

Chemical Analysis Report

SW-DIST-2019-10-18-01

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

Event Description: **Run 10: Longboat and such**
Request ID: **RQ-2019-10-07-09**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
13051 N. Telecom Parkway
Temple Terrace, FL 33637-0926
Attn: Bne Paswater

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: 06-NOV-2019 08:48

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

Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: 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: Wares Crk @ 36th Ave

Collection Date/Time: 10/17/2019 12:10

Field ID: G2SW0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129373	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P372750	
	EPA 300.0 Rev. 2.1	Chloride	39		mg Cl/L	P373389	
		Sulfate	86		mg SO4/L	P373391	
	SM 2120 B	Color (true)	32	A	PCU	P372857	
	SM 2320 B-97	Total Alkalinity	194		mg CaCO3/L	P373039	
	SM 2540 C-97	TDS	356		mg/L	P373315	
	SM 2540 D-97	TSS	2	I	mg/L	P373286	
	SM 4500 F-C-97	Fluoride	0.53		mg F/L	P373042	
2129375	EPA 350.1 Rev. 2.0	Ammonia-N	0.026		mg N/L	P373046	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.64		mg N/L	P372995	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.091		mg N/L	P372811	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P372908	
	SM 5310 B-00	Organic Carbon	9.2		mg C/L	P372969	
2129377	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.17		mg P/L	P372789	
2129406	EPA 8321B	2,4-D	0.19		ug/L	P372798	
		Acesulfame K**	0.10	U	ug/L	P372770	
		AMPA**	0.52		ug/L	P372770	MS
		Sucralose**	0.28		ug/L	P372770	
		Acetaminophen**	0.013	I	ug/L	P372798	
		Acetamiprid**	0.0020	U	ug/L	P372798	
		Endothall**	0.25	U	ug/L	P372770	
		Glufosinate**	0.10	U	ug/L	P372770	
		Glyphosate**	1.7		ug/L	P372770	
		Afidopyropen**	0.0020	UJ	ug/L	P372798	
		Bentazon	0.011		ug/L	P372798	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372798	
		Carbamazepine**	8.0E-04	U	ug/L	P372798	
		Clothianidin**	0.0023	I	ug/L	P372798	
		Dinotefuran**	0.0020	U	ug/L	P372798	
		Diuron	0.0033	I	ug/L	P372798	
		Fenuron	0.016	U	ug/L	P372798	
		Fluridone**	2.1		ug/L	P372798	
		Imazapyr**	0.070		ug/L	P372798	
		Hydrocodone**	0.0020	U	ug/L	P372798	
		Ibuprofen**	0.020	U	ug/L	P372798	
		Imidacloprid	0.033		ug/L	P372798	
		Linuron	0.0040	U	ug/L	P372798	
		Mandestrobin**	0.0020	UJ	ug/L	P372798	
		MCP	0.0020	U	ug/L	P372798	
		Naproxen**	0.0080	U	ug/L	P372798	
		Primidone**	0.0040	U	ug/L	P372798	
		Pyraclostrobin**	0.0020	U	ug/L	P372798	
		Thiamethoxam**	0.0030	I	ug/L	P372798	

Field ID: G2SW0031

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129406	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372798	
		Triclopyr**	0.0040	U	ug/L	P372798	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for acetaminophen and imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Wares Creek Fresh @ 30th Ave West

