

Chemical Analysis Report

CEN-DIST-2016-08-04-01

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

Event Description: **Orange Creek+HA+D&B**

Request ID: **RQ-2016-08-01-36**

Customer: **CEN-DIST**

Project ID: **SMP**

Send Reports to:

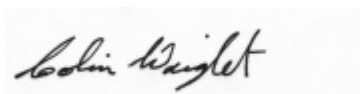
FL Dept. of Environmental Protection
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3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Mike Linger

For additional information please contact

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Certified by: Colin Wright, Environmental Administrator

Date Certified: 26-AUG-2016 12:55

A handwritten signature in black ink, appearing to read "Colin Wright", is written on a light-colored rectangular background.

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: Orange Creek @ CR 21

Collection Date/Time: 08/03/2016 10:55

Field ID: G1CE0028

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821863	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P309220	
	EPA 300.0 Rev. 2.1	Chloride	8.9		mg Cl/L	P309732	
		Sulfate	7.3		mg SO4/L	P309942	
	SM 2120 B	Color (true)	120		PCU	P309236	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P309337	
	SM 2540 C-97	TDS	90		mg/L	P309853	
	SM 2540 D-97	TSS	3	I	mg/L	P309771	
	SM 4500 F-C-97	Fluoride	0.091	I	mg F/L	P309344	
1821867	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P309217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P309641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.5		mg N/L	P309666	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P309648	
	SM 5310 B-00	Organic Carbon	14		mg C/L	P310029	
1821871	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P309225	
1821886	EPA 200.7 Rev. 4.4	Calcium	16.5		mg/L	P309366	
		Iron	260		ug/L	P309366	
		Magnesium	5.12		mg/L	P309366	
		Potassium	1.4		mg/L	P309366	
		Sodium	4.7		mg/L	P309366	
		Zinc	5.0	U	ug/L	P309366	
		Arsenic	0.36		ug/L	P309366	
	EPA 200.8 Rev. 5.4	Cadmium	0.020	U	ug/L	P309366	
		Chromium	0.21		ug/L	P309366	
		Copper	0.45		ug/L	P309366	
		Lead	0.10	I	ug/L	P309366	
		Nickel	0.23		ug/L	P309366	
		Silver	0.0050	U	ug/L	P309366	

Sample Location: Orange Creek @ CR 21_DUP

Collection Date/Time: 08/03/2016 11:05

Field ID: G1CE0028_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821864	EPA 180.1 Rev. 2.0	Turbidity	1.4	A	NTU	P309221	
	EPA 300.0 Rev. 2.1	Chloride	8.9		mg Cl/L	P309732	
		Sulfate	7.3		mg SO4/L	P309942	
	SM 2120 B	Color (true)	120		PCU	P309236	
	SM 2320 B-97	Total Alkalinity	38		mg CaCO3/L	P309337	
	SM 2540 C-97	TDS	92		mg/L	P309853	
	SM 2540 D-97	TSS	3	I	mg/L	P309771	
	SM 4500 F-C-97	Fluoride	0.090	I	mg F/L	P309344	
1821868	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P309217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.74		mg N/L	P309641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.5		mg N/L	P309666	
	EPA 365.1 Rev. 2.0	Total-P	0.085		mg P/L	P309648	

Field ID: G1CE0028_DUP

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821868	SM 5310 B-00	Organic Carbon	13		mg C/L	P310258	
1821872	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P309225	
1821887	EPA 200.7 Rev. 4.4	Calcium	16.4		mg/L	P309366	
		Iron	270		ug/L	P309366	
		Magnesium	5.16		mg/L	P309366	
		Potassium	1.4		mg/L	P309366	
		Sodium	4.6		mg/L	P309366	
		Zinc	5.0	U	ug/L	P309366	
	EPA 200.8 Rev. 5.4	Arsenic	0.38		ug/L	P309366	
		Cadmium	0.020	U	ug/L	P309366	
		Chromium	0.22		ug/L	P309366	
		Copper	0.41		ug/L	P309366	
		Lead	0.12	I	ug/L	P309366	
		Nickel	0.28		ug/L	P309366	
		Silver	0.0050	U	ug/L	P309366	

