (true)	940		PCU	P306245	
	SM 2320 B-97	Total Alkalinity	13		mg CaCO3/L	P306671	
	SM 2540 C-97	TDS	175		mg/L	P306887	
	SM 2540 D-97	TSS	4	I	mg/L	P306865	
	SM 4500 F-C-97	Fluoride	0.053	I	mg F/L	P306378	
1808265	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P306629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.4		mg N/L	P306355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P306484	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P306387	
	SM 5310 B-00	Organic Carbon	64		mg C/L	P306615	
1808268	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.073		mg P/L	P306249	

Ref. Method and Comment:

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

Sample Location: Palm Coast Coral @ Old Kings

Collection Date/Time: 06/14/2016 10:35

Field ID: G5NE0005

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808263	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P306328	
	EPA 300.0 Rev. 2.1	Chloride	36		mg Cl/L	P306618	
		Sulfate	12		mg SO4/L	P306621	

Field ID: G5NE0005

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808263	SM 2120 B	Color (true)	82		PCU	P306245	
	SM 2320 B-97	Total Alkalinity	86		mg CaCO3/L	P306671	
	SM 2540 C-97	TDS	206		mg/L	P306887	
	SM 2540 D-97	TSS	2	U	mg/L	P306865	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P306378	
1808266	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P306629	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P306355	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.011		mg N/L	P306484	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P306387	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P306615	
1808269	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P306249	

Ref. Method and Comment:

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

Sample Location: IC West Joe Walkway Palm Coast Bridge

Collection Date/Time: 06/14/2016 11:25

Field ID: G5NE0016

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808270	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P306328	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P306671	
	SM 2540 D-97	TSS	24		mg/L	P306869	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P306379	
1808272	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P306626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.60		mg N/L	P306291	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306739	
	EPA 365.1 Rev. 2.0	Total-P	0.095		mg P/L	P306457	
	SM 5310 B-00	Organic Carbon	6.3		mg C/L	P306569	
1808274	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.026		mg P/L	P306251	
1808300	EPA 200.7 Rev. 4.4	Iron	600		ug/L	P306345	
	EPA 200.8 Rev. 5.4	Arsenic	3.75		ug/L	P306345	
		Cadmium	0.060	U	ug/L	P306345	
		Chromium	1.06		ug/L	P306345	
		Copper	1.6		ug/L	P306345	
		Lead	0.51	I	ug/L	P306345	
		Nickel	0.43	I	ug/L	P307029	
		Silver	0.015	U	ug/L	P306345	
		Zinc	3.0	U	ug/L	P306345	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Poor replication with field duplicate confirmed on 07/06/2016.

EPA 200.8 Rev. 5.4: Poor replication with field duplicate confirmed for chromium on 07/01/2016.

Sample Location: IC West Joe Walkway Palm Coast Bridge

Collection Date/Time: 06/14/2016 11:30

Field ID: G5NE0016 Duplicate

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G5NE0016 Duplicate

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1808271	EPA 180.1 Rev. 2.0	Turbidity	12		NTU	P306328	
	SM 2320 B-97	Total Alkalinity	123		mg CaCO3/L	P306671	
	SM 2540 D-97	TSS	22		mg/L	P306869	
	SM 4500 F-C-97	Fluoride	1.1		mg F/L	P306379	
1808273	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P306626	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.59		mg N/L	P306291	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P306739	
	EPA 365.1 Rev. 2.0	Total-P	0.092		mg P/L	P306457	
	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P306569	
1808275	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P306251	
1808301	EPA 200.7 Rev. 4.4	Iron	350	I	ug/L	P306345	
	EPA 200.8 Rev. 5.4	Arsenic	3.55		ug/L	P306345	
		Cadmium	0.060	U	ug/L	P306345	
		Chromium	0.73		ug/L	P306345	
		Copper	1.4		ug/L	P306345	
		Lead	0.38	I	ug/L	P306345	
		Nickel	0.41	I	ug/L	P307029	
		Silver	0.015	U	ug/L	P306345	
		Zinc	3.0	U	ug/L	P306345	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Poor replication with field duplicate confirmed on 07/06/2016.