Collection Date/Time: 10/17/2019 11:10

Field ID: G2SW0109

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129374	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P372750	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P373389	
		Sulfate	65		mg SO4/L	P373391	
	SM 2120 B	Color (true)	33		PCU	P372857	
	SM 2320 B-97	Total Alkalinity	165		mg CaCO3/L	P373039	
	SM 2540 C-97	TDS	301	A	mg/L	P373315	
	SM 2540 D-97	TSS	2	UA	mg/L	P373286	
	SM 4500 F-C-97	Fluoride	0.43		mg F/L	P373042	
2129376	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P373046	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P372995	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.057		mg N/L	P372811	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P372908	
	SM 5310 B-00	Organic Carbon	9.4		mg C/L	P372969	
2129378	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P372789	
2129407	EPA 8321B	2,4-D	0.21		ug/L	P372798	
		Acesulfame K**	0.10	U	ug/L	P372770	
		AMPA**	0.58		ug/L	P372770	MS
		Sucralose**	0.12		ug/L	P372770	
		Acetaminophen**	0.041		ug/L	P372798	
		Acetamiprid**	0.0020	U	ug/L	P372798	
		Endothall**	0.25	U	ug/L	P372770	
		Glufosinate**	0.10	U	ug/L	P372770	
		Glyphosate**	3.6		ug/L	P372770	
		Afidopyropen**	0.0020	UJ	ug/L	P372798	
		Bentazon	0.0058		ug/L	P372798	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372798	
		Carbamazepine**	8.0E-04	U	ug/L	P372798	
		Clothianidin**	0.0026	I	ug/L	P372798	
		Dinotefuran**	0.0054	I	ug/L	P372798	
		Diuron	0.0041	I	ug/L	P372798	
		Fenuron	0.016	U	ug/L	P372798	
		Fluridone**	2.3		ug/L	P372798	
		Imazapyr**	0.30		ug/L	P372798	
		Hydrocodone**	0.0020	U	ug/L	P372798	
		Ibuprofen**	0.020	U	ug/L	P372798	
		Imidacloprid	0.062		ug/L	P372798	
		Linuron	0.0040	U	ug/L	P372798	
		Mandestrobin**	0.0020	UJ	ug/L	P372798	
		MCP	0.0020	U	ug/L	P372798	
		Naproxen**	0.028	I	ug/L	P372798	
		Primidone**	0.0040	U	ug/L	P372798	
		Pyraclostrobin**	0.0020	U	ug/L	P372798	
		Thiamethoxam**	0.0020	U	ug/L	P372798	

Field ID: G2SW0109

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129407	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P372798	
		Triclopyr**	0.0040	U	ug/L	P372798	

Ref. Method and Comment:

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

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for acetaminophen and imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: Longboat Key @ Bishops Bayou

Collection Date/Time: 10/17/2019 12:55

Field ID: G3SW0052

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129379	EPA 180.1 Rev. 2.0	Turbidity	3.1	A	NTU	P372750	
	EPA 300.0	Bromide	66		mg Br/L	P373398	
	SM 2320 B-97	Total Alkalinity	129	A	mg CaCO3/L	P372890	
	SM 2540 D-97	TSS	6	IA	mg/L	P373293	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P372895	
2129380	EPA 350.1 Rev. 2.0	Ammonia-N	0.031		mg N/L	P373045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.50		mg N/L	P373346	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P373009	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P372906	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P373051	
2129381	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P372790	

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: Wares Creek Tidal by Watertower

