

Chemical Analysis Report

NE-DIST-2019-11-26-02

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

Event Description: **Continuous Monitoring Event**
Request ID: **RQ-2019-11-11-61**
Customer: **NE-DIST**
Project ID: **SMP**

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

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: Colin Wright, Program Administrator

Date Certified: 17-DEC-2019 10:27



NON-CONFORMANCE REPORT INCLUDED

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: Big Fishweir Creek at end of Merrimac Ave.

Collection Date/Time: 11/25/2019 13:45

Field ID: G2NE1175

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2139403	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P375070	
	EPA 300.0	Bromide	4.7		mg Br/L	P375479	
	SM 2320 B-97	Total Alkalinity	178	Y	mg CaCO3/L	P375172	
	SM 2540 D-97	TSS	4	IY	mg/L	P375496	
	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P375180	
2139404	EPA 350.1 Rev. 2.0	Ammonia-N	0.11		mg N/L	P375092	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.57		mg N/L	P375114	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.34		mg N/L	P375101	
	EPA 365.1 Rev. 2.0	Total-P	0.11		mg P/L	P375270	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P375085	
2139405	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.066		mg P/L	P374908	
2139409	EPA 8321B	2,4-D	0.0069	I	ug/L	P374966	
		Acesulfame K**	0.10	U	ug/L	P374800	
		AMPA**	0.10	U	ug/L	P374800	
		Sucralose**	0.54		ug/L	P374800	
		Acetaminophen**	0.0080	U	ug/L	P374966	
		Acetamiprid**	0.0020	U	ug/L	P374966	
		Endothall**	0.25	U	ug/L	P374800	
		Glufosinate**	0.10	U	ug/L	P374800	
		Glyphosate**	0.48		ug/L	P374800	
		Afidopyropen**	0.0020	UJ	ug/L	P374966	
		Bentazon	0.011		ug/L	P374966	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P374966	
		Carbamazepine**	0.0011	I	ug/L	P374966	
		Clothianidin**	0.0020	U	ug/L	P374966	
		Dinotefuran**	0.0020	U	ug/L	P374966	
		Diuron	0.022		ug/L	P374966	
		Fenuron	0.016	U	ug/L	P374966	
		Fluridone**	8.0E-04	U	ug/L	P374966	
		Imazapyr**	0.17		ug/L	P374966	
		Hydrocodone**	0.0020	U	ug/L	P374966	
		Ibuprofen**	0.020	U	ug/L	P374966	
		Imidacloprid	0.021		ug/L	P374966	
		Linuron	0.0040	U	ug/L	P374966	
		Mandestrobin**	0.0020	UJ	ug/L	P374966	
		MCP	0.0072	I	ug/L	P374966	
		Naproxen**	0.0080	U	ug/L	P374966	
		Primidone**	0.0054	I	ug/L	P374966	
		Pyraclostrobin**	0.0020	U	ug/L	P374966	
		Thiamethoxam**	0.0020	U	ug/L	P374966	
		Tolfenpyrad**	0.0020	U	ug/L	P374966	
		Triclopyr**	0.0040	U	ug/L	P374966	
2139410	EPA 200.7 Rev. 4.4	Barium	87.8		ug/L	P375027	

Field ID: G2NE1175

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2139410	EPA 200.7 Rev. 4.4	Calcium	95.6		mg/L	P375027	
		Iron	360		ug/L	P375027	
		Manganese	50.0		ug/L	P375027	
		Potassium	26		mg/L	P375027	
		Sodium	698		mg/L	P375027	
	EPA 200.8 Rev. 5.4	Zinc	7.6	I	ug/L	P375027	
		Aluminum	32		ug/L	P375027	
		Antimony	0.17	I	ug/L	P375027	
		Arsenic	0.91		ug/L	P375027	
		Cadmium	0.020	U	ug/L	P375027	
		Chromium	0.40	U	ug/L	P375027	
		Copper	0.75	I	ug/L	P375027	
		Lead	0.46		ug/L	P375027	
		Nickel	0.78	I	ug/L	P375027	
		Selenium	0.20	U	ug/L	P375027	
		Silver	0.010	U	ug/L	P375027	
		Thallium	0.10	U	ug/L	P375027	

Ref. Method and Comment:

SM 2320 B-97: Sample was left out at room temperature overnight, should be stored below 6 degC.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample. Sample was left out at room temperature overnight, should be stored below 6 degC.

