Chemical Analysis Report

NW-DIST-2017-11-29-02

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

Event Description: **Dune Lakes Run WBID 959G 1037 959G 959B**
Request ID: **RQ-2017-11-27-12**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
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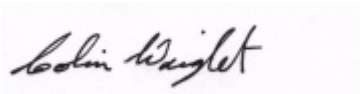
Certified by: Colin Wright, Program Administrator

Date Certified: 18-DEC-2017 11:20



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: Eastern Lake **Collection Date/Time: 11/28/2017 12:05**

Field ID: G3NW0124 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949154	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P336080	
	SM 2320 B-97	Total Alkalinity	81		mg CaCO3/L	P336325	
	SM 2540 D-97	TSS	3	U	mg/L	P336371	
	SM 4500 F-C-97	Fluoride	0.66		mg F/L	P336329	
1949158	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P336627	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.66		mg N/L	P336472	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336274	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P336360	
	SM 5310 B-00	Organic Carbon	4.3		mg C/L	P336547	
1949162	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336056	

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: Little Redfish Lake **Collection Date/Time: 11/28/2017 12:45**

Field ID: G3NW0125 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949155	EPA 180.1 Rev. 2.0	Turbidity	0.75		NTU	P336080	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P336325	
	SM 2540 D-97	TSS	6	I	mg/L	P336371	
	SM 4500 F-C-97	Fluoride	0.33		mg F/L	P336329	
1949159	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P336627	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.61		mg N/L	P336472	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P336274	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P336360	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P336547	
1949163	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336056	

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: Allen Lake **Collection Date/Time: 11/28/2017 13:40**

Field ID: G3NW0085 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949148	EPA 180.1 Rev. 2.0	Turbidity	0.85		NTU	P336080	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P336186	
		Sulfate	4.6	A	mg SO4/L	P336189	
	SM 2120 B	Color (true)	140		PCU	P336073	
	SM 2320 B-97	Total Alkalinity	1.2	I	mg CaCO3/L	P336465	
	SM 2540 C-97	TDS	91		mg/L	P336392	
	SM 2540 D-97	TSS	2	I	mg/L	P336366	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336469	
1949150	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P336793	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P336642	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336167	

Field ID: G3NW0085 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949150	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P336312	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P336261	
1949152	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336055	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Stallworth Lake **Collection Date/Time: 11/28/2017 14:10**

Field ID: G3NW0083 Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949156	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P336080	
	SM 2320 B-97	Total Alkalinity	36	A	mg CaCO3/L	P336325	
	SM 2540 D-97	TSS	3	UA	mg/L	P336372	
	SM 4500 F-C-97	Fluoride	0.28		mg F/L	P336329	
1949160	EPA 350.1 Rev. 2.0	Ammonia-N	0.055		mg N/L	P336627	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.53		mg N/L	P336472	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336274	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P336360	
	SM 5310 B-00	Organic Carbon	6.5		mg C/L	P336334	
1949164	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336056	

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: Morris Lake **Collection Date/Time: 11/28/2017 14:50**

Field ID: G3NW0126 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949157	EPA 180.1 Rev. 2.0	Turbidity	1.3		NTU	P336080	
	SM 2320 B-97	Total Alkalinity	0.69	I	mg CaCO3/L	P336465	
	SM 2540 D-97	TSS	3	I	mg/L	P336368	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336469	
1949161	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P336541	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.47		mg N/L	P336420	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.012		mg N/L	P336384	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P336312	
	SM 5310 B-00	Organic Carbon	11		mg C/L	P336334	
1949165	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336057	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Fuller Lake **Collection Date/Time: 11/28/2017 15:35**