Collection Date/Time: 10/17/2019 11:50

Field ID: G2SW0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129382	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P372750	
	EPA 300.0	Bromide	6.9		mg Br/L	P373398	
	SM 2320 B-97	Total Alkalinity	169		mg CaCO3/L	P372890	
	SM 2540 D-97	TSS	5	I	mg/L	P373292	
	SM 4500 F-C-97	Fluoride	0.52		mg F/L	P373042	
2129384	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P373045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P373346	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.094		mg N/L	P373009	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P372906	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P372969	
2129386	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P372790	
2129408	EPA 8321B	2,4-D	0.040		ug/L	P372798	
		Acesulfame K**	0.10	U	ug/L	P372770	
		AMPA**	1.4	I	ug/L	P372770	MS
		Sucralose**	0.16		ug/L	P372770	
		Acetaminophen**	0.070		ug/L	P372798	
		Acetamiprid**	0.0020	U	ug/L	P372798	
		Endothall**	0.25	U	ug/L	P372770	
		Glufosinate**	1.0	U	ug/L	P372770	
		Glyphosate**	1.4	I	ug/L	P372770	
		Afidopyropen**	0.0020	UJ	ug/L	P372798	
		Bentazon	0.013		ug/L	P372798	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372798	
		Carbamazepine**	8.0E-04	U	ug/L	P372798	
		Clothianidin**	0.0059	I	ug/L	P372798	
		Dinotefuran**	0.0020	U	ug/L	P372798	
		Diuron	0.0041	I	ug/L	P372798	
		Fenuron	0.016	U	ug/L	P372798	
		Fluridone**	1.9		ug/L	P372798	
		Imazapyr**	0.13		ug/L	P372798	
		Hydrocodone**	0.0020	U	ug/L	P372798	
		Ibuprofen**	0.020	U	ug/L	P372798	
		Imidacloprid	0.053		ug/L	P372798	
		Linuron	0.0040	U	ug/L	P372798	
		Mandestrobin**	0.0020	UJ	ug/L	P372798	
		MCP	0.0020	U	ug/L	P372798	
		Naproxen**	0.0080	U	ug/L	P372798	
		Primidone**	0.0040	U	ug/L	P372798	
		Pyraclostrobin**	0.0020	U	ug/L	P372798	
		Thiamethoxam**	0.0025	I	ug/L	P372798	
		Tolfenpyrad**	0.0020	U	ug/L	P372798	
		Triclopyr**	0.0040	U	ug/L	P372798	

Field ID: G2SW0108

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: J - second source check standards for some analytes were not available for analysis. MS accuracy for acetaminophen and imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: MDL elevated for some parameters due to matrix interference.

Sample Location: Wares Crk @ 9th Ave

Collection Date/Time: 10/17/2019 10:40

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2129383	EPA 180.1 Rev. 2.0	Turbidity	2.0		NTU	P372750	
	EPA 300.0	Bromide	17		mg Br/L	P373398	
	SM 2320 B-97	Total Alkalinity	158		mg CaCO3/L	P372890	
	SM 2540 D-97	TSS	4	I	mg/L	P373293	
	SM 4500 F-C-97	Fluoride	0.62		mg F/L	P373220	
2129385	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P373045	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P373346	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.097		mg N/L	P373009	
	EPA 365.1 Rev. 2.0	Total-P	0.19		mg P/L	P372906	
	SM 5310 B-00	Organic Carbon	8.6		mg C/L	P373051	
2129387	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P372790	
2129409	EPA 8321B	2,4-D	0.027		ug/L	P372798	
		Acesulfame K**	0.10	U	ug/L	P372770	
		AMPA**	1.0	U	ug/L	P372770	MS
		Sucralose**	0.25		ug/L	P372770	
		Acetaminophen**	0.025	I	ug/L	P372798	
		Acetamiprid**	0.0020	U	ug/L	P372798	
		Endothall**	0.25	U	ug/L	P372770	
		Glufosinate**	1.0	U	ug/L	P372770	
		Glyphosate**	2.2	I	ug/L	P372770	
		Afidopyropen**	0.0020	UJ	ug/L	P372798	
		Bentazon	0.018		ug/L	P372798	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P372798	
		Carbamazepine**	8.0E-04	U	ug/L	P372798	
		Clothianidin**	0.012		ug/L	P372798	
		Dinotefuran**	0.0020	U	ug/L	P372798	
		Diuron	0.0049	I	ug/L	P372798	
		Fenuron	0.016	U	ug/L	P372798	
		Fluridone**	1.4		ug/L	P372798	
		Imazapyr**	0.093		ug/L	P372798	
		Hydrocodone**	0.0020	U	ug/L	P372798	
		Ibuprofen**	0.020	U	ug/L	P372798	
		Imidacloprid	0.023		ug/L	P372798	
		Linuron	0.0040	U	ug/L	P372798	
		Mandestrobin**	0.0020	UJ	ug/L	P372798	
		MCP	0.0022	I	ug/L	P372798	
		Naproxen**	0.0080	U	ug/L	P372798	
		Primidone**	0.0040	U	ug/L	P372798	
		Pyraclostrobin**	0.0020	U	ug/L	P372798	
		Thiamethoxam**	0.0020	U	ug/L	P372798	
		Tolfenpyrad**	0.0020	U	ug/L	P372798	
		Triclopyr**	0.0040	U	ug/L	P372798	