Sample Location: Field Blank

Collection Date/Time: 08/03/2016 12:02

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821865	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P309221	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P309732	
		Sulfate	0.20	U	mg SO4/L	P309942	
	SM 2120 B	Color (true)	2.5	U	PCU	P309236	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P309337	
	SM 2540 C-97	TDS	15	U	mg/L	P309853	
	SM 2540 D-97	TSS	2	U	mg/L	P309771	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P309344	
1821869	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P309217	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P309641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P309666	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P309648	
	SM 5310 B-00	Organic Carbon	0.50	U	mg C/L	P310258	
1821873	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P309225	
1821888	EPA 200.7 Rev. 4.4	Calcium	0.075	U	mg/L	P309366	
		Iron	30	U	ug/L	P309366	
		Magnesium	0.040	U	mg/L	P309366	
		Potassium	0.30	U	mg/L	P309366	
		Sodium	0.50	U	mg/L	P309366	
		Zinc	5.0	U	ug/L	P309366	
	EPA 200.8 Rev. 5.4	Arsenic	0.050	U	ug/L	P309366	
		Cadmium	0.020	U	ug/L	P309366	
		Chromium	0.050	U	ug/L	P309366	
		Copper	0.10	U	ug/L	P309745	

Field ID: Field Blank

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821888	EPA 200.8 Rev. 5.4	Lead	0.050	U	ug/L	P309366	
		Nickel	0.050	U	ug/L	P309366	
		Silver	0.0050	U	ug/L	P309366	

Sample Location: Orange Creek @ East Side of US 301 Bridge

Collection Date/Time: 08/03/2016 12:35

Field ID: G1CE0027

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1821866	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P309221	
	EPA 300.0 Rev. 2.1	Chloride	9.3	A	mg Cl/L	P309732	
		Sulfate	0.20	U	mg SO4/L	P309942	
	SM 2120 B	Color (true)	230		PCU	P309236	
	SM 2320 B-97	Total Alkalinity	22		mg CaCO3/L	P309385	
	SM 2540 C-97	TDS	92		mg/L	P309853	
	SM 2540 D-97	TSS	2	U	mg/L	P309771	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P309386	
1821870	EPA 350.1 Rev. 2.0	Ammonia-N	0.37		mg N/L	P309356	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.1		mg N/L	P309641	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P309667	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P309648	
	SM 5310 B-00	Organic Carbon	33		mg C/L	P310258	
1821874	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P309225	
1821889	EPA 200.7 Rev. 4.4	Calcium	9.00		mg/L	P309366	
		Iron	620		ug/L	P309366	
		Magnesium	2.74		mg/L	P309366	
		Potassium	0.47	I	mg/L	P309366	
		Sodium	6.2		mg/L	P309366	
		Zinc	5.0	U	ug/L	P309366	
	EPA 200.8 Rev. 5.4	Arsenic	0.56		ug/L	P309366	
		Cadmium	0.020	U	ug/L	P309366	
		Chromium	0.24		ug/L	P309366	
		Copper	0.17	I	ug/L	P309366	
		Lead	0.13	I	ug/L	P309366	
		Nickel	0.12	I	ug/L	P309366	
		Silver	0.0050	U	ug/L	P309366	

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P309220

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P309221

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P309366

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309366

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
Nickel	0.050	U	ug/L
Silver	0.0050	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309745

Component	Result	Code	Units
Copper	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309732

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309942

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309217

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309356

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309641

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309666

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309667

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309648

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P309225

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

Reference Method: SM 2120 B
Batch ID: P309236

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P309337

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

Reference Method: SM 2320 B-97
Batch ID: P309385

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

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P309853

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P309771

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P309344

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P309386

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P310029

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

Reference Method: SM 5310 B-00
Batch ID: P310258

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: P309366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	111		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	103		P	85 - 115
Sodium	104		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	92.7		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309366

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cadmium	97.7		P	85 - 115
Chromium	104		P	85 - 115
Copper	92.0		P	85 - 115
Lead	95.3		P	85 - 115
Nickel	93.8		P	85 - 115
Silver	98.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Copper	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309732

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309942

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309217

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309356

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.0		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309641

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309666

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309667

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: P309648

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P309225

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

Reference Method: SM 2320 B-97
Batch ID: P309337

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P309385

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

Reference Method: SM 4500 F-C-97
Batch ID: P309344

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P309386

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P310029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	103		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P310258

