Chemical Analysis Report

SW-DIST-2019-06-19-01

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

Event Description: **SMP: Cedar, Mocassin**
Request ID: **RQ-2019-06-10-40**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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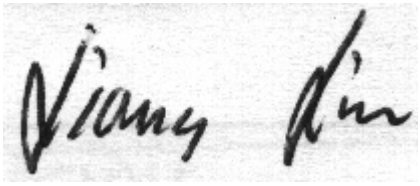
Certified by: Liang Lin, Environmental Administrator

Date Certified: 05-JUL-2019 15:11



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: 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: MOCCASIN CREEK TIDAL **Collection Date/Time: 06/18/2019 11:00**

Field ID: G1SW0051 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2096546	EPA 180.1 Rev. 2.0	Turbidity	4.7		NTU	P365990	
	EPA 300.0	Bromide	1.0		mg Br/L	P366331	
	SM 2320 B-97	Total Alkalinity	98		mg CaCO3/L	P366157	
	SM 2540 D-97	TSS	6	IA	mg/L	P366531	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P366161	
2096547	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P366276	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P366480	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.01	I	mg N/L	P366224	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P366116	
	SM 5310 B-00	Organic Carbon	16		mg C/L	P366074	
2096548	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.098		mg P/L	P365965	
2096572	EPA 8321B	2,4-D	0.050		ug/L	P365948	
		Acesulfame K**	0.10	U	ug/L	P365987	
		AMPA**	0.48		ug/L	P365987	MS
		Sucralose**	1.1		ug/L	P365987	
		Acetaminophen**	0.0080	U	ug/L	P365948	
		Endothall**	0.25	U	ug/L	P365987	
		Glufosinate**	0.10	U	ug/L	P365987	MS
		Glyphosate**	2.7		ug/L	P365987	MS
		Bentazon	0.18		ug/L	P365948	
		Carbamazepine**	0.0017	I	ug/L	P365948	
		Diuron	0.0066	I	ug/L	P365948	
		Fenuron	0.016	U	ug/L	P365948	
		Fluridone**	0.54		ug/L	P365948	
		Imazapyr**	0.26		ug/L	P365948	
		Hydrocodone**	0.0020	U	ug/L	P365948	
		Ibuprofen**	0.020	U	ug/L	P365948	
		Imidacloprid	0.28		ug/L	P365948	MS
		Linuron	0.0040	U	ug/L	P365948	
		MCPP	0.0057	IJ	ug/L	P365948	LCS, MS
		Naproxen**	0.0080	U	ug/L	P365948	
		Primidone**	0.0040	U	ug/L	P365948	
		Pyraclostrobin**	0.0020	U	ug/L	P365948	
		Triclopyr**	0.0040	U	ug/L	P365948	MS

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Refer to the narrative for an explanation of QC Codes.

Sample Location: CEDAR CREEK ABOVE PATRICIA AVE **Collection Date/Time: 06/18/2019 10:10**

Field ID: G5SW0147 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2096543	EPA 180.1 Rev. 2.0	Turbidity	3.0		NTU	P365990	
	EPA 300.0 Rev. 2.1	Chloride	71		mg Cl/L	P366220	
		Sulfate	16		mg SO4/L	P366222	
	SM 2120 B	Color (true)	78		PCU	P366038	
	SM 2320 B-97	Total Alkalinity	87		mg CaCO3/L	P366157	
	SM 2540 C-97	TDS	252		mg/L	P366541	
	SM 2540 D-97	TSS	3	I	mg/L	P366527	
	SM 4500 F-C-97	Fluoride	0.40		mg F/L	P366161	
2096544	EPA 350.1 Rev. 2.0	Ammonia-N	0.039		mg N/L	P366275	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P366266	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P366224	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P366142	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P366074	
2096545	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.13		mg P/L	P365965	
2096571	EPA 8321B	2,4-D	0.048		ug/L	P365948	
		Acesulfame K**	0.10	U	ug/L	P365987	
		AMPA**	0.37	I	ug/L	P365987	MS
		Sucralose**	1.6		ug/L	P365987	
		Acetaminophen**	0.0080	U	ug/L	P365948	
		Endothall**	0.25	U	ug/L	P365987	
		Glufosinate**	0.10	U	ug/L	P365987	MS
		Glyphosate**	2.0		ug/L	P365987	MS
		Bentazon	0.47		ug/L	P365948	
		Carbamazepine**	0.0013	I	ug/L	P365948	
		Diuron	0.0088		ug/L	P365948	
		Fenuron	0.016	U	ug/L	P365948	
		Fluridone**	0.051		ug/L	P365948	
		Imazapyr**	0.048		ug/L	P365948	
		Hydrocodone**	0.0020	U	ug/L	P365948	
		Ibuprofen**	0.020	U	ug/L	P365948	
		Imidacloprid	0.79	J	ug/L	P365948	MS
		Linuron	0.0040	U	ug/L	P365948	
		MCPP	0.0044	IJ	ug/L	P365948	LCS, MS
		Naproxen**	0.0080	U	ug/L	P365948	
		Primidone**	0.011	I	ug/L	P365948	
		Pyraclostrobin**	0.0020	U	ug/L	P365948	
		Triclopyr**	0.0040	UJ	ug/L	P365948	MS