EPA 8321B: J - second source check standards for some analytes were not available for analysis.

Non-Conformance Report

NCR ID: 8043

Event(s)

NE-DIST-2019-11-26-02

Job(s)

TLH-2019-11-26-63

Sample(s)

2139403

Test(s)

NCR Type: SHIPPING/RECEIVING

NCR Category: Preservation Not Intact

Observation: Samples left out at room temperature overnight on 11/26/2019.

Resolution: Samples analyzed after 11/26/2019, were Y qualified for incorrect preservation.

Authorized by/Date: Peter D. Kaus 12/11/2019

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P375070

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P375027

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Manganese	1.0	U	ug/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: P375027

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	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: P375479

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375114

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375101

Component	Result	Code	Units
-----------	--------	------	-------

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375101

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375270

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374908

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

Reference Method: EPA 8321B
Batch ID: P374800

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: P374966

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	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
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P374966

Component	Result	Code	Units
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-97
Batch ID: P375172

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

Reference Method: SM 2540 D-97
Batch ID: P375496

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P375180

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P375085

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: P375027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	104		P	85 - 115
Calcium	104		P	85 - 115
Iron	103		P	85 - 115
Manganese	106		P	85 - 115
Potassium	100		P	85 - 115
Sodium	105		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375027

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	100		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	104		P	85 - 115
Cadmium	98.9		P	85 - 115
Chromium	104		P	85 - 115
Copper	109		P	85 - 115
Lead	104		P	85 - 115
Nickel	105		P	85 - 115
Selenium	102		P	85 - 115
Silver	106		P	85 - 115
Thallium	109		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P375479

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375114

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375101

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375270

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375270

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: P374908

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

Reference Method: EPA 8321B
Batch ID: P374800

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	136		P	40 - 150
AMPA	102		P	40 - 150
Endothall	80.9		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	114		P	40 - 140
Sucralose	120		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P374966

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	136		P	40 - 160
Acetaminophen	89.9		P	30 - 160
Acetamiprid	90.2		P	40 - 160
Afidopyropen	100		P	40 - 160
Bentazon	88.8		P	30 - 160
Benzovindiflupyr	81.7		P	40 - 160
Carbamazepine	105		P	40 - 160
Clothianidin	106		P	40 - 160
Dinotefuran	97.9		P	40 - 160
Diuron	92.7		P	40 - 160
Fenuron	95.7		P	40 - 160
Fluridone	110		P	40 - 160
Hydrocodone	81.7		P	40 - 160
Ibuprofen	81.7		P	30 - 160
Imazapyr	89.3		P	40 - 160
Imidacloprid	113		P	40 - 160
Linuron	76.0		P	40 - 160
Mandestrobin	104		P	40 - 160
MCPP	145		P	40 - 160
Naproxen	95.2		P	40 - 160
Primidone	79.8		P	40 - 160
Pyraclostrobin	90.0		P	30 - 160
Thiamethoxam	106		P	40 - 160
Tolfenpyrad	57.5		P	40 - 160
Triclopyr	100		P	30 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P375172

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P375180

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P375085

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P375027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139437	Barium	101	106	P/P	80 - 120
2139437	Calcium	100	106	P/P	80 - 120
2139437	Iron	100	103	P/P	80 - 120
2139437	Manganese	102	107	P/P	80 - 120
2139437	Potassium	96.1	101	P/P	80 - 120
2139437	Sodium	96.1	104	P/P	80 - 120
2139437	Zinc	103	108	P/P	80 - 120
2139462	Barium	102		P	80 - 120
2139462	Calcium	101		P	80 - 120
2139462	Iron	101		P	80 - 120
2139462	Manganese	104		P	80 - 120
2139462	Potassium	96.9		P	80 - 120
2139462	Sodium	99.1		P	80 - 120
2139462	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P375027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139437	Aluminum	97.2	96.3	P/P	80 - 120
2139437	Antimony	99.3	98.4	P/P	80 - 120
2139437	Arsenic	102	100	P/P	80 - 120
2139437	Cadmium	97.2	96.7	P/P	80 - 120
2139437	Chromium	104	102	P/P	80 - 120
2139437	Copper	101	102	P/P	80 - 120
2139437	Lead	102	101	P/P	80 - 120
2139437	Nickel	101	101	P/P	80 - 120
2139437	Selenium	96.9	95.1	P/P	80 - 120
2139437	Silver	104	105	P/P	80 - 120
2139437	Thallium	106	106	P/P	80 - 120
2139462	Aluminum	98.0		P	80 - 120
2139462	Antimony	102		P	80 - 120
2139462	Arsenic	104		P	80 - 120
2139462	Cadmium	97.6		P	80 - 120
2139462	Chromium	105		P	80 - 120
2139462	Copper	102		P	80 - 120
2139462	Lead	103		P	80 - 120
2139462	Nickel	101		P	80 - 120
2139462	Selenium	95.9		P	80 - 120
2139462	Silver	103		P	80 - 120
2139462	Thallium	109		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P375479