Field ID: G3NW0084 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes

Field ID: G3NW0084 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1949149	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P336080	
	EPA 300.0 Rev. 2.1	Chloride	20	A	mg Cl/L	P336187	
		Sulfate	4.3	A	mg SO4/L	P336190	
	SM 2120 B	Color (true)	230		PCU	P336073	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P336465	
	SM 2540 C-97	TDS	79		mg/L	P336392	
	SM 2540 D-97	TSS	3	I	mg/L	P336366	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336469	
1949151	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P336541	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.67		mg N/L	P336642	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P336167	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P336312	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P336261	
1949153	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336055	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.
EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336080

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336186

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336187

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336189

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336190

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: P336541

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336627

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336793

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336420

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336472

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336167

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336274

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

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: P336312

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336360

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336055

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336056

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336057

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

Reference Method: SM 2120 B
Batch ID: P336073

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336325

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

Reference Method: SM 2320 B-97
Batch ID: P336465

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

Reference Method: SM 2540 C-97
Batch ID: P336392

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P336366

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336368

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336371

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336372

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P336329

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P336469

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P336261

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

Reference Method: SM 5310 B-00
Batch ID: P336334

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

Reference Method: SM 5310 B-00
Batch ID: P336547

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: P336186

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336187

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336189

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336190

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336541

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336627

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336793

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336420

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336472

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336167

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336274

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: P336384

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: P336312

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336360

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336056

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336057

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P336325

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

Reference Method: SM 2320 B-97
Batch ID: P336465

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

Reference Method: SM 4500 F-C-97
Batch ID: P336329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	93.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P336469

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P336261

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P336334

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

Reference Method: SM 5310 B-00
Batch ID: P336547

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.8		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949099	Chloride	96.9		P	90 - 110
1949148	Chloride	95.8		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949100	Chloride	96.6		P	90 - 110
1949149	Chloride	96.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336189

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949099	Sulfate	99.0		P	90 - 110
1949148	Sulfate	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949100	Sulfate	98.2		P	90 - 110
1949149	Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949102	Ammonia-N	101	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949158	Ammonia-N	109	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336793

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949150	Ammonia-N	101	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336420

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949161	Kjeldahl Nitrogen	98.0	94.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336472

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949136	Kjeldahl Nitrogen	96.6	99.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949150	NO2NO3-N	104	104	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949129	NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949161	NO2NO3-N	106	98.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336360

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949394	Total-P	91.6	93.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949103	O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336056

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949046	O-Phosphate-P	100	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336057

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949049	O-Phosphate-P	100	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P336329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949156	Fluoride	94.4	95.7	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P336469

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949217	Fluoride	96.3	96.3	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P336261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1948993	Organic Carbon	95.4	95.2	P/P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P336334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949161	Organic Carbon	94.8	95.2	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P336547

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1949758	Organic Carbon	98.3	97.3	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P336080

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949059	Turbidity	7.18	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949148	Chloride	0.706	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949149	Chloride	0.995	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336189

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949148	Sulfate	0.455	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949149	Sulfate	0.764	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949102	Ammonia-N	1.96	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336627

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949158	Ammonia-N	2.99	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P336793

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949150	Ammonia-N	1.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336420

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949161	Kjeldahl Nitrogen	2.53	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336472

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949136	Kjeldahl Nitrogen	2.57	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336642

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949963	Kjeldahl Nitrogen	1.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949150	NO2NO3-N	0.480	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949129	NO2NO3-N	0.484	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949161	NO2NO3-N	7.37	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949197	Total-P	0.337	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336360

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949394	Total-P	1.34	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949103	O-Phosphate-P	0.899	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336056

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949046	O-Phosphate-P	2.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336057

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949049	O-Phosphate-P	0.189	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P336073

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949012	Color (true)	0.759	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P336325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949156	Total Alkalinity	0.483	Sample	P	0 - 4.8

Quality Assurance Report
Precision

Reference Method: SM 2320 B-97
Batch ID: P336465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949217	Total Alkalinity	1.90	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P336392

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949047	TDS	5.36	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P336329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949156	Fluoride	0.953	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P336469