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: Refer to the narrative for an explanation of QC Codes.

Sample Location: CEDAR CREEK @ PINEHURST (PC 09-02) **Collection Date/Time: 06/18/2019 10:30**

Field ID: G5SW0129 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2096573	EPA 8321B	2,4-D	0.059		ug/L	P365948	
		Acesulfame K**	0.10	U	ug/L	P365987	
		AMPA**	0.33	I	ug/L	P365987	MS
		Sucralose**	0.95		ug/L	P365987	
		Acetaminophen**	0.0080	U	ug/L	P365948	
		Endothall**	0.25	U	ug/L	P365987	
		Glufosinate**	0.10	U	ug/L	P365987	MS
		Glyphosate**	2.4		ug/L	P365987	MS
		Bentazon	0.46		ug/L	P365948	
		Carbamazepine**	0.0013	I	ug/L	P365948	
		Diuron	0.0094		ug/L	P365948	
		Fenuron	0.016	U	ug/L	P365948	
		Fluridone**	0.054		ug/L	P365948	
		Imazapyr**	0.030		ug/L	P365948	
		Hydrocodone**	0.0020	U	ug/L	P365948	
		Ibuprofen**	0.020	U	ug/L	P365948	
		Imidacloprid	0.62		ug/L	P365948	MS
		Linuron	0.0040	U	ug/L	P365948	
		MCPP	0.0053	IJ	ug/L	P365948	LCS, MS
		Naproxen**	0.0080	U	ug/L	P365948	
		Primidone**	0.010	I	ug/L	P365948	
		Pyraclostrobin**	0.0020	U	ug/L	P365948	
		Triclopyr**	0.0040	U	ug/L	P365948	MS

Ref. Method and Comment:
EPA 8321B: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365990

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P366331

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366220

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366222

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366275

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366276

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366266

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366480

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366224

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366116

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366142

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365965

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

Reference Method: EPA 8321B
Batch ID: P365948

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
Linuron	0.0040	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
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P365987

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: SM 2120 B
Batch ID: P366038

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report
Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P366157

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

Reference Method: SM 2540 C-97
Batch ID: P366541

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P366527

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P366531

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P366161

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P366074

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P366331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366220

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	96.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366222

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366275

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366276

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366266

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366480

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366224

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366116

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366142

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365965

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

Reference Method: EPA 8321B
Batch ID: P365948

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	113		P	40 - 150
Acetaminophen	125		P	30 - 150
Bentazon	87.9		P	30 - 150
Carbamazepine	102		P	40 - 150
Diuron	94.7		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	112		P	40 - 150
Hydrocodone	100		P	40 - 150
Ibuprofen	71.7		P	30 - 150
Imazapyr	72.3		P	40 - 150
Imidacloprid	101		P	40 - 150
Linuron	71.0		P	40 - 150
MCPP	151		F	40 - 150
Naproxen	102		P	40 - 150
Primidone	93.2		P	40 - 150
Pyraclostrobin	85.9		P	30 - 150
Triclopyr	98.5		P	30 - 150

