

Chemical Analysis Report

NE-DIST-2019-02-20-01

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

Event Description: **Bmap 2**
Request ID: **RQ-2019-02-18-10**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way West
Suite 100
Jacksonville, FL 32256
Attn: Jeremy Parrish

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 08-MAR-2019 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 groups are included in this report: Metals, Nutrients and Pesticides.

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 by the Florida Department of Health Environmental Laboratory Certification Program 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: TROUT R @ DINSMORE BOAT RAMP DOCK
NR US 1**

Collection Date/Time: 02/19/2019 12:15

Field ID: 20030123

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2063850	EPA 180.1 Rev. 2.0	Turbidity	5.6		NTU	P359256	
	EPA 300.0	Bromide	0.42		mg Br/L	P359948	
	SM 2320 B-97	Total Alkalinity	41		mg CaCO3/L	P359598	
	SM 2540 D-97	TSS	4	I	mg/L	P359470	
	SM 4500 F-C-97	Fluoride	0.081	I	mg F/L	P359602	
2063851	EPA 350.1 Rev. 2.0	Ammonia-N	0.034		mg N/L	P359548	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P359374	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P359517	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P359355	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P359591	
2063852	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.070		mg P/L	P359281	
2063864	EPA 8321B	2,4-D	0.0023	I	ug/L	P359132	
		Acesulfame K**	0.10	U	ug/L	P358980	
		AMPA**	0.14	I	ug/L	P358980	
		Sucralose**	0.13		ug/L	P358980	
		Acetaminophen**	0.0080	U	ug/L	P359132	
		Endothall**	0.25	U	ug/L	P358980	
		Glufosinate**	0.10	U	ug/L	P358980	
		Bentazon	8.0E-04	U	ug/L	P359132	
		Glyphosate**	0.12	I	ug/L	P358980	
		Carbamazepine**	8.0E-04	U	ug/L	P359132	
		Diuron	0.0020	U	ug/L	P359132	
		Fenuron	0.016	U	ug/L	P359132	
		Fluridone**	0.0036		ug/L	P359132	
		Imazapyr**	0.068		ug/L	P359132	
		Hydrocodone**	0.0020	U	ug/L	P359132	
		Ibuprofen**	0.020	U	ug/L	P359132	
		Imidacloprid	0.0052	I	ug/L	P359132	MS
		Linuron	0.0040	U	ug/L	P359132	
		MCPP	0.0020	U	ug/L	P359132	
		Naproxen**	0.0080	U	ug/L	P359132	
		Primidone**	0.0040	U	ug/L	P359132	
		Pyraclostrobin**	0.0020	U	ug/L	P359132	
		Triclopyr**	0.0040	U	ug/L	P359132	

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: MONCRIEF CR AT MONCRIEF ROAD

Collection Date/Time: 02/19/2019 10:45

Field ID: 20030726

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2063847	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P359256	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P359816	
		Sulfate	45		mg SO4/L	P359818	
		Color (true)	13		PCU	P359246	
	SM 2320 B-97	Total Alkalinity	160		mg CaCO3/L	P359598	
	SM 2540 C-97	TDS	265	A	mg/L	P359700	
	SM 2540 D-97	TSS	2	UA	mg/L	P359468	
	SM 4500 F-C-97	Fluoride	0.16		mg F/L	P359602	
2063848	EPA 350.1 Rev. 2.0	Ammonia-N	0.096		mg N/L	P359548	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P359374	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P359517	
	EPA 365.1 Rev. 2.0	Total-P	0.049		mg P/L	P359355	
	SM 5310 B-00	Organic Carbon	6.4		mg C/L	P359591	
2063849	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P359281	
2063867	EPA 200.7 Rev. 4.4	Barium	59.1		ug/L	P359253	
		Calcium	67.2		mg/L	P359253	
		Iron	440		ug/L	P359253	
		Magnesium	9.18		mg/L	P359253	
		Potassium	2.5		mg/L	P359253	
		Sodium	17.4		mg/L	P359253	
		Zinc	12	I	ug/L	P359253	
	EPA 200.8 Rev. 5.4	Aluminum	19	I	ug/L	P359253	
		Antimony	0.27		ug/L	P359253	
		Arsenic	1.09		ug/L	P359253	
		Boron**	62.5		ug/L	P359253	
		Cadmium	0.020	U	ug/L	P359253	
		Chromium	0.40	U	ug/L	P359253	
		Copper	1.26		ug/L	P359253	
		Lead	0.64		ug/L	P359253	
		Nickel	0.99	I	ug/L	P359253	
		Selenium	0.23	I	ug/L	P359253	
		Silver	0.010	U	ug/L	P359253	
		Thallium	0.10	U	ug/L	P359253	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359256