Field ID: G2SW0029

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: J - second source check standards for some analytes were not available for analysis. MS accuracy for acetaminophen and imidacloprid could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8321B: MDL elevated for some parameters due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372750

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P373398

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373389

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373391

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373045

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373046

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372995

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373346

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372811

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P373009

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P372906

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P372908

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P372789

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P372790

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

Reference Method: EPA 8321B
 Batch ID: P372770

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: P372798

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P372798

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

Reference Method: SM 2120 B
Batch ID: P372857

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P372890

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

Reference Method: SM 2320 B-97
Batch ID: P373039

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

Reference Method: SM 2540 C-97
Batch ID: P373315

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373286

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P373292

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P373293

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P372895

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P373042

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P372969

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

Reference Method: SM 5310 B-00
Batch ID: P373051

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: P373398

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	94.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373389

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P373391

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373045

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P373046

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P372995

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P373346

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.9		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P372811

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P373009

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	102		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372906

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372908

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372789

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	95.7		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372790

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

Reference Method: EPA 8321B
Batch ID: P372770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	104		P	40 - 150
AMPA	111		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	88.0		P	40 - 150
Glyphosate	111		P	40 - 140
Sucralose	98.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P372798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	127		P	40 - 160
Acetaminophen	67.3		P	30 - 160
Acetamiprid	82.9		P	40 - 160
Afidopyropen	75.4		P	40 - 160
Bentazon	70.7		P	30 - 160
Benzovindiflupyr	86.6		P	40 - 160
Carbamazepine	94.3		P	40 - 160
Clothianidin	77.1		P	40 - 160
Dinotefuran	77.4		P	40 - 160
Diuron	87.2		P	40 - 160
Fenuron	93.8		P	40 - 160
Fluridone	85.4		P	40 - 160
Hydrocodone	90.8		P	40 - 160
Ibuprofen	83.0		P	30 - 160
Imazapyr	86.7		P	40 - 160
Imidacloprid	95.4		P	40 - 160
Linuron	64.6		P	40 - 160

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P372798

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mandestrobin	81.6		P	40 - 160
MCP	95.6		P	40 - 160
Naproxen	71.8		P	40 - 160
Primidone	88.4		P	40 - 160
Pyraclostrobin	81.4		P	30 - 160
Thiamethoxam	90.3		P	40 - 160
Tolfenpyrad	51.0		P	40 - 160
Triclopyr	93.9		P	30 - 160

Reference Method: SM 2120 B
Batch ID: P372857

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.9		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P372890

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P373039

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

Reference Method: SM 4500 F-C-97
Batch ID: P372895

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

Reference Method: SM 4500 F-C-97
Batch ID: P373042

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P373220

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

Reference Method: SM 5310 B-00
Batch ID: P372969

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P373051

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P373398

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129316	Bromide	92.2	93.5	P/P	90 - 110
2129766	Bromide	92.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373389

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129443	Chloride	99.1		P	90 - 110
2129508	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373391

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129443	Sulfate	97.9		P	90 - 110
2129508	Sulfate	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2130128	Ammonia-N	103	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373046

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129444	Ammonia-N	97.9	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372995

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129375	Kjeldahl Nitrogen	97.0	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373346

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129136	Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129375	NO2NO3-N	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373009

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129282	NO2NO3-N	105	104	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129137	Total-P	96.2	90.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372908

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129312	Total-P	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129381	O-Phosphate-P	98.0	96.1	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P372770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129142	Acesulfame K	61.8	66.5	P/P	40 - 150
2129142	AMPA	30.2	40.4	F/P	40 - 150
2129142	Endothall	107	115	P/P	40 - 150
2129142	Glufosinate	65.1	65.5	P/P	40 - 150
2129142	Glyphosate	68.0	68.5	P/P	40 - 140
2129142	Sucralose	89.0	106	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P372798