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949217	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P336261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1948993	Organic Carbon	0.315	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P336334

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949161	Organic Carbon	0.268	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P336547

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1949758	Organic Carbon	0.774	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: A80577
Included Lab Sample IDs: 1949152, 1949153, 1949162, 1949163, 1949164, 1949165

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110
O-Phosphate-P	99.8	100	P/P	90 - 110
O-Phosphate-P	99.9	100	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A80591
Included Lab Sample IDs: 1949148, 1949149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115
Color (true)	101	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A80593
Included Lab Sample IDs: 1949148, 1949149, 1949154, 1949155, 1949156, 1949157

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A80623
Included Lab Sample IDs: 1949150, 1949151

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A80632
Included Lab Sample IDs: 1949148, 1949149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	100	P/P	90 - 110
Chloride	99.9	101	P/P	90 - 110
Sulfate	99.3	99.6	P/P	90 - 110
Sulfate	99.8	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A80659
Included Lab Sample IDs: 1949150, 1949151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A80664
Included Lab Sample IDs: 1949158, 1949159, 1949160

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

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A80689
Included Lab Sample IDs: 1949154, 1949155, 1949156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	99.3	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A80689
Included Lab Sample IDs: 1949154, 1949155, 1949156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.1	97.6	P/P	90 - 110
Fluoride	97.6	97.1	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A80692
Included Lab Sample IDs: 1949160, 1949161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	98.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A80702
Included Lab Sample IDs: 1949161

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

Reference Method: SM 2320 B-97
Run ID: A80732
Included Lab Sample IDs: 1949148, 1949149, 1949157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A80732
Included Lab Sample IDs: 1949148, 1949149, 1949157

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A80749
Included Lab Sample IDs: 1949151, 1949161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	99.6	P/P	90 - 110

Reference Method: SM 5310 B-00
Run ID: A80752
Included Lab Sample IDs: 1949158, 1949159

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A80764
Included Lab Sample IDs: 1949150, 1949151, 1949161

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A80765
Included Lab Sample IDs: 1949158, 1949159, 1949160, 1949161

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	102	P/P	90 - 110
Kjeldahl Nitrogen	106	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A80773
Included Lab Sample IDs: 1949158, 1949159, 1949160

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	104	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A80787
Included Lab Sample IDs: 1949158, 1949159, 1949160

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A80815
Included Lab Sample IDs: 1949150, 1949151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A80825
Included Lab Sample IDs: 1949150

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

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity					7.18	
EPA 300.0 Rev. 2.1	Chloride	103	95.8	96.9		0.706	
	Chloride	97.1	96.0	96.6		0.995	

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 300.0 Rev. 2.1	Sulfate	98.9	98.6	99.0		0.455	
	Sulfate	98.6	97.7	98.2		0.764	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	98.9			1.96
	Ammonia-N	101	109	106			2.99
	Ammonia-N	99.8	101	99.4			1.67
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	98.0	94.6			2.53
	Kjeldahl Nitrogen	104	96.6	99.5			2.57
	Kjeldahl Nitrogen	106					1.46
EPA 353.2 Rev. 2.0	NO2NO3-N	106	104	104			0.480
	NO2NO3-N	102	104	103			0.484
	NO2NO3-N	102	106	98.4			7.37
EPA 365.1 Rev. 2.0	Total-P	102					0.337
	Total-P	102	91.6	93.0			1.34
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	99.7	101			0.899
	O-Phosphate-P	98.9	100	104			2.61
	O-Phosphate-P	100	100	100			0.189
SM 2120 B	Color (true)					0.759	
SM 2320 B-97	Total Alkalinity	102				0.483	
	Total Alkalinity	103				1.90	
SM 2540 C-97	TDS					5.36	
SM 4500 F-C-97	Fluoride	93.9	94.4	95.7			0.953
	Fluoride	96.8	96.3	96.3			0.0
SM 5310 B-00	Organic Carbon	97.9	95.4	95.2			0.315
	Organic Carbon	97.0	94.8	95.2			0.268
	Organic Carbon	98.8	98.3	97.3			0.774