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359253

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P359253

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P359948

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359816

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359818

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: P359548

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359374

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359517

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359355

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359281

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

Reference Method: EPA 8321B
Batch ID: P358980

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P359132

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P359132

Component	Result	Code	Units
Linuron	0.0040	U	ug/L
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P359246

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P359598

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

Reference Method: SM 2540 C-97
Batch ID: P359700

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359468

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P359470

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P359602

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P359591

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: P359253

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	103		P	85 - 115
Calcium	109		P	85 - 115
Iron	110		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	103		P	85 - 115
Sodium	100		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359253

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.4		P	85 - 115
Antimony	99.5		P	85 - 115
Arsenic	105		P	85 - 115
Boron	99.9		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	102		P	85 - 115
Copper	106		P	85 - 115
Lead	104		P	85 - 115
Nickel	102		P	85 - 115
Selenium	100		P	85 - 115
Silver	101		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P359948

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359816

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359818

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359548

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359374

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359517

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359355

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359281

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

Reference Method: EPA 8321B
Batch ID: P358980

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	118		P	40 - 150
AMPA	87.8		P	40 - 150
Endothall	92.3		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	100		P	40 - 140
Sucralose	95.4		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P359132

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	78.2		P	40 - 150
Acetaminophen	95.1		P	30 - 150
Bentazon	115		P	30 - 150
Carbamazepine	92.2		P	40 - 150
Diuron	82.7		P	40 - 150
Fenuron	115		P	40 - 150
Fluridone	102		P	40 - 150
Hydrocodone	102		P	40 - 150
Ibuprofen	88.5		P	40 - 150
Imazapyr	102		P	40 - 150
Imidacloprid	103		P	40 - 150
Linuron	74.2		P	40 - 150
MCPP	99.7		P	40 - 150
Naproxen	75.6		P	40 - 150
Primidone	104		P	40 - 150
Pyraclostrobin	69.0		P	40 - 150
Triclopyr	64.2		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P359246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P359598

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	106		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P359602

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.6		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063376	Barium	98.8		P	80 - 120
2063376	Calcium	104		P	80 - 120
2063376	Iron	106		P	80 - 120
2063376	Magnesium	104		P	80 - 120
2063376	Potassium	98.4		P	80 - 120
2063376	Sodium	99.7		P	80 - 120
2063376	Zinc	103		P	80 - 120
2063439	Barium	105	104	P/P	80 - 120
2063439	Calcium	111	108	P/P	80 - 120
2063439	Iron	112	110	P/P	80 - 120
2063439	Magnesium	116	113	P/P	80 - 120
2063439	Potassium	100	97.9	P/P	80 - 120
2063439	Sodium	99.6		P	80 - 120
2063439	Zinc	107	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359253

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063376	Aluminum	96.1		P	80 - 120
2063376	Antimony	103		P	80 - 120
2063376	Arsenic	108		P	80 - 120
2063376	Boron	102		P	80 - 120
2063376	Cadmium	105		P	80 - 120
2063376	Chromium	105		P	80 - 120
2063376	Copper	105		P	80 - 120
2063376	Lead	107		P	80 - 120
2063376	Nickel	103		P	80 - 120
2063376	Selenium	101		P	80 - 120
2063376	Silver	99.3		P	80 - 120
2063376	Thallium	112		P	80 - 120
2063439	Aluminum	94.9	95.8	P/P	80 - 120
2063439	Antimony	98.7	99.8	P/P	80 - 120
2063439	Arsenic	106	107	P/P	80 - 120
2063439	Boron	103	104	P/P	80 - 120
2063439	Cadmium	102	104	P/P	80 - 120
2063439	Chromium	108	109	P/P	80 - 120
2063439	Copper	111	113	P/P	80 - 120
2063439	Lead	105	106	P/P	80 - 120
2063439	Nickel	108	110	P/P	80 - 120
2063439	Selenium	97.5	97.9	P/P	80 - 120
2063439	Silver	99.5	101	P/P	80 - 120
2063439	Thallium	107	107	P/P	80 - 120