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P309366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1822248	Calcium	101		P	80 - 120
1822248	Iron	107	106	P/P	80 - 120
1822248	Magnesium	103		P	80 - 120
1822248	Potassium	98.1		P	80 - 120
1822248	Sodium	99.4		P	80 - 120
1822248	Zinc	97.7	100	P/P	80 - 120
1822319	Calcium	101		P	80 - 120
1822319	Iron	105		P	80 - 120
1822319	Magnesium	102		P	80 - 120
1822319	Potassium	96.5		P	80 - 120
1822319	Sodium	101		P	80 - 120
1822319	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1822248	Arsenic	99.6	100	P/P	80 - 120
1822248	Cadmium	101	104	P/P	80 - 120
1822248	Chromium	109	110	P/P	80 - 120
1822248	Copper	94.2	94.6	P/P	80 - 120
1822248	Lead	102	102	P/P	80 - 120
1822248	Nickel	95.8	96.1	P/P	80 - 120
1822248	Silver	102	103	P/P	80 - 120
1822319	Arsenic	97.9		P	80 - 120
1822319	Cadmium	99.4		P	80 - 120
1822319	Chromium	108		P	80 - 120
1822319	Copper	92.2		P	80 - 120
1822319	Lead	99.4		P	80 - 120
1822319	Nickel	93.3		P	80 - 120
1822319	Silver	99.3		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821387	Copper	96.0		P	80 - 120
1823155	Copper	98.1	97.8	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309732

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821866	Chloride	98.2		P	90 - 110
1821876	Chloride	99.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309942

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821866	Sulfate	95.9		P	90 - 110
1823310	Sulfate	94.5		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309217

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821818	Ammonia-N	100	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309356

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821877	Ammonia-N	97.6	95.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821852	Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309666

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821785	NO2NO3-N	95.2		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821870	NO2NO3-N	92.8	94.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821867	Total-P	108	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P309225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821750	O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P309344

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821748	Fluoride	99.2	99.8	P/P	91 - 105

Reference Method: SM 4500 F-C-97
Batch ID: P309386

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1822094	Fluoride	99.5	99.5	P/P	91 - 105

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-00
Batch ID: P310029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821634	Organic Carbon	106	108	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P310258

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1821868	Organic Carbon	99.8	98.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P309220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821772	Turbidity	12.0	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P309221

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821864	Turbidity	17.6	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P309366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1822248	Calcium	0.540	Spike	P	0 - 20
1822248	Iron	1.05	Spike	P	0 - 20
1822248	Magnesium	0.641	Spike	P	0 - 20
1822248	Potassium	0.216	Spike	P	0 - 20
1822248	Sodium	0.756	Spike	P	0 - 20
1822248	Zinc	2.30	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1822248	Arsenic	0.876	Spike	P	0 - 20
1822248	Cadmium	3.14	Spike	P	0 - 20
1822248	Chromium	1.37	Spike	P	0 - 20
1822248	Copper	0.457	Spike	P	0 - 20
1822248	Lead	0.358	Spike	P	0 - 20
1822248	Nickel	0.246	Spike	P	0 - 20
1822248	Silver	1.40	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P309745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1823155	Copper	0.330	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309732

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821866	Chloride	0.110	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P309942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1823310	Sulfate	0.417	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309217

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821818	Ammonia-N	1.18	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P309356

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821877	Ammonia-N	1.81	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P309641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821852	Kjeldahl Nitrogen	0.857	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309666

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821785	NO2NO3-N	1.03	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P309667

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821870	NO2NO3-N	2.08	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P309648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821867	Total-P	5.01	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P309225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821750	O-Phosphate-P	0.327	Spike	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P309236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821876	Color (true)	4.09	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P309337

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821748	Total Alkalinity	0.579	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P309385

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1822094	Total Alkalinity	0.198	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P309853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821957	TDS	0.559	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P309771

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821957	TSS	0.0	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P309344

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821748	Fluoride	0.519	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P309386

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1822094	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P310029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821634	Organic Carbon	1.24	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P310258

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1821868	Organic Carbon	1.03	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 350.1 Rev. 2.0
Run ID: A70951
Included Lab Sample IDs: 1821867, 1821868, 1821869

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

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A70952
Included Lab Sample IDs: 1821863, 1821864, 1821865, 1821866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.5	P/P	95 - 105
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A70953
Included Lab Sample IDs: 1821871, 1821872, 1821873, 1821874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.6	P/P	90 - 110
O-Phosphate-P	99.6	99.7	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A70955
Included Lab Sample IDs: 1821863, 1821864, 1821865, 1821866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B

Run ID: A70955

Included Lab Sample IDs: 1821863, 1821864, 1821865, 1821866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.4	P/P	90 - 115
Color (true)	99.6	98.9	P/P	90 - 115

Reference Method: SM 2320 B-97

Run ID: A70986

Included Lab Sample IDs: 1821863, 1821864, 1821865

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	104	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A70986