Reference Method: EPA 8321B
Batch ID: P365987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	118		P	40 - 150
AMPA	101		P	40 - 150
Endothall	107		P	40 - 150
Glufosinate	98.5		P	40 - 150
Glyphosate	100		P	40 - 140
Sucralose	94.8		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P366038

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

Reference Method: SM 2320 B-97
Batch ID: P366157

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P366161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P366074

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P366331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096377	Bromide	94.8	94.6	P/P	90 - 110
2096414	Bromide	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096411	Chloride	96.8		P	90 - 110
2096442	Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096411	Sulfate	96.0		P	90 - 110
2096442	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366275

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096437	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366276

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096557	Ammonia-N	99.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096733	Kjeldahl Nitrogen	107	107	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366480

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096556	Kjeldahl Nitrogen	110	94.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366224

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096556	NO2NO3-N	103	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366116

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096556	Total-P	101	97.7	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096544	Total-P	96.8	97.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365965

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096596	O-Phosphate-P	94.6	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P365948

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096571	2,4-D	93.1	117	P/P	40 - 150
2096571	Acetaminophen	98.9	101	P/P	30 - 150
2096571	Bentazon	45.8	94.5	P/P	30 - 150
2096571	Carbamazepine	72.2	80.2	P/P	40 - 150
2096571	Diuron	63.8	71.6	P/P	40 - 150
2096571	Fenuron	78.3	87.3	P/P	40 - 150
2096571	Fluridone	70.0	81.4	P/P	40 - 150
2096571	Hydrocodone	96.0	101	P/P	40 - 150
2096571	Ibuprofen	63.0	70.3	P/P	30 - 150
2096571	Imazapyr	97.5	115	P/P	40 - 150
2096571	Imidacloprid	136	164	P/F	40 - 150
2096571	Linuron	60.7	59.7	P/P	40 - 150
2096571	MCPP	144	176	P/F	40 - 150
2096571	Naproxen	62.1	55.0	P/P	40 - 150
2096571	Primidone	77.4	78.5	P/P	40 - 150
2096571	Pyraclostrobin	87.1	90.1	P/P	30 - 150
2096571	Triclopyr	130	154	P/F	30 - 150

Reference Method: EPA 8321B
Batch ID: P365987

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096084	Acesulfame K	83.1	82.1	P/P	40 - 150
2096084	AMPA	18.2	28.7	F/F	40 - 150
2096084	Endothall	77.0	74.5	P/P	40 - 150
2096084	Glufosinate	39.1	39.5	F/F	40 - 150
2096084	Glyphosate	14.7	32.0	F/F	40 - 140
2096084	Sucralose	52.8	50.2	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P366161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096415	Fluoride	97.8	97.8	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P366074

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2096447	Organic Carbon	93.7	96.0	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P365990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096445	Turbidity	7.78	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P366331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096377	Bromide	0.133	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096442	Chloride	0.480	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P366222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096442	Sulfate	1.42	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366275

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096437	Ammonia-N	0.604	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P366276

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096557	Ammonia-N	0.862	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096733	Kjeldahl Nitrogen	0.0393	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P366480

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096556	Kjeldahl Nitrogen	8.82	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P366224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096556	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366116

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096556	Total-P	3.23	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P366142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096544	Total-P	0.347	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P365965

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096596	O-Phosphate-P	1.22	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P365948

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096571	2,4-D	14.2	Spike	P	0 - 30
2096571	Acetaminophen	2.31	Spike	P	0 - 30
2096571	Bentazon	6.06	Spike	P	0 - 30
2096571	Carbamazepine	9.76	Spike	P	0 - 30
2096571	Diuron	9.91	Spike	P	0 - 30
2096571	Fenuron	10.9	Spike	P	0 - 30
2096571	Fluridone	3.44	Spike	P	0 - 30
2096571	Hydrocodone	4.84	Spike	P	0 - 30
2096571	Ibuprofen	11.0	Spike	P	0 - 30
2096571	Imazapyr	10.3	Spike	P	0 - 30
2096571	Imidacloprid	2.49	Spike	P	0 - 30
2096571	Linuron	1.71	Spike	P	0 - 30
2096571	MCPP	19.1	Spike	P	0 - 30
2096571	Naproxen	12.1	Spike	P	0 - 30
2096571	Primidone	1.16	Spike	P	0 - 30
2096571	Pyraclostrobin	3.35	Spike	P	0 - 30
2096571	Triclopyr	17.1	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P365987