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2140215	Bromide	99.6	97.9	P/P	90 - 110
2140307	Bromide	91.4		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P375092

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139227	Ammonia-N	102	99.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P375114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139283	Kjeldahl Nitrogen	95.5	99.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P375101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139580	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P375270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139341	Total-P	94.5	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P374908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139382	O-Phosphate-P	96.7	97.4	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P374800

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139106	Acesulfame K	93.0	89.3	P/P	40 - 150
2139106	AMPA	129	117	P/P	40 - 150
2139106	Endothall	83.1	73.8	P/P	40 - 150
2139106	Glufosinate	118	100	P/P	40 - 150
2139106	Glyphosate	138	129	P/P	40 - 140
2139106	Sucralose	61.1	69.1	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P374966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139261	2,4-D	107	103	P/P	40 - 160
2139261	Acetaminophen	68.9	80.1	P/P	30 - 160
2139261	Acetamiprid	86.5	88.7	P/P	40 - 160
2139261	Afidopyropen	91.3	95.9	P/P	40 - 160
2139261	Bentazon	48.9	46.4	P/P	30 - 160
2139261	Benzovindiflupyr	79.1	76.7	P/P	40 - 160
2139261	Carbamazepine	81.7	78.1	P/P	40 - 160
2139261	Clothianidin	79.2	71.7	P/P	40 - 160
2139261	Dinotefuran	118	118	P/P	40 - 160
2139261	Diuron	68.7	68.5	P/P	40 - 160
2139261	Fenuron	79.4	77.9	P/P	40 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P374966

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139261	Fluridone	101	98.8	P/P	40 - 160
2139261	Hydrocodone	82.5	82.4	P/P	40 - 160
2139261	Ibuprofen	68.0	76.2	P/P	30 - 160
2139261	Imazapyr	74.5	75.7	P/P	40 - 160
2139261	Imidacloprid	155	146	P/P	40 - 160
2139261	Linuron	66.0	64.8	P/P	40 - 160
2139261	Mandestrobin	95.0	92.2	P/P	40 - 160
2139261	MCPP	121	118	P/P	40 - 160
2139261	Naproxen	87.0	74.9	P/P	40 - 160
2139261	Primidone	84.1	80.2	P/P	40 - 160
2139261	Pyraclostrobin	85.6	81.3	P/P	30 - 160
2139261	Thiamethoxam	113	110	P/P	40 - 160
2139261	Tolfenpyrad	57.3	54.5	P/P	40 - 160
2139261	Triclopyr	87.5	88.5	P/P	30 - 160

Reference Method: SM 4500 F-C-97
Batch ID: P375180

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139456	Fluoride	97.8	99.0	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P375085

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2139444	Organic Carbon	99.6	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P375070

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139379	Turbidity	4.99	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P375027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139437	Barium	4.65	Spike	P	0 - 20
2139437	Calcium	3.75	Spike	P	0 - 20
2139437	Iron	2.19	Spike	P	0 - 20
2139437	Manganese	4.65	Spike	P	0 - 20
2139437	Potassium	3.72	Spike	P	0 - 20
2139437	Sodium	5.10	Spike	P	0 - 20
2139437	Zinc	4.83	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
 Batch ID: P375027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139437	Aluminum	0.864	Spike	P	0 - 20
2139437	Antimony	0.938	Spike	P	0 - 20
2139437	Arsenic	1.76	Spike	P	0 - 20
2139437	Cadmium	0.489	Spike	P	0 - 20
2139437	Chromium	1.72	Spike	P	0 - 20
2139437	Copper	0.752	Spike	P	0 - 20
2139437	Lead	0.785	Spike	P	0 - 20
2139437	Nickel	0.316	Spike	P	0 - 20
2139437	Selenium	1.89	Spike	P	0 - 20
2139437	Silver	0.674	Spike	P	0 - 20
2139437	Thallium	0.138	Spike	P	0 - 20