Reference Method: EPA 300.0
Batch ID: P359948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063443	Bromide	101	96.7	P/P	90 - 110
2065388	Bromide	99.3		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063525	Chloride	102		P	90 - 110
2063778	Chloride	97.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063525	Sulfate	101		P	90 - 110
2063778	Sulfate	103		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359548

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063785	Ammonia-N	98.9	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359374

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063786	Kjeldahl Nitrogen	96.0	86.8	P/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359517

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063862	NO2NO3-N	97.7	96.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063848	Total-P	105	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063930	O-Phosphate-P	97.9	98.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P358980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2062987	Acesulfame K	86.1	86.3	P/P	40 - 150
2062987	AMPA	67.8	67.6	P/P	40 - 150
2062987	Endothall	94.2	94.2	P/P	40 - 150
2062987	Glufosinate	77.8	71.7	P/P	40 - 150
2062987	Glyphosate	83.1	77.8	P/P	40 - 140
2062987	Sucralose	98.0	96.5	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P359132

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063322	2,4-D	104	104	P/P	40 - 150
2063322	Acetaminophen	125	125	P/P	30 - 150
2063322	Bentazon	90.8	105	P/P	30 - 150
2063322	Carbamazepine	81.5	84.8	P/P	40 - 150
2063322	Diuron	69.4	81.9	P/P	40 - 150
2063322	Fenuron	88.7	86.9	P/P	40 - 150
2063322	Fluridone	113	122	P/P	40 - 150
2063322	Hydrocodone	100	117	P/P	40 - 150
2063322	Ibuprofen	86.0	73.8	P/P	40 - 150
2063322	Imazapyr	130	149	P/P	40 - 150
2063322	Imidacloprid	202	215	F/F	40 - 150
2063322	Linuron	72.5	82.3	P/P	40 - 150
2063322	MCPP	130	140	P/P	40 - 150
2063322	Naproxen	87.2	87.2	P/P	40 - 150
2063322	Primidone	104	109	P/P	40 - 150
2063322	Pyraclostrobin	72.1	69.5	P/P	40 - 150
2063322	Triclopyr	85.8	86.3	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P359602

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063522	Fluoride	97.2	98.4	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P359591

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2063786	Organic Carbon	94.5	95.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P359256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063822	Turbidity	0.913	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P359253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063439	Barium	0.976	Spike	P	0 - 20
2063439	Calcium	1.83	Spike	P	0 - 20
2063439	Iron	1.96	Spike	P	0 - 20
2063439	Magnesium	1.60	Spike	P	0 - 20
2063439	Potassium	1.76	Spike	P	0 - 20
2063439	Sodium	0.485	Spike	P	0 - 20
2063439	Zinc	1.12	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P359253

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063439	Aluminum	0.902	Spike	P	0 - 20
2063439	Antimony	1.11	Spike	P	0 - 20
2063439	Arsenic	0.988	Spike	P	0 - 20
2063439	Boron	0.813	Spike	P	0 - 20
2063439	Cadmium	2.01	Spike	P	0 - 20
2063439	Chromium	0.229	Spike	P	0 - 20
2063439	Copper	1.36	Spike	P	0 - 20
2063439	Lead	1.02	Spike	P	0 - 20
2063439	Nickel	1.49	Spike	P	0 - 20
2063439	Selenium	0.494	Spike	P	0 - 20
2063439	Silver	1.49	Spike	P	0 - 20
2063439	Thallium	0.702	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P359948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063443	Bromide	2.78	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063525	Chloride	0.808	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P359818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063525	Sulfate	0.371	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P359548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063785	Ammonia-N	0.774	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P359374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063786	Kjeldahl Nitrogen	6.28	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P359517

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063862	NO2NO3-N	1.50	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P359355

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063848	Total-P	4.51	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P359281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063930	O-Phosphate-P	0.204	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P358980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2062987	Acesulfame K	0.222	Spike	P	0 - 30
2062987	AMPA	0.353	Spike	P	0 - 30
2062987	Endothall	0.0242	Spike	P	0 - 30
2062987	Glufosinate	8.12	Spike	P	0 - 30
2062987	Glyphosate	5.80	Spike	P	0 - 30
2062987	Sucralose	1.44	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P359132