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129299	2,4-D	106	108	P/P	40 - 160
2129299	Acetamiprid	107	104	P/P	40 - 160
2129299	Afidopyropen	84.1	87.2	P/P	40 - 160
2129299	Bentazon	50.7	55.8	P/P	30 - 160
2129299	Benzovindiflupyr	88.4	87.5	P/P	40 - 160
2129299	Carbamazepine	87.6	85.3	P/P	40 - 160
2129299	Clothianidin	88.7	87.3	P/P	40 - 160
2129299	Dinotefuran	96.0	98.7	P/P	40 - 160
2129299	Diuron	74.9	74.6	P/P	40 - 160
2129299	Fenuron	90.6	91.9	P/P	40 - 160
2129299	Fluridone	84.0	83.2	P/P	40 - 160
2129299	Hydrocodone	107	102	P/P	40 - 160
2129299	Ibuprofen	75.3	72.4	P/P	30 - 160
2129299	Imazapyr	88.9	95.6	P/P	40 - 160
2129299	Linuron	62.8	59.9	P/P	40 - 160
2129299	Mandestrobin	94.6	91.5	P/P	40 - 160
2129299	MCP	96.1	93.3	P/P	40 - 160
2129299	Naproxen	68.6	73.2	P/P	40 - 160
2129299	Primidone	85.4	95.3	P/P	40 - 160
2129299	Pyraclostrobin	93.8	89.3	P/P	30 - 160
2129299	Thiamethoxam	144	145	P/P	40 - 160
2129299	Tolfenpyrad	59.3	55.3	P/P	40 - 160
2129299	Triclopyr	97.7	84.9	P/P	30 - 160

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P372895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2126334	Fluoride	95.9	95.9	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373042

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129511	Fluoride	98.3	99.0	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P373220

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129383	Fluoride	93.5	95.2	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P372969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129179	Organic Carbon	98.0	98.8	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P373051

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2129380	Organic Carbon	101	99.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P372750

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129379	Turbidity	1.63	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P373398

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129316	Bromide	1.21	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129443	Chloride	0.308	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P373391

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129443	Sulfate	0.124	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2130128	Ammonia-N	0.285	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P373046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129444	Ammonia-N	1.49	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P372995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129375	Kjeldahl Nitrogen	1.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P373346

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129136	Kjeldahl Nitrogen	1.11	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P372811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129375	NO2NO3-N	0.341	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P373009

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129282	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129137	Total-P	6.38	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P372908

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129312	Total-P	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129378	O-Phosphate-P	0.211	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P372790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129381	O-Phosphate-P	1.56	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P372770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129142	Acesulfame K	7.28	Spike	P	0 - 30
2129142	AMPA	10.5	Spike	P	0 - 30
2129142	Endothall	7.55	Spike	P	0 - 30
2129142	Glufosinate	0.614	Spike	P	0 - 30
2129142	Glyphosate	0.246	Spike	P	0 - 30
2129142	Sucralose	15.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P372798

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129299	2,4-D	2.26	Spike	P	0 - 30
2129299	Acetaminophen	1.63	Spike	P	0 - 30
2129299	Acetamiprid	2.65	Spike	P	0 - 30
2129299	Afidopyropen	3.58	Spike	P	0 - 30
2129299	Bentazon	4.06	Spike	P	0 - 30
2129299	Benzovindiflupyr	0.983	Spike	P	0 - 30
2129299	Carbamazepine	2.55	Spike	P	0 - 30
2129299	Clothianidin	1.57	Spike	P	0 - 30
2129299	Dinotefuran	2.72	Spike	P	0 - 30
2129299	Diuron	0.325	Spike	P	0 - 30
2129299	Fenuron	1.43	Spike	P	0 - 30
2129299	Fluridone	0.916	Spike	P	0 - 30
2129299	Hydrocodone	4.91	Spike	P	0 - 30
2129299	Ibuprofen	4.00	Spike	P	0 - 30
2129299	Imazapyr	5.57	Spike	P	0 - 30
2129299	Imidacloprid	1.85	Spike	P	0 - 30
2129299	Linuron	4.71	Spike	P	0 - 30
2129299	Mandestrobin	3.25	Spike	P	0 - 30
2129299	MCPP	2.99	Spike	P	0 - 30
2129299	Naproxen	6.52	Spike	P	0 - 30
2129299	Primidone	11.0	Spike	P	0 - 30
2129299	Pyraclostrobin	4.98	Spike	P	0 - 30
2129299	Thiamethoxam	1.12	Spike	P	0 - 30
2129299	Tolfenpyrad	6.93	Spike	P	0 - 30
2129299	Triclopyr	14.0	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P372857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129373	Color (true)	1.79	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P372890