Reference Method: EPA 300.0
 Batch ID: P375479

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2140215	Bromide	1.63	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P375092

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139227	Ammonia-N	1.62	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P375114

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

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P375114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139283	Kjeldahl Nitrogen	3.35	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P375101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139580	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P375270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139341	Total-P	0.843	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P374908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139382	O-Phosphate-P	0.600	Spike	P	0 - 20

Reference Method: EPA 8321B
 Batch ID: P374800

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139106	Acesulfame K	4.07	Spike	P	0 - 30
2139106	AMPA	9.05	Spike	P	0 - 30
2139106	Endothall	11.8	Spike	P	0 - 30
2139106	Glufosinate	16.3	Spike	P	0 - 30
2139106	Glyphosate	6.63	Spike	P	0 - 30
2139106	Sucralose	12.2	Spike	P	0 - 30

Reference Method: EPA 8321B
 Batch ID: P374966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139261	2,4-D	3.88	Spike	P	0 - 30
2139261	Acetaminophen	15.1	Spike	P	0 - 30
2139261	Acetamiprid	2.49	Spike	P	0 - 30
2139261	Afidopyropen	4.91	Spike	P	0 - 30
2139261	Bentazon	5.30	Spike	P	0 - 30
2139261	Benzovindiflupyr	3.00	Spike	P	0 - 30
2139261	Carbamazepine	4.58	Spike	P	0 - 30
2139261	Clothianidin	9.97	Spike	P	0 - 30
2139261	Dinotefuran	0.169	Spike	P	0 - 30
2139261	Diuron	0.329	Spike	P	0 - 30
2139261	Fenuron	2.02	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P374966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139261	Fluridone	1.75	Spike	P	0 - 30
2139261	Hydrocodone	0.121	Spike	P	0 - 30
2139261	Ibuprofen	11.4	Spike	P	0 - 30
2139261	Imazapyr	1.61	Spike	P	0 - 30
2139261	Imidacloprid	5.85	Spike	P	0 - 30
2139261	Linuron	1.85	Spike	P	0 - 30
2139261	Mandestrobin	3.05	Spike	P	0 - 30
2139261	MCP	2.87	Spike	P	0 - 30
2139261	Naproxen	14.9	Spike	P	0 - 30
2139261	Primidone	4.81	Spike	P	0 - 30
2139261	Pyraclostrobin	5.16	Spike	P	0 - 30
2139261	Thiamethoxam	2.90	Spike	P	0 - 30
2139261	Tolfenpyrad	4.95	Spike	P	0 - 30
2139261	Triclopyr	1.19	Spike	P	0 - 30

Reference Method: SM 2320 B-97
Batch ID: P375172

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139456	Total Alkalinity	0.380	Sample	P	0 - 2.8

Reference Method: SM 4500 F-C-97
Batch ID: P375180

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139456	Fluoride	0.974	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P375085

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2139444	Organic Carbon	0.355	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2139409
Field Sample ID: G2NE1175

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	154	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	77.2	P	30 - 160
EPA 8321B	Diuron-d6	70.8	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Endothall-d6	126	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	95.5	P	30 - 160
EPA 8321B	Primidone-d5	91.9	P	30 - 160
EPA 8321B	Sucralose-d6	91.9	P	30 - 160
EPA 8321B	Sucralose-d6	91.9	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95979

Included Lab Sample IDs: 2139405

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	91.6	92.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96033

Included Lab Sample IDs: 2139409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	95.9	98.1	P/P	60 - 160
Endothall	99.1	99.1	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A96036

Included Lab Sample IDs: 2139409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	139	139	P/P	60 - 160
Glufosinate	121	110	P/P	60 - 160
Glyphosate	115	115	P/P	60 - 160

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96050

Included Lab Sample IDs: 2139403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: SM 5310 B-00

Run ID: A96056

Included Lab Sample IDs: 2139404

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96062

Included Lab Sample IDs: 2139404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	99.9	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96069

Included Lab Sample IDs: 2139404

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96081

Included Lab Sample IDs: 2139410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.4	99.9	P/P	90 - 110
Calcium	100	99.8	P/P	90 - 110
Iron	98.4	99.0	P/P	90 - 110
Manganese	104	103	P/P	90 - 110
Potassium	97.7	98.6	P/P	90 - 110
Sodium	98.9	99.0	P/P	90 - 110
Zinc	102	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A96084