EPA 200.8 Rev. 5.4: Poor replication with field duplicate confirmed for chromium on 07/01/2016.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P306328

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P306345

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P306345

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.050	U	ug/L
Copper	0.10	U	ug/L
Lead	0.050	U	ug/L
Silver	0.0050	U	ug/L
Zinc	1.0	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P307029

Component	Result	Code	Units
Nickel	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306626

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306629

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306291

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306355

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306484

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306739

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: P306387

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306457

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306249

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306251

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

Reference Method: SM 2120 B
Batch ID: P306245

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P306671

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

Reference Method: SM 2540 C-97
Batch ID: P306887

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306865

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P306869

Component	Result	Code	Units
TSS	3	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P306379

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P306569

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

Reference Method: SM 5310 B-00
Batch ID: P306615

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: P306345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	108		P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306345

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.2		P	85 - 115
Cadmium	99.2		P	85 - 115
Chromium	96.7		P	85 - 115
Copper	95.6		P	85 - 115
Lead	95.8		P	85 - 115
Silver	96.1		P	85 - 115
Zinc	99.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P307029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Nickel	93.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306626

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306629

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306291

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306484

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306739

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306387

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306457

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306249

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306251

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

Reference Method: SM 2320 B-97
Batch ID: P306671

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	106		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P306379

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.5		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P306569

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	101		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P306615

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808038	Iron	111		P	70 - 130
1808166	Iron	107	107	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808038	Arsenic	104		P	70 - 130
1808038	Cadmium	99.6		P	70 - 130
1808038	Chromium	85.2		P	70 - 130
1808038	Copper	97.2		P	70 - 130
1808038	Lead	102		P	70 - 130
1808038	Silver	91.7		P	70 - 130
1808038	Zinc	100		P	70 - 130
1808166	Arsenic	102	100	P/P	70 - 130
1808166	Cadmium	90.3	91.2	P/P	70 - 130
1808166	Chromium	78.7	76.1	P/P	70 - 130
1808166	Copper	94.3	94.5	P/P	70 - 130
1808166	Lead	102	100	P/P	70 - 130
1808166	Silver	88.7	87.0	P/P	70 - 130
1808166	Zinc	96.5	95.5	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P307029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808172	Nickel	92.4	91.5	P/P	70 - 130

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808070	Chloride	99.0		P	90 - 110
1808104	Chloride	97.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808070	Sulfate	96.7		P	90 - 110
1808104	Sulfate	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808319	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306629

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808204	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306291

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808135	Kjeldahl Nitrogen	97.4	94.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808202	Kjeldahl Nitrogen	97.7	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306484

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808185	NO2NO3-N	95.0	98.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306739

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808134	NO2NO3-N	99.5	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808187	Total-P	97.4	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808323	Total-P	94.2	95.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306249

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808190	O-Phosphate-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808274	O-Phosphate-P	103	102	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808183	Fluoride	99.4	99.4	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P306379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808119	Fluoride	95.7	95.7	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P306569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808132	Organic Carbon	93.4	95.6	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P306615

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1808108	Organic Carbon	95.4	92.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P306328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808262	Turbidity	12.2	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P306345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808166	Iron	0.394	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P306345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808166	Arsenic	1.90	Spike	P	0 - 20
1808166	Cadmium	0.989	Spike	P	0 - 20
1808166	Chromium	3.27	Spike	P	0 - 20
1808166	Copper	0.175	Spike	P	0 - 20
1808166	Lead	1.34	Spike	P	0 - 20
1808166	Silver	1.93	Spike	P	0 - 20
1808166	Zinc	0.981	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P307029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808172	Nickel	1.00	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808104	Chloride	0.0249	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P306621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808104	Sulfate	0.0838	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306626

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808319	Ammonia-N	1.33	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P306629

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808204	Ammonia-N	1.45	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306291

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808135	Kjeldahl Nitrogen	2.92	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P306355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808202	Kjeldahl Nitrogen	1.13	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306484

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808185	NO2NO3-N	3.11	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P306739

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808134	NO2NO3-N	1.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808187	Total-P	0.704	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P306457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808323	Total-P	1.27	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306249

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808190	O-Phosphate-P	0.0981	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P306251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808274	O-Phosphate-P	0.622	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P306245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808328	Color (true)	0.582	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P306671

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808121	Total Alkalinity	0.382	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P306887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808184	TDS	6.25	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P306378

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808183	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P306379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808119	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P306569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808132	Organic Carbon	2.32	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P306615