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129379	Total Alkalinity	1.03	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P373039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129511	Total Alkalinity	0.484	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
 Batch ID: P373315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129374	TDS	5.98	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
 Batch ID: P372895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2126334	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P373042

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129511	Fluoride	0.524	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
 Batch ID: P373220

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129383	Fluoride	1.00	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
 Batch ID: P372969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129179	Organic Carbon	0.489	Spike	P	0 - 20

Reference Method: SM 5310 B-00
 Batch ID: P373051

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2129380	Organic Carbon	1.28	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2129406
Field Sample ID: G2SW0031

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	52.7	P	30 - 160
EPA 8321B	Bentazon-d7	42.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.4	P	30 - 160
EPA 8321B	Diuron-d6	55.2	P	30 - 160
EPA 8321B	Endothall-d6	91.5	P	30 - 160
EPA 8321B	Endothall-d6	91.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	76.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.9	P	30 - 160
EPA 8321B	Primidone-d5	83.1	P	30 - 160
EPA 8321B	Sucralose-d6	93.2	P	30 - 160
EPA 8321B	Sucralose-d6	93.2	P	30 - 160

Lab Sample ID: 2129407
Field Sample ID: G2SW0109

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	101	P	30 - 160
EPA 8321B	Acetaminophen-d4	55.7	P	30 - 160
EPA 8321B	Bentazon-d7	36.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	65.7	P	30 - 160
EPA 8321B	Diuron-d6	51.7	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	79.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	64.3	P	30 - 160
EPA 8321B	Primidone-d5	79.0	P	30 - 160
EPA 8321B	Sucralose-d6	97.8	P	30 - 160
EPA 8321B	Sucralose-d6	97.8	P	30 - 160

Lab Sample ID: 2129408
Field Sample ID: G2SW0108

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	63.0	P	30 - 160
EPA 8321B	Bentazon-d7	46.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	83.6	P	30 - 160
EPA 8321B	Diuron-d6	66.5	P	30 - 160
EPA 8321B	Endothall-d6	89.7	P	30 - 160
EPA 8321B	Endothall-d6	89.7	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	77.8	P	30 - 160
EPA 8321B	Primidone-d5	88.2	P	30 - 160
EPA 8321B	Sucralose-d6	96.6	P	30 - 160
EPA 8321B	Sucralose-d6	96.6	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2129409
Field Sample ID: G2SW0029

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	122	P	30 - 160
EPA 8321B	Acetaminophen-d4	63.6	P	30 - 160
EPA 8321B	Bentazon-d7	53.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.8	P	30 - 160
EPA 8321B	Diuron-d6	75.2	P	30 - 160
EPA 8321B	Endothall-d6	78.9	P	30 - 160
EPA 8321B	Endothall-d6	78.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	116	P	30 - 160
EPA 8321B	Ibuprofen-d3	80.8	P	30 - 160
EPA 8321B	Primidone-d5	90.2	P	30 - 160
EPA 8321B	Sucralose-d6	85.7	P	30 - 160
EPA 8321B	Sucralose-d6	85.7	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A95071

Included Lab Sample IDs: 2129373, 2129374, 2129379, 2129382, 2129383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	98.5	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A95090

Included Lab Sample IDs: 2129377, 2129378, 2129381, 2129386, 2129387

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.9	P/P	90 - 110
O-Phosphate-P	99.1	99.7	P/P	90 - 110
O-Phosphate-P	99.7	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95097