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

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P365987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096084	Acesulfame K	1.17	Spike	P	0 - 30
2096084	AMPA	8.78	Spike	P	0 - 30
2096084	Endothall	3.36	Spike	P	0 - 30
2096084	Glufosinate	1.10	Spike	P	0 - 30
2096084	Glyphosate	10.5	Spike	P	0 - 30
2096084	Sucralose	5.07	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P366038

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096553	Color (true)	0.584	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P366157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096415	Total Alkalinity	0.361	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P366541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096415	TDS	7.62	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P366161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096415	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P366074

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2096447	Organic Carbon	2.05	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: 2096571
Field Sample ID: G5SW0147

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	77.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.6	P	30 - 160
EPA 8321B	Diuron-d6	71.5	P	30 - 160
EPA 8321B	Endothall-d6	90.5	P	30 - 160
EPA 8321B	Endothall-d6	90.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.1	P	30 - 160
EPA 8321B	Primidone-d5	85.2	P	30 - 160
EPA 8321B	Sucralose-d6	143	P	30 - 160
EPA 8321B	Sucralose-d6	143	P	30 - 160

Lab Sample ID: 2096572
Field Sample ID: G1SW0051

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	83.3	P	30 - 160
EPA 8321B	Acetaminophen-d4	70.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.5	P	30 - 160
EPA 8321B	Diuron-d6	64.5	P	30 - 160
EPA 8321B	Endothall-d6	150	P	30 - 160
EPA 8321B	Endothall-d6	150	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.5	P	30 - 160
EPA 8321B	Primidone-d5	87.3	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160

Lab Sample ID: 2096573
Field Sample ID: G5SW0129

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	84.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	74.3	P	30 - 160
EPA 8321B	Diuron-d6	66.9	P	30 - 160
EPA 8321B	Endothall-d6	91.0	P	30 - 160
EPA 8321B	Endothall-d6	91.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	68.1	P	30 - 160
EPA 8321B	Primidone-d5	78.9	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A92171
Included Lab Sample IDs: 2096543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A92215
Included Lab Sample IDs: 2096545, 2096548

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.1	98.8	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A92222
Included Lab Sample IDs: 2096543, 2096546

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

Reference Method: SM 2120 B
Run ID: A92249
Included Lab Sample IDs: 2096543

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.9	98.7	P/P	90 - 115

Reference Method: EPA 8321B
Run ID: A92259
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	112	110	P/P	60 - 160
Acesulfame K	115	112	P/P	60 - 160
Endothall	103	105	P/P	60 - 160
Endothall	111	103	P/P	60 - 160

Reference Method: SM 5310 B-00
Run ID: A92261
Included Lab Sample IDs: 2096544, 2096547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	98.2	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A92278
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.6	98.1	P/P	60 - 160
AMPA	98.1	93.7	P/P	60 - 160
Glufosinate	88.5	92.7	P/P	60 - 160
Glufosinate	92.7	93.5	P/P	60 - 160
Glyphosate	106	96.5	P/P	60 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A92278
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	93.1	106	P/P	60 - 160

Reference Method: SM 2320 B-97
Run ID: A92292
Included Lab Sample IDs: 2096543, 2096546

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

Reference Method: SM 4500 F-C-97
Run ID: A92292
Included Lab Sample IDs: 2096543, 2096546

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A92301
Included Lab Sample IDs: 2096544, 2096547

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92309
Included Lab Sample IDs: 2096547

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A92337
Included Lab Sample IDs: 2096544, 2096547

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A92339
Included Lab Sample IDs: 2096544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	100	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0
Run ID: A92370
Included Lab Sample IDs: 2096546

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92373
Included Lab Sample IDs: 2096544