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063322	2,4-D	0.0714	Spike	P	0 - 30
2063322	Acetaminophen	0.329	Spike	P	0 - 30
2063322	Bentazon	9.96	Spike	P	0 - 30
2063322	Carbamazepine	3.92	Spike	P	0 - 30
2063322	Diuron	15.6	Spike	P	0 - 30
2063322	Fenuron	1.95	Spike	P	0 - 30
2063322	Fluridone	6.46	Spike	P	0 - 30
2063322	Hydrocodone	15.6	Spike	P	0 - 30
2063322	Ibuprofen	15.3	Spike	P	0 - 30
2063322	Imazapyr	8.26	Spike	P	0 - 30
2063322	Imidacloprid	5.85	Spike	P	0 - 30
2063322	Linuron	12.7	Spike	P	0 - 30
2063322	MCP	7.54	Spike	P	0 - 30
2063322	Naproxen	0.00172	Spike	P	0 - 30
2063322	Primidone	4.77	Spike	P	0 - 30
2063322	Pyraclostrobin	3.61	Spike	P	0 - 30
2063322	Triclopyr	0.627	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P359246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063822	Color (true)	0.551	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P359598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063522	Total Alkalinity	0.263	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P359700

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063847	TDS	4.53	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P359602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063522	Fluoride	0.940	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P359591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P359591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2063786	Organic Carbon	0.560	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 Surrogates

Lab Sample ID: 2063864
Field Sample ID: 20030123

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	106	P	30 - 160
EPA 8321B	Carbamazepine-d10	58.9	P	30 - 160
EPA 8321B	Diuron-d6	48.5	P	30 - 160
EPA 8321B	Endothall-d6	116	P	40 - 160
EPA 8321B	Endothall-d6	116	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	91.9	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	91.9	P	40 - 160
EPA 8321B	Ibuprofen-d3	76.0	P	30 - 160
EPA 8321B	Primidone-d5	56.6	P	30 - 160
EPA 8321B	Sucralose-d6	97.9	P	40 - 160
EPA 8321B	Sucralose-d6	97.9	P	40 - 160

Quality Assurance Report Calibration Verification

Reference Method: SM 2120 B
Run ID: A89535
Included Lab Sample IDs: 2063847

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	99.2	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A89537
Included Lab Sample IDs: 2063847, 2063850

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	101	101	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A89547
Included Lab Sample IDs: 2063864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	78.1	79.3	P/P	60 - 160
Glufosinate	105	102	P/P	60 - 160
Glyphosate	101	99.1	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A89552
Included Lab Sample IDs: 2063849, 2063852

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.9	97.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A89559
Included Lab Sample IDs: 2063867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	99.4	P/P	90 - 110
Calcium	100	101	P/P	90 - 110
Iron	104	104	P/P	90 - 110
Magnesium	104	104	P/P	90 - 110
Potassium	98.2	98.7	P/P	90 - 110
Sodium	95.3	96.0	P/P	90 - 110
Zinc	102	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A89571
Included Lab Sample IDs: 2063867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.6	95.1	P/P	90 - 110
Antimony	95.7	96.0	P/P	90 - 110
Arsenic	101	101	P/P	90 - 110
Boron	101	102	P/P	90 - 110
Cadmium	96.9	96.5	P/P	90 - 110
Chromium	105	105	P/P	90 - 110
Copper	108	107	P/P	90 - 110
Lead	103	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A89571

Included Lab Sample IDs: 2063867

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Nickel	104	104	P/P	90 - 110
Selenium	96.6	95.8	P/P	90 - 110
Silver	96.4	95.8	P/P	90 - 110
Thallium	99.8	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89599

Included Lab Sample IDs: 2063864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.4	101	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A89610