Included Lab Sample IDs: 2129375, 2129376

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

Reference Method: EPA 8321B

Run ID: A95104

Included Lab Sample IDs: 2129406, 2129407, 2129408, 2129409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	113	P/P	60 - 160
AMPA	113	106	P/P	60 - 160
Glufosinate	107	109	P/P	60 - 160
Glufosinate	94.2	107	P/P	60 - 160
Glyphosate	108	110	P/P	60 - 160
Glyphosate	98.4	108	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A95108

Included Lab Sample IDs: 2129406, 2129407, 2129408, 2129409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	98.6	93.3	P/P	60 - 160
Endothall	82.9	86.7	P/P	60 - 160

Reference Method: SM 2120 B

Run ID: A95126

Included Lab Sample IDs: 2129373, 2129374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.0	97.0	P/P	90 - 115

Reference Method: SM 2320 B-97

Run ID: A95133

Included Lab Sample IDs: 2129379, 2129382, 2129383

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A95133

Included Lab Sample IDs: 2129379

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

Reference Method: SM 5310 B-00

Run ID: A95164

Included Lab Sample IDs: 2129375, 2129376, 2129384

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.6	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A95178

Included Lab Sample IDs: 2129380, 2129384, 2129385

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

Reference Method: SM 2320 B-97

Run ID: A95197

Included Lab Sample IDs: 2129373, 2129374

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	104	P/P	90 - 110
Total Alkalinity	103	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95197

Included Lab Sample IDs: 2129373, 2129374, 2129382

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	100	P/P	90 - 110
Fluoride	99.5	101	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A95203

Included Lab Sample IDs: 2129375, 2129376, 2129380, 2129384, 2129385

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

Reference Method: SM 5310 B-00

Run ID: A95204

Included Lab Sample IDs: 2129380, 2129385

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95205

Included Lab Sample IDs: 2129375, 2129376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.6	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95233

Included Lab Sample IDs: 2129406, 2129407, 2129408, 2129409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.8	84.8	P/P	50 - 150
Acetaminophen	94.8	103	P/P	60 - 160
Acetamiprid	103	100	P/P	50 - 150
Afidopyropen	101	89.8	P/P	50 - 150
Bentazon	97.5	99.3	P/P	50 - 160
Benzovindiflupyr	106	104	P/P	50 - 150
Carbamazepine	106	102	P/P	60 - 150
Clothianidin	99.8	98.2	P/P	60 - 150
Dinotefuran	94.1	96.7	P/P	50 - 150
Diuron	105	110	P/P	60 - 150
Fenuron	104	104	P/P	60 - 150
Fluridone	105	99.6	P/P	60 - 160
Hydrocodone	108	106	P/P	60 - 150
Ibuprofen	79.3	86.7	P/P	50 - 160
Imazapyr	95.3	102	P/P	50 - 150
Imidacloprid	97.7	99.0	P/P	60 - 150
Linuron	94.7	92.9	P/P	60 - 150
Mandestrobin	106	101	P/P	50 - 150
MCPP	88.4	86.5	P/P	50 - 150
Naproxen	91.3	80.0	P/P	50 - 160
Primidone	99.8	96.6	P/P	60 - 150
Pyraclostrobin	105	102	P/P	60 - 150
Thiamethoxam	97.9	103	P/P	50 - 150
Tolfenpyrad	99.0	96.4	P/P	60 - 150
Triclopyr	97.7	102	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95244

Included Lab Sample IDs: 2129384, 2129385

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95245

Included Lab Sample IDs: 2129375, 2129376

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	96.4	P/P	90 - 110
Kjeldahl Nitrogen	96.4	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A95246

Included Lab Sample IDs: 2129380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	98.8	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A95274

Included Lab Sample IDs: 2129383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.1	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A95307

Included Lab Sample IDs: 2129373, 2129374

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

Reference Method: EPA 300.0

Run ID: A95332

Included Lab Sample IDs: 2129379, 2129382, 2129383

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	103	98.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A95380