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	96.4	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A92430
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	104	103	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A92463
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	60.5	87.7	P/P	50 - 150
2,4-D	78.0	60.5	P/P	50 - 150
Acetaminophen	126	137	P/P	60 - 160
Acetaminophen	137	131	P/P	60 - 160
Carbamazepine	101	105	P/P	60 - 150
Carbamazepine	105	71.3	P/P	60 - 150
Diuron	107	107	P/P	60 - 150
Diuron	109	107	P/P	60 - 150
Fenuron	100	102	P/P	60 - 150
Fenuron	102	98.3	P/P	60 - 150
Fluridone	113	114	P/P	60 - 160
Fluridone	114	120	P/P	60 - 160
Hydrocodone	109	91.9	P/P	60 - 150
Hydrocodone	95.4	109	P/P	60 - 150
Ibuprofen	83.0	86.4	P/P	50 - 160
Ibuprofen	95.2	83.0	P/P	50 - 160
Imazapyr	82.6	92.8	P/P	50 - 150
Imazapyr	92.8	81.3	P/P	50 - 150
Imidacloprid	91.5	91.8	P/P	60 - 150
Imidacloprid	97.2	91.5	P/P	60 - 150
Linuron	93.8	90.5	P/P	60 - 150
Linuron	96.2	93.8	P/P	60 - 150
MCPP	92.1	92.5	P/P	50 - 150
MCPP	96.1	92.1	P/P	50 - 150
Naproxen	67.9	82.5	P/P	50 - 160
Naproxen	71.7	67.9	P/P	50 - 160
Primidone	109	98.0	P/P	60 - 150
Primidone	98.0	102	P/P	60 - 150
Pyraclostrobin	106	96.8	P/P	60 - 150
Pyraclostrobin	96.8	104	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A92463
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Triclopyr	100	101	P/P	50 - 150
Triclopyr	101	85.6	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A92482
Included Lab Sample IDs: 2096571, 2096572, 2096573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	103	111	P/P	50 - 160
Fluridone	114	111	P/P	60 - 160
Imidacloprid	94.1	92.8	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A92486
Included Lab Sample IDs: 2096547

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.7	99.7	P/P	90 - 110

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						7.78	
EPA 300.0	Bromide	99.6	94.8	94.6	96.6			0.133
EPA 300.0 Rev. 2.1	Chloride	96.4	97.6	96.8			0.480	
	Sulfate	96.8	97.3	96.0			1.42	
EPA 350.1 Rev. 2.0	Ammonia-N	102	101	102				0.604
	Ammonia-N	102	99.2	100				0.862
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	110	107	107				0.0393
	Kjeldahl Nitrogen	109	110	94.8				8.82
EPA 353.2 Rev. 2.0	NO2NO3-N	100	103	103				0.0
EPA 365.1 Rev. 2.0	Total-P	103	101	97.7				3.23
	Total-P	99.6	96.8	97.3				0.347
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.6	94.6	96.1				1.22
EPA 8321B	2,4-D	113	93.1	117				14.2
	Acesulfame K	118	83.1	82.1				1.17
	Acetaminophen	125	98.9	101				2.31
	AMPA	101	18.2	28.7				8.78
	Bentazon	87.9	45.8	94.5				6.06
	Carbamazepine	102	72.2	80.2				9.76
	Diuron	94.7	63.8	71.6				9.91
	Endothall	107	77.0	74.5				3.36
	Fenuron	103	78.3	87.3				10.9
	Fluridone	112	70.0	81.4				3.44
	Glufosinate	98.5	39.1	39.5				1.10
	Glyphosate	100	14.7	32.0				10.5
	Hydrocodone	100	96.0	101				4.84
	Ibuprofen	71.7	63.0	70.3				11.0
	Imazapyr	72.3	97.5	115				10.3
	Imidacloprid	101	136	164				2.49
	Linuron	71.0	60.7	59.7				1.71
	MCPP	151	144	176				19.1
	Naproxen	102	62.1	55.0				12.1
	Primidone	93.2	77.4	78.5				1.16
	Pyraclostrobin	85.9	87.1	90.1				3.35
	Sucralose	94.8	52.8	50.2				5.07
	Triclopyr	98.5	130	154				17.1
SM 2120 B	Color (true)	100					0.584	
SM 2320 B-97	Total Alkalinity	105					0.361	
SM 2540 C-97	TDS						7.62	
SM 4500 F-C-97	Fluoride	98.1	97.8	97.8				0.0
SM 5310 B-00	Organic Carbon	95.6	93.7	96.0				2.05