Included Lab Sample IDs: 1821863, 1821864, 1821865

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A70996

Included Lab Sample IDs: 1821870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	94.9	95.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A71002

Included Lab Sample IDs: 1821866

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: A71002

Included Lab Sample IDs: 1821866

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A71066

Included Lab Sample IDs: 1821886, 1821887, 1821888, 1821889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	107	P/P	90 - 110
Calcium	104	104	P/P	90 - 110
Iron	104	107	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	104	108	P/P	90 - 110
Magnesium	105	104	P/P	90 - 110
Potassium	102	105	P/P	90 - 110
Potassium	103	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A71066

Included Lab Sample IDs: 1821886, 1821887, 1821888, 1821889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sodium	101	102	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	102	103	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A71073

Included Lab Sample IDs: 1821886, 1821887, 1821888, 1821889

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.1	96.2	P/P	90 - 110
Arsenic	95.9	95.1	P/P	90 - 110
Cadmium	96.0	96.5	P/P	90 - 110
Cadmium	97.0	96.0	P/P	90 - 110
Chromium	96.3	98.9	P/P	90 - 110
Chromium	97.0	96.3	P/P	90 - 110
Copper	91.7	93.2	P/P	90 - 110
Lead	95.2	96.7	P/P	90 - 110
Lead	96.1	95.2	P/P	90 - 110
Nickel	92.7	94.1	P/P	90 - 110
Nickel	93.4	92.7	P/P	90 - 110
Silver	96.5	97.8	P/P	90 - 110
Silver	96.7	96.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A71078

Included Lab Sample IDs: 1821863, 1821864, 1821865, 1821866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	99.2	P/P	90 - 110
Chloride	99.2	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A71097

Included Lab Sample IDs: 1821867, 1821868, 1821869, 1821870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.0	P/P	90 - 110
NO2NO3-N	99.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A71124

Included Lab Sample IDs: 1821867, 1821868, 1821870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	102	P/P	90 - 110
Total-P	99.8	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A71128

Included Lab Sample IDs: 1821867, 1821868, 1821869, 1821870

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A71150

Included Lab Sample IDs: 1821869

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.8	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A71177

Included Lab Sample IDs: 1821863, 1821864, 1821865, 1821866

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	95.9	98.4	P/P	90 - 110
Sulfate	98.2	95.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A71207

Included Lab Sample IDs: 1821888

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	101	98.1	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A71232

Included Lab Sample IDs: 1821867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	105	106	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A71266

Included Lab Sample IDs: 1821886, 1821887

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	100	97.9	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A71301

Included Lab Sample IDs: 1821868, 1821869, 1821870

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.1	98.0	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			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					12.0	
	Turbidity					17.6	
EPA 200.7 Rev. 4.4	Calcium	108	101	101			0.540
	Iron	111	107	106	105		1.05
	Magnesium	107	103	102			0.641
	Potassium	103	98.1	96.5			0.216
	Sodium	104	99.4	101			0.756
	Zinc	102	97.7	100	103		2.30
EPA 200.8 Rev. 5.4	Arsenic	92.7	99.6	100	97.9		0.876
	Cadmium	97.7	101	104	99.4		3.14
	Chromium	104	109	110	108		1.37
	Copper	92.0	94.2	94.6	92.2		0.457
	Copper	99.3	96.0	98.1	97.8		0.330
	Lead	95.3	102	102	99.4		0.358
	Nickel	93.8	95.8	96.1	93.3		0.246
	Silver	98.1	102	103	99.3		1.40
EPA 300.0 Rev. 2.1	Chloride	96.5	98.2	99.1		0.110	
	Sulfate	94.3	94.5	95.9		0.417	
EPA 350.1 Rev. 2.0	Ammonia-N	103	100	102			1.18
	Ammonia-N	96.0	97.6	95.9			1.81
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	105	106			0.857
EPA 353.2 Rev. 2.0	NO2NO3-N	104	95.2				1.03
	NO2NO3-N	102	92.8	94.8			2.08
EPA 365.1 Rev. 2.0	Total-P	105	108	102			5.01
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101	99.8	100			0.327
SM 2120 B	Color (true)					4.09	
SM 2320 B-97	Total Alkalinity	104				0.579	
	Total Alkalinity	103				0.198	
SM 2540 C-97	TDS					0.559	
SM 2540 D-97	TSS					0.0	
SM 4500 F-C-97	Fluoride	99.9	99.2	99.8			0.519
	Fluoride	97.2	99.5	99.5			0.0
SM 5310 B-00	Organic Carbon	103	106	108			1.24
	Organic Carbon	98.4	99.8	98.0			1.03