Included Lab Sample IDs: 2063864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.5	92.3	P/P	50 - 150
Acetaminophen	113	107	P/P	60 - 160
Bentazon	79.2	69.6	P/P	50 - 160
Carbamazepine	98.8	99.8	P/P	60 - 150
Diuron	105	109	P/P	60 - 150
Fenuron	105	98.9	P/P	60 - 150
Fluridone	104	103	P/P	60 - 160
Hydrocodone	96.3	98.0	P/P	60 - 150
Ibuprofen	79.9	78.2	P/P	50 - 160
Imazapyr	98.7	106	P/P	50 - 150
Imidacloprid	95.4	103	P/P	60 - 150
Linuron	105	107	P/P	60 - 150
MCPP	104	102	P/P	50 - 150
Naproxen	116	66.4	P/P	50 - 160
Primidone	100	103	P/P	60 - 150
Pyraclostrobin	99.3	99.2	P/P	60 - 150
Triclopyr	107	102	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89630

Included Lab Sample IDs: 2063851

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A89646

Included Lab Sample IDs: 2063848

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A89651

Included Lab Sample IDs: 2063848, 2063851

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A89666

Included Lab Sample IDs: 2063848, 2063851

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A89674

Included Lab Sample IDs: 2063847

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

Reference Method: SM 2320 B-97

Run ID: A89680

Included Lab Sample IDs: 2063847, 2063850

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

Reference Method: SM 4500 F-C-97

Run ID: A89680

Included Lab Sample IDs: 2063847, 2063850

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.6	98.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A89685

Included Lab Sample IDs: 2063848, 2063851

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.0	93.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A89686

Included Lab Sample IDs: 2063864

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	118	116	P/P	60 - 160
Endothall	94.2	96.3	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89694

Included Lab Sample IDs: 2063848

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89694

Included Lab Sample IDs: 2063848

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.8	97.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A89705

Included Lab Sample IDs: 2063851

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

Reference Method: EPA 300.0

Run ID: A89785

Included Lab Sample IDs: 2063850

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	98.1	104	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						0.913	
EPA 200.7 Rev. 4.4	Barium	103	98.8	105	104			0.976
	Calcium	109	104	111	108			1.83
	Iron	110	106	112	110			1.96
	Magnesium	112	104	116	113			1.60
	Potassium	103	98.4	100	97.9			1.76
	Sodium	100	99.7	99.6				0.485
	Zinc	104	103	107	106			1.12
EPA 200.8 Rev. 5.4	Aluminum	99.4	96.1	94.9	95.8			0.902
	Antimony	99.5	103	98.7	99.8			1.11
	Arsenic	105	108	106	107			0.988
	Boron	99.9	102	103	104			0.813
	Cadmium	101	105	102	104			2.01
	Chromium	102	105	108	109			0.229
	Copper	106	105	111	113			1.36
	Lead	104	107	105	106			1.02
	Nickel	102	103	108	110			1.49
	Selenium	100	101	97.5	97.9			0.494
	Silver	101	99.3	99.5	101			1.49
	Thallium	102	112	107	107			0.702
EPA 300.0	Bromide	107	101	96.7	99.3			2.78
EPA 300.0 Rev. 2.1	Chloride	103	102	97.3			0.808	
	Sulfate	103	101	103			0.371	
EPA 350.1 Rev. 2.0	Ammonia-N	99.2	98.9	100				0.774
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8	96.0	86.8				6.28
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.0	97.7	96.2				1.50
EPA 365.1 Rev. 2.0	Total-P	101	105	99.5				4.51
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	102	97.9	98.1				0.204
EPA 8321B	2,4-D	78.2	104	104				0.0714
	Acesulfame K	118	86.1	86.3				0.222
	Acetaminophen	95.1	125	125				0.329
	AMPA	87.8	67.8	67.6				0.353
	Bentazon	115	90.8	105				9.96
	Carbamazepine	92.2	81.5	84.8				3.92
	Diuron	82.7	69.4	81.9				15.6
	Endothall	92.3	94.2	94.2				0.0242
	Fenuron	115	88.7	86.9				1.95
	Fluridone	102	113	122				6.46
	Glufosinate	105	77.8	71.7				8.12
	Glyphosate	100	83.1	77.8				5.80
	Hydrocodone	102	100	117				15.6
	Ibuprofen	88.5	86.0	73.8				15.3
	Imazapyr	102	130	149				8.26
	Imidacloprid	103	202	215				5.85
	Linuron	74.2	72.5	82.3				12.7
	MCPP	99.7	130	140				7.54
	Naproxen	75.6	87.2	87.2				0.0017
	Primidone	104	104	109				4.77
	Pyraclostrobin	69.0	72.1	69.5				3.61
	Sucralose	95.4	98.0	96.5				1.44
	Triclopyr	64.2	85.8	86.3				0.627
SM 2120 B	Color (true)	98.3					0.551	
SM 2320 B-97	Total Alkalinity	106					0.263	
SM 2540 C-97	TDS						4.53	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
SM 4500 F-C-97	Fluoride	95.6	97.2	98.4		0.940
SM 5310 B-00	Organic Carbon	95.0	94.5	95.2		0.560