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2096543, 2096546
EPA 300.0 / E31780	Bromide in aqueous matrices	2096546
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2096543
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2096543
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2096544, 2096547

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2096544, 2096547
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2096544, 2096547
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2096544, 2096547
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2096545, 2096548
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2096571, 2096572, 2096573
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2096571, 2096572, 2096573
SM 2120 B / E31780	True Color measured at 450 nm	2096543
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2096543, 2096546
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2096543
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2096543, 2096546
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2096543, 2096546
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2096544, 2096547

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/19/2019			06/19/2019 17:04	Adrian Shelby	2096543, 2096546
EPA 300.0	06/19/2019			06/24/2019 22:34	Lipi Saha	2096546
EPA 300.0 Rev. 2.1	06/19/2019			06/21/2019 15:03	Jhamieka S. Greenwood	2096543
EPA 350.1 Rev. 2.0	06/19/2019			06/25/2019 11:38	Ping Hua	2096544
	06/19/2019			06/25/2019 11:54	Ping Hua	2096547
EPA 351.2 Rev. 2.0	06/19/2019	06/25/2019 10:55	Sima Feizi	06/26/2019 13:58	Virginia P. Brown	2096544
	06/19/2019	06/28/2019 16:00	Adrian Shelby	07/01/2019 15:02	Joseph Suarez	2096547
EPA 353.2 Rev. 2.0	06/19/2019			06/24/2019 09:59	Beverly Y. Sanders	2096544
	06/19/2019			06/24/2019 10:00	Beverly Y. Sanders	2096547
EPA 365.1 Rev. 2.0	06/19/2019	06/21/2019 12:55	Sima Feizi	06/24/2019 14:13	Julia Storbeck	2096547
	06/19/2019	06/24/2019 12:20	Sima Feizi	06/25/2019 11:58	Rosalyn Ballman	2096544
EPA 365.1 Rev. 2.0 dissolved	06/19/2019			06/19/2019 16:02	Jhamieka S. Greenwood	2096545
	06/19/2019			06/19/2019 16:03	Jhamieka S. Greenwood	2096548
EPA 8321B	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/20/2019 12:43	Rebecca Ware	2096571
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/20/2019 13:12	Rebecca Ware	2096572
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/20/2019 13:26	Rebecca Ware	2096573
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/21/2019 11:33	Rebecca Ware	2096571
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	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/21/2019 12:10	Rebecca Ware	2096573
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/26/2019 23:16	Rebecca Ware	2096571
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/26/2019 23:28	Rebecca Ware	2096572
	06/19/2019	06/20/2019 10:45	Rebecca Ware	06/26/2019 23:40	Rebecca Ware	2096573
	06/19/2019	06/21/2019 12:30	Hoor Shaik	06/22/2019 03:43	Juyoung Kim	2096571
	06/19/2019	06/21/2019 12:30	Hoor Shaik	06/22/2019 04:52	Juyoung Kim	2096572
	06/19/2019	06/21/2019 12:30	Hoor Shaik	06/22/2019 05:27	Juyoung Kim	2096573
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	06/19/2019	06/21/2019 12:30	Hoor Shaik	06/30/2019 08:55	Juyoung Kim	2096572
	06/19/2019	06/21/2019 12:30	Hoor Shaik	06/30/2019 09:29	Juyoung Kim	2096573
SM 2120 B	06/19/2019			06/19/2019 16:58	Madeline Funaro	2096543
SM 2320 B-97	06/19/2019			06/22/2019 17:25	Dale L. Simmons	2096543
	06/19/2019			06/22/2019 21:03	Dale L. Simmons	2096546
SM 2540 C-97	06/19/2019			06/24/2019 14:22	Yijie Li	2096543
SM 2540 D-97	06/19/2019			06/24/2019 14:22	Yijie Li	2096543, 2096546
SM 4500 F-C-97	06/19/2019			06/22/2019 17:25	Dale L. Simmons	2096543
	06/19/2019			06/22/2019 21:03	Dale L. Simmons	2096546
SM 5310 B-00	06/19/2019			06/20/2019 08:30	Madeline Funaro	2096544
	06/19/2019			06/20/2019 08:43	Madeline Funaro	2096547