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1808108	Organic Carbon	2.14	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 300.0 Rev. 2.1
Run ID: A70045
Included Lab Sample IDs: 1808261, 1808262, 1808263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.8	P/P	90 - 110
Chloride	99.8	101	P/P	90 - 110
Sulfate	94.3	97.7	P/P	90 - 110
Sulfate	97.7	93.7	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A70057
Included Lab Sample IDs: 1808261, 1808262, 1808263

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.4	100	P/P	90 - 115
Color (true)	99.5	99.4	P/P	90 - 115

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A70064

Included Lab Sample IDs: 1808267, 1808268, 1808269, 1808274, 1808275

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A70080

Included Lab Sample IDs: 1808261, 1808262, 1808263, 1808270, 1808271

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

Reference Method: SM 4500 F-C-97

Run ID: A70097

Included Lab Sample IDs: 1808261, 1808262, 1808263, 1808270, 1808271

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70112

Included Lab Sample IDs: 1808272, 1808273

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70119

Included Lab Sample IDs: 1808264, 1808265, 1808266

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70126

Included Lab Sample IDs: 1808264, 1808265, 1808266

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A70129

Included Lab Sample IDs: 1808300, 1808301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	103	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A70131

Included Lab Sample IDs: 1808264, 1808265, 1808266

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.2	99.7	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A70135

Included Lab Sample IDs: 1808272, 1808273

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A70140

Included Lab Sample IDs: 1808300, 1808301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	100	101	P/P	90 - 110
Arsenic	101	99.2	P/P	90 - 110
Cadmium	97.7	99.1	P/P	90 - 110
Cadmium	99.1	98.5	P/P	90 - 110
Chromium	94.6	95.2	P/P	90 - 110
Chromium	95.2	95.5	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Copper	101	99.1	P/P	90 - 110
Lead	95.4	95.3	P/P	90 - 110
Lead	95.8	95.4	P/P	90 - 110
Silver	95.3	97.1	P/P	90 - 110
Silver	97.1	95.7	P/P	90 - 110
Zinc	101	100	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70147

Included Lab Sample IDs: 1808272, 1808273

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.2	96.2	P/P	90 - 110
Organic Carbon	97.6	93.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A70160

Included Lab Sample IDs: 1808264, 1808265, 1808266

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70162

Included Lab Sample IDs: 1808264, 1808265, 1808266, 1808272, 1808273

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

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A70169

Included Lab Sample IDs: 1808261, 1808262, 1808263, 1808270, 1808271

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	105	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A70190

Included Lab Sample IDs: 1808272, 1808273

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A70363

Included Lab Sample IDs: 1808300, 1808301

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	95.4	93.4	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						12.2	
EPA 200.7 Rev. 4.4	Iron	108	111	107	107			0.394
EPA 200.8 Rev. 5.4	Arsenic	97.2	104	102	100			1.90
	Cadmium	99.2	99.6	90.3	91.2			0.989
	Chromium	96.7	85.2	78.7	76.1			3.27
	Copper	95.6	97.2	94.3	94.5			0.175
	Lead	95.8	102	102	100			1.34
	Nickel	93.7	92.4	91.5				1.00
	Silver	96.1	91.7	88.7	87.0			1.93
	Zinc	99.3	100	96.5	95.5			0.981
EPA 300.0 Rev. 2.1	Chloride	98.3	97.2	99.0			0.0249	
	Sulfate	96.6	95.8	96.7			0.0838	
EPA 350.1 Rev. 2.0	Ammonia-N	96.3	101	103				1.33
	Ammonia-N	97.5	100	101				1.45
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.9	97.4	94.3				2.92
	Kjeldahl Nitrogen	95.0	99.1	97.7				1.13
EPA 353.2 Rev. 2.0	NO2NO3-N	96.5	95.0	98.0				3.11
	NO2NO3-N	100	99.5	101				1.50
EPA 365.1 Rev. 2.0	Total-P	98.6	97.4	98.2				0.704
	Total-P	97.8	94.2	95.4				1.27
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	106	102	102				0.0981
	O-Phosphate-P	107	103	102				0.622
SM 2120 B	Color (true)						0.582	
SM 2320 B-97	Total Alkalinity	106					0.382	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
					LCS	
SM 2540 C-97	TDS				6.25	
SM 4500 F-C-97	Fluoride	99.0	99.4	99.4		0.0
	Fluoride	98.5	95.7	95.7		0.0
SM 5310 B-00	Organic Carbon	101	93.4	95.6		2.32
	Organic Carbon	96.8	95.4	92.0		2.14