Included Lab Sample IDs: 2139403

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A96084

Included Lab Sample IDs: 2139403

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

Reference Method: EPA 8321B

Run ID: A96104

Included Lab Sample IDs: 2139409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.6	106	P/P	50 - 150
Acetaminophen	93.9	85.6	P/P	60 - 160
Acetamiprid	94.3	87.4	P/P	50 - 150
Afidopyropen	92.4	104	P/P	50 - 150
Bentazon	77.2	79.7	P/P	50 - 160
Benzovindiflupyr	102	106	P/P	50 - 150
Carbamazepine	99.1	98.0	P/P	60 - 150
Clothianidin	89.9	89.8	P/P	60 - 150
Dinotefuran	92.1	91.8	P/P	50 - 150
Diuron	103	106	P/P	60 - 150
Fenuron	80.4	86.0	P/P	60 - 150
Fluridone	114	115	P/P	60 - 160
Hydrocodone	90.6	96.2	P/P	60 - 150
Ibuprofen	92.2	83.2	P/P	50 - 160
Imazapyr	105	110	P/P	50 - 150
Imidacloprid	95.5	95.3	P/P	60 - 150
Linuron	91.0	94.1	P/P	60 - 150
Mandestrobin	107	105	P/P	50 - 150
MCPP	108	98.8	P/P	50 - 150
Naproxen	80.9	109	P/P	50 - 160
Primidone	77.2	84.6	P/P	60 - 150
Pyraclostrobin	99.8	102	P/P	60 - 150
Thiamethoxam	97.3	91.1	P/P	50 - 150
Tolfenpyrad	101	94.7	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A96104
Included Lab Sample IDs: 2139409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	106	98.2	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A96111
Included Lab Sample IDs: 2139404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	104	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A96127
Included Lab Sample IDs: 2139409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	134	121	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A96168
Included Lab Sample IDs: 2139404

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	98.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A96173
Included Lab Sample IDs: 2139410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.0	97.4	P/P	90 - 110
Antimony	96.9	97.6	P/P	90 - 110
Cadmium	97.3	98.0	P/P	90 - 110
Chromium	106	106	P/P	90 - 110
Lead	100	101	P/P	90 - 110
Nickel	103	103	P/P	90 - 110
Selenium	101	99.5	P/P	90 - 110
Silver	105	106	P/P	90 - 110
Thallium	96.8	97.7	P/P	90 - 110

Reference Method: EPA 300.0
Run ID: A96206
Included Lab Sample IDs: 2139403

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A96211
Included Lab Sample IDs: 2139410

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96330

Included Lab Sample IDs: 2139410

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	95.3	92.3	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						4.99	
EPA 200.7 Rev. 4.4	Barium	104	101	106	102			4.65
	Calcium	104	100	106	101			3.75
	Iron	103	100	103	101			2.19
	Manganese	106	102	107	104			4.65
	Potassium	100	96.1	101	96.9			3.72
	Sodium	105	96.1	104	99.1			5.10
	Zinc	105	103	108	104			4.83
EPA 200.8 Rev. 5.4	Aluminum	100	97.2	96.3	98.0			0.864
	Antimony	101	99.3	98.4	102			0.938
	Arsenic	104	102	100	104			1.76
	Cadmium	98.9	97.2	96.7	97.6			0.489
	Chromium	104	104	102	105			1.72
	Copper	109	101	102	102			0.752
	Lead	104	102	101	103			0.785
	Nickel	105	101	101	101			0.316
	Selenium	102	96.9	95.1	95.9			1.89
	Silver	106	104	105	103			0.674
	Thallium	109	106	106	109			0.138
EPA 300.0	Bromide	101	99.6	97.9	91.4			1.63
EPA 350.1 Rev. 2.0	Ammonia-N	97.9	102	99.7				1.62
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.7	95.5	99.1				3.35
EPA 353.2 Rev. 2.0	NO2NO3-N	101	102	102				0.491
EPA 365.1 Rev. 2.0	Total-P	101	94.5	95.3				0.843
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	96.7	97.4				0.600
EPA 8321B	2,4-D	136	107	103				3.88
	Acesulfame K	136	93.0	89.3				4.07
	Acetaminophen	89.9	68.9	80.1				15.1
	Acetamiprid	90.2	86.5	88.7				2.49
	Afidopyropen	100	91.3	95.9				4.91
	AMPA	102	129	117				9.05
	Bentazon	88.8	48.9	46.4				5.30
	Benzovindiflupyr	81.7	79.1	76.7				3.00
	Carbamazepine	105	81.7	78.1				4.58
	Clothianidin	106	79.2	71.7				9.97
	Dinotefuran	97.9	118	118				0.169
	Diuron	92.7	68.7	68.5				0.329
	Endothall	80.9	83.1	73.8				11.8
	Fenuron	95.7	79.4	77.9				2.02
	Fluridone	110	101	98.8				1.75
	Glufosinate	101	118	100				16.3
	Glyphosate	114	138	129				6.63
	Hydrocodone	81.7	82.5	82.4				0.121
	Ibuprofen	81.7	68.0	76.2				11.4
	Imazapyr	89.3	74.5	75.7				1.61
	Imidacloprid	113	155	146				5.85
	Linuron	76.0	66.0	64.8				1.85
	Mandestrobin	104	95.0	92.2				3.05
	MCPP	145	121	118				2.87
	Naproxen	95.2	87.0	74.9				14.9
	Primidone	79.8	84.1	80.2				4.81
	Pyraclostrobin	90.0	85.6	81.3				5.16
	Sucralose	120	61.1	69.1				12.2
	Thiamethoxam	106	113	110				2.90