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1821863, 1821864, 1821865, 1821866
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1821886, 1821887, 1821888, 1821889
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1821886, 1821887, 1821888, 1821889
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1821863, 1821864, 1821865, 1821866
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1821863, 1821864, 1821865, 1821866
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1821867, 1821868, 1821869, 1821870
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1821867, 1821868, 1821869, 1821870
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1821867, 1821868, 1821869, 1821870

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1821867, 1821868, 1821869, 1821870
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1821871, 1821872, 1821873, 1821874
SM 2120 B / E31780	True Color measured at 450 nm	1821863, 1821864, 1821865, 1821866
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1821863, 1821864, 1821865, 1821866
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1821863, 1821864, 1821865, 1821866
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1821863, 1821864, 1821865, 1821866
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1821863, 1821864, 1821865, 1821866
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1821867, 1821868, 1821869, 1821870

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	08/04/2016			08/04/2016 15:00	Sima Feizi	1821863, 1821864, 1821865, 1821866
EPA 200.7 Rev. 4.4	08/04/2016	08/08/2016	Elliott D. Healy	08/10/2016	Joshua Ayres	1821886, 1821887, 1821888, 1821889
EPA 200.8 Rev. 5.4	08/04/2016	08/08/2016	Elliott D. Healy	08/10/2016	Charles J. Peterson	1821888
	08/04/2016	08/08/2016	Elliott D. Healy	08/11/2016	Charles J. Peterson	1821886, 1821887, 1821889
	08/04/2016	08/08/2016	Elliott D. Healy	08/22/2016	Charles J. Peterson	1821886, 1821887
	08/04/2016	08/15/2016	Elliott D. Healy	08/17/2016	Charles J. Peterson	1821888
EPA 300.0 Rev. 2.1	08/04/2016			08/12/2016	Elisa J Lutz	1821863, 1821864, 1821865, 1821866
	08/04/2016			08/17/2016	Ping Hua	1821863, 1821864, 1821865, 1821866
EPA 350.1 Rev. 2.0	08/04/2016			08/04/2016	Julie Michelle Frank	1821867, 1821868, 1821869
	08/04/2016			08/08/2016	Julie Michelle Frank	1821870
EPA 351.2 Rev. 2.0	08/04/2016	08/12/2016	Sofia Elnemr	08/15/2016	Virginia P. Brown	1821867, 1821868, 1821869, 1821870
EPA 353.2 Rev. 2.0	08/04/2016			08/11/2016	Peter D. Kaus	1821867, 1821868, 1821869, 1821870
EPA 365.1 Rev. 2.0	08/04/2016	08/12/2016	Vijayalakshmi Reddy	08/15/2016	Lipi Saha	1821867, 1821868, 1821870
	08/04/2016	08/12/2016	Vijayalakshmi Reddy	08/16/2016	Lipi Saha	1821869
EPA 365.1 Rev. 2.0 dissolved	08/04/2016			08/04/2016 15:15	Julia Storbeck	1821873
	08/04/2016			08/04/2016 15:16	Julia Storbeck	1821871, 1821872
	08/04/2016			08/04/2016 15:24	Julia Storbeck	1821874
SM 2120 B	08/04/2016			08/04/2016 17:03	Rochelle Y Jackson	1821863
	08/04/2016			08/04/2016 17:04	Rochelle Y Jackson	1821864
	08/04/2016			08/04/2016 17:05	Rochelle Y Jackson	1821865
	08/04/2016			08/04/2016 17:22	Rochelle Y Jackson	1821866
SM 2320 B-97	08/04/2016			08/06/2016	Dale L. Simmons	1821863, 1821864, 1821865
	08/04/2016			08/09/2016	Dale L. Simmons	1821866
SM 2540 C-97	08/04/2016			08/08/2016	Sima Feizi	1821863, 1821864, 1821865, 1821866
SM 2540 D-97	08/04/2016			08/08/2016	Sima Feizi	1821863, 1821864, 1821865, 1821866
SM 4500 F-C-97	08/04/2016			08/06/2016	Dale L. Simmons	1821863, 1821864, 1821865
	08/04/2016			08/09/2016	Dale L. Simmons	1821866
SM 5310 B-00	08/04/2016			08/18/2016	Sofia Elnemr	1821867
	08/04/2016			08/23/2016	Sofia Elnemr	1821868, 1821869, 1821870