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1808261, 1808262, 1808263, 1808270, 1808271
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1808300, 1808301
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1808300, 1808301
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1808261, 1808262, 1808263
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1808261, 1808262, 1808263
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1808264, 1808265, 1808266, 1808272, 1808273
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1808264, 1808265, 1808266, 1808272, 1808273
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1808264, 1808265, 1808266, 1808272, 1808273
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1808264, 1808265, 1808266, 1808272, 1808273
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1808267, 1808268, 1808269, 1808274, 1808275
SM 2120 B / E31780	True Color measured at 450 nm	1808261, 1808262, 1808263
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1808261, 1808262, 1808263, 1808270, 1808271
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1808261, 1808262, 1808263
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1808261, 1808262, 1808263, 1808270, 1808271
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1808261, 1808262, 1808263, 1808270, 1808271
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1808264, 1808265, 1808266, 1808272, 1808273

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	06/15/2016			06/15/2016 16:02	Rochelle Y Jackson	1808261, 1808262, 1808263, 1808270, 1808271
EPA 200.7 Rev. 4.4	06/15/2016	06/16/2016	Elliott D. Healy	06/21/2016	Joshua Ayres	1808300, 1808301
EPA 200.8 Rev. 5.4	06/15/2016	06/16/2016	Elliott D. Healy	06/21/2016	Charles J. Peterson	1808300, 1808301
	06/15/2016	06/28/2016	Elliott D. Healy	07/01/2016	Charles J. Peterson	1808300, 1808301
EPA 300.0 Rev. 2.1	06/15/2016			06/17/2016	Elisa J Lutz	1808261, 1808262, 1808263
EPA 350.1 Rev. 2.0	06/15/2016			06/21/2016	Diana M. Turner	1808264, 1808265, 1808266, 1808272, 1808273
EPA 351.2 Rev. 2.0	06/15/2016	06/16/2016	Sofia Elnemr	06/17/2016	Christopher Armour	1808272, 1808273
	06/15/2016	06/17/2016	Sofia Elnemr	06/20/2016	Rochelle Y Jackson	1808264, 1808265, 1808266
EPA 353.2 Rev. 2.0	06/15/2016			06/20/2016	Beverly Y. Sanders	1808264, 1808265, 1808266
	06/15/2016			06/23/2016	Peter D. Kaus	1808272, 1808273
EPA 365.1 Rev. 2.0	06/15/2016	06/17/2016	Vijayalakshmi Reddy	06/20/2016	Lipi Saha	1808264, 1808265, 1808266
	06/15/2016	06/20/2016	Vijayalakshmi Reddy	06/21/2016	Lipi Saha	1808272, 1808273
EPA 365.1 Rev. 2.0 dissolved	06/15/2016			06/15/2016 13:44	Julia Storbeck	1808274
	06/15/2016			06/15/2016 14:07	Julia Storbeck	1808267, 1808268
	06/15/2016			06/15/2016 14:08	Julia Storbeck	1808269
	06/15/2016			06/15/2016 14:21	Julia Storbeck	1808275
SM 2120 B	06/15/2016			06/15/2016 13:11	Rochelle Y Jackson	1808263
	06/15/2016			06/15/2016 13:27	Rochelle Y Jackson	1808261
	06/15/2016			06/15/2016 13:28	Rochelle Y Jackson	1808262
SM 2320 B-97	06/15/2016			06/22/2016	Rochelle Y Jackson	1808261, 1808262, 1808263, 1808270, 1808271
SM 2540 C-97	06/15/2016			06/17/2016	Yijie Li	1808261, 1808262, 1808263
SM 2540 D-97	06/15/2016			06/17/2016	Yijie Li	1808261, 1808262, 1808263, 1808270, 1808271
SM 4500 F-C-97	06/15/2016			06/16/2016	Dale L. Simmons	1808261, 1808262, 1808263, 1808270, 1808271
SM 5310 B-00	06/15/2016			06/21/2016	Diana M. Turner	1808264, 1808265, 1808266, 1808272, 1808273