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2063847, 2063850
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2063867
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2063867
EPA 300.0 / E31780	Bromide in aqueous matrices	2063850
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2063847
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2063847
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2063848, 2063851
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2063848, 2063851
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2063848, 2063851
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2063848, 2063851
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2063849, 2063852
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2063864
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2063864
SM 2120 B / E31780	True Color measured at 450 nm	2063847
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2063847, 2063850
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2063847
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2063847, 2063850
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2063847, 2063850
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2063848, 2063851

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	02/20/2019			02/20/2019 17:34	Julia Storbeck	2063847, 2063850
EPA 200.7 Rev. 4.4	02/20/2019	02/20/2019 17:30	Elliott D. Healy	02/21/2019 14:17	Betina Topolski	2063867
EPA 200.8 Rev. 5.4	02/20/2019	02/20/2019 17:30	Elliott D. Healy	02/22/2019 02:01	Allison Taylor	2063867
EPA 300.0	02/20/2019			03/05/2019 16:38	Lipi Saha	2063850
EPA 300.0 Rev. 2.1	02/20/2019			03/01/2019 13:58	Lipi Saha	2063847
EPA 350.1 Rev. 2.0	02/20/2019			02/25/2019 12:07	Ping Hua	2063848
	02/20/2019			02/25/2019 12:09	Ping Hua	2063851
EPA 351.2 Rev. 2.0	02/20/2019	02/22/2019 11:45	Adrian Shelby	02/27/2019 13:45	Joseph Suarez	2063848
	02/20/2019	02/22/2019 11:45	Adrian Shelby	02/27/2019 15:17	Joseph Suarez	2063851
EPA 353.2 Rev. 2.0	02/20/2019			02/26/2019 10:15	Beverly Y. Sanders	2063848
	02/20/2019			02/26/2019 10:16	Beverly Y. Sanders	2063851
EPA 365.1 Rev. 2.0	02/20/2019	02/22/2019 13:00	Sima Feizi	02/25/2019 11:54	Rosalyn Ballman	2063851
	02/20/2019	02/22/2019 13:00	Sima Feizi	02/25/2019 18:35	Rosalyn Ballman	2063848
EPA 365.1 Rev. 2.0 dissolved	02/20/2019			02/20/2019 17:13	Jhamieka S. Greenwood	2063849
	02/20/2019			02/20/2019 17:14	Jhamieka S. Greenwood	2063852
EPA 8321B	02/20/2019	02/20/2019 13:00	Rebecca Ware	02/20/2019 15:25	Mohammad Ghaffari	2063864
	02/20/2019	02/20/2019 13:00	Rebecca Ware	02/20/2019 23:52	Rebecca Ware	2063864
	02/20/2019	02/20/2019 13:00	Rebecca Ware	02/22/2019 23:25	Mohammad Ghaffari	2063864
	02/20/2019	02/21/2019 10:00	Hoor Shaik	02/24/2019 21:20	Juyoung Kim	2063864
SM 2120 B	02/20/2019			02/20/2019 15:51	Chelsea Hernandez	2063847
SM 2320 B-97	02/20/2019			02/26/2019 12:09	Dale L. Simmons	2063847
	02/20/2019			02/26/2019 12:21	Dale L. Simmons	2063850
SM 2540 C-97	02/20/2019			02/22/2019 15:01	Yijie Li	2063847
SM 2540 D-97	02/20/2019			02/22/2019 15:01	Yijie Li	2063847, 2063850
SM 4500 F-C-97	02/20/2019			02/26/2019 12:09	Dale L. Simmons	2063847
	02/20/2019			02/26/2019 12:21	Dale L. Simmons	2063850
SM 5310 B-00	02/20/2019			02/26/2019 06:27	Chelsea Hernandez	2063848
	02/20/2019			02/26/2019 06:40	Chelsea Hernandez	2063851