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	MS
					LCS	SMP
EPA 8321B	Tolfenpyrad	57.5	57.3	54.5		4.95
	Triclopyr	100	87.5	88.5		1.19
SM 2320 B-97	Total Alkalinity	103			0.380	
SM 4500 F-C-97	Fluoride	96.2	97.8	99.0		0.974
SM 5310 B-00	Organic Carbon	101	99.6	100		0.355

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2139403
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2139410
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2139410
EPA 300.0 / E31780	Bromide in aqueous matrices	2139403
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2139404
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2139404
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2139404
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2139404
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2139405
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2139409
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2139409
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2139403
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2139403
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2139403
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2139404

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	11/26/2019			11/26/2019 18:00	Yen Ta	2139403
EPA 200.7 Rev. 4.4	11/26/2019	12/02/2019 13:30	Elliott D. Healy	12/03/2019 15:05	Betina Topolski	2139410
	11/26/2019	12/02/2019 13:30	Elliott D. Healy	12/03/2019 15:12	Betina Topolski	2139410
EPA 200.8 Rev. 5.4	11/26/2019	12/02/2019 13:30	Elliott D. Healy	12/07/2019 06:13	Alexander Thompson	2139410
	11/26/2019	12/02/2019 13:30	Elliott D. Healy	12/10/2019 05:21	Alexander Thompson	2139410
	11/26/2019	12/02/2019 13:30	Elliott D. Healy	12/13/2019 21:17	Alexander Thompson	2139410
EPA 300.0	11/26/2019			12/09/2019 22:50	Lipi Saha	2139403
EPA 350.1 Rev. 2.0	11/26/2019			11/27/2019 11:21	Ping Hua	2139404
EPA 351.2 Rev. 2.0	11/26/2019	12/03/2019 12:55	Sima Feizi	12/04/2019 15:01	Jhamieka S. Greenwood	2139404
EPA 353.2 Rev. 2.0	11/26/2019			12/03/2019 10:00	Beverly Y. Sanders	2139404
EPA 365.1 Rev. 2.0	11/26/2019	12/05/2019 17:50	Lipi Saha	12/06/2019 15:53	Julia Storbeck	2139404
EPA 365.1 Rev. 2.0 dissolved	11/26/2019			11/26/2019 16:34	Virginia P. Brown	2139405
EPA 8321B	11/26/2019	11/26/2019 14:00	Rebecca Ware	11/26/2019 14:51	Rebecca Ware	2139409
	11/26/2019	11/26/2019 14:00	Rebecca Ware	11/26/2019 19:45	Rebecca Ware	2139409
	11/26/2019	11/26/2019 14:00	Rebecca Ware	12/03/2019 17:10	Rebecca Ware	2139409
	11/26/2019	12/02/2019 09:00	Hoor Shaik	12/04/2019 13:54	Juyoung Kim	2139409
SM 2320 B-97	11/26/2019			12/03/2019 08:26	Dale L. Simmons	2139403
SM 2540 D-97	11/26/2019			11/27/2019 15:32	Yijie Li	2139403
SM 4500 F-C-97	11/26/2019			12/03/2019 08:26	Dale L. Simmons	2139403
SM 5310 B-00	11/26/2019			12/02/2019 17:34	Lauren Lees	2139404