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1949148, 1949149
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1949148, 1949149
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1949150, 1949151, 1949158, 1949159, 1949160, 1949161
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1949150, 1949151, 1949158, 1949159, 1949160, 1949161
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1949150, 1949151, 1949158, 1949159, 1949160, 1949161
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1949150, 1949151, 1949158, 1949159, 1949160, 1949161
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1949152, 1949153, 1949162, 1949163, 1949164, 1949165
SM 2120 B / E31780	True Color measured at 450 nm	1949148, 1949149
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1949148, 1949149
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1949150, 1949151, 1949158, 1949159, 1949160, 1949161

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	11/29/2017			11/29/2017 16:26	DeAsia Armster	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
EPA 300.0 Rev. 2.1	11/29/2017			11/30/2017	Irina Carbone	1949148, 1949149
EPA 350.1 Rev. 2.0	11/29/2017			12/06/2017	Sofia Elnemr	1949151, 1949161
	11/29/2017			12/07/2017	Sofia Elnemr	1949158, 1949159, 1949160
	11/29/2017			12/08/2017	Sofia Elnemr	1949150
EPA 351.2 Rev. 2.0	11/29/2017	12/06/2017	Adrian Shelby	12/07/2017	Joseph Suarez	1949158, 1949159, 1949160, 1949161
	11/29/2017	12/08/2017	Adrian Shelby	12/11/2017	Joseph Suarez	1949150, 1949151
EPA 353.2 Rev. 2.0	11/29/2017			12/01/2017	Beverly Y. Sanders	1949150, 1949151
	11/29/2017			12/04/2017	Beverly Y. Sanders	1949158, 1949159, 1949160
	11/29/2017			12/05/2017	Lauren Bottorf	1949161
EPA 365.1 Rev. 2.0	11/29/2017	12/04/2017	Sima Feizi	12/07/2017	Lipi Saha	1949150, 1949151, 1949161
	11/29/2017	12/05/2017	Sima Feizi	12/08/2017	Beverly Y. Sanders	1949158, 1949159, 1949160
EPA 365.1 Rev. 2.0 dissolved	11/29/2017			11/29/2017 12:16	Megan Treadwell	1949162
	11/29/2017			11/29/2017 12:21	Megan Treadwell	1949163
	11/29/2017			11/29/2017 12:22	Megan Treadwell	1949164
	11/29/2017			11/29/2017 12:23	Megan Treadwell	1949152
	11/29/2017			11/29/2017 12:24	Megan Treadwell	1949153
	11/29/2017			11/29/2017 12:38	Megan Treadwell	1949165
SM 2120 B	11/29/2017			11/29/2017 14:57	Tanya Welborn	1949148
	11/29/2017			11/29/2017 15:09	Tanya Welborn	1949149
SM 2320 B-97	11/29/2017			12/04/2017	Dale L. Simmons	1949154, 1949155, 1949156
	11/29/2017			12/06/2017	Dale L. Simmons	1949148, 1949149, 1949157
SM 2540 C-97	11/29/2017			12/01/2017	Yijie Li	1949148, 1949149
SM 2540 D-97	11/29/2017			12/01/2017	Yijie Li	1949148, 1949149, 1949154, 1949155, 1949156, 1949157
SM 4500 F-C-97	11/29/2017			12/04/2017	Dale L. Simmons	1949154, 1949155, 1949156
	11/29/2017			12/06/2017	Dale L. Simmons	1949148, 1949149, 1949157
SM 5310 B-00	11/29/2017			12/01/2017	Ping Hua	1949150, 1949151
	11/29/2017			12/04/2017	Ping Hua	1949160, 1949161
	11/29/2017			12/07/2017	Ping Hua	1949158, 1949159