Included Lab Sample IDs: 2129406, 2129407, 2129408, 2129409

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	97.9	113	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A95413

Included Lab Sample IDs: 2129380, 2129384, 2129385

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.5	92.7	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 SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					1.63	
EPA 300.0	Bromide	94.4	92.2	93.5	92.0		1.21
EPA 300.0 Rev. 2.1	Chloride	99.9	99.1	98.1		0.308	
	Sulfate	98.9	97.9	98.0		0.124	
EPA 350.1 Rev. 2.0	Ammonia-N	100	103	103			0.285
	Ammonia-N	98.8	97.9	96.1			1.49
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	97.0	99.6			1.67
	Kjeldahl Nitrogen	95.9	109	107			1.11
EPA 353.2 Rev. 2.0	NO2NO3-N	102	101	101			0.341
	NO2NO3-N	102	105	104			0.477
EPA 365.1 Rev. 2.0	Total-P	97.9	96.2	90.0			6.38
	Total-P	96.9	102	100			1.47
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	95.7					0.211
	O-Phosphate-P	102	98.0	96.1			1.56
EPA 8321B	2,4-D	127	106	108			2.26
	Acesulfame K	104	61.8	66.5			7.28
	Acetaminophen	67.3					1.63
	Acetamiprid	82.9	104	107			2.65
	Afidopyropen	75.4	84.1	87.2			3.58
	AMPA	111	30.2	40.4			10.5
	Bentazon	70.7	50.7	55.8			4.06
	Benzovindiflupyr	86.6	88.4	87.5			0.983
	Carbamazepine	94.3	85.3	87.6			2.55
	Clothianidin	77.1	87.3	88.7			1.57
	Dinotefuran	77.4	98.7	96.0			2.72
	Diuron	87.2	74.9	74.6			0.325
	Endothall	108	107	115			7.55
	Fenuron	93.8	91.9	90.6			1.43
	Fluridone	85.4	84.0	83.2			0.916
	Glufosinate	88.0	65.1	65.5			0.614
	Glyphosate	111	68.0	68.5			0.246
	Hydrocodone	90.8	102	107			4.91
	Ibuprofen	83.0	75.3	72.4			4.00
	Imazapyr	86.7	88.9	95.6			5.57
	Imidacloprid	95.4					1.85
	Linuron	64.6	62.8	59.9			4.71
	Mandestrobin	81.6	94.6	91.5			3.25
	MCPP	95.6	96.1	93.3			2.99
	Naproxen	71.8	68.6	73.2			6.52
	Primidone	88.4	95.3	85.4			11.0
	Pyraclostrobin	81.4	93.8	89.3			4.98
	Sucralose	98.0	89.0	106			15.3
	Thiamethoxam	90.3	145	144			1.12
	Tolfenpyrad	51.0	59.3	55.3			6.93
	Triclopyr	93.9	97.7	84.9			14.0
SM 2120 B	Color (true)	98.9				1.79	
SM 2320 B-97	Total Alkalinity	104				1.03	
	Total Alkalinity	103				0.484	
SM 2540 C-97	TDS					5.98	
SM 4500 F-C-97	Fluoride	96.8	95.9	95.9			0.0
	Fluoride	97.9	98.3	99.0			0.524
	Fluoride	96.2	93.5	95.2			1.00
SM 5310 B-00	Organic Carbon	97.9	98.0	98.8			0.489
	Organic Carbon	99.3	101	99.5			1.28

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2129373, 2129374, 2129379, 2129382, 2129383
EPA 300.0 / E31780	Bromide in aqueous matrices	2129379, 2129382, 2129383
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2129373, 2129374
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2129373, 2129374
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2129375, 2129376, 2129380, 2129384, 2129385
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2129375, 2129376, 2129380, 2129384, 2129385
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2129375, 2129376, 2129380, 2129384, 2129385
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2129375, 2129376, 2129380, 2129384, 2129385
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2129377, 2129378, 2129381, 2129386, 2129387
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2129406, 2129407, 2129408, 2129409
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2129406, 2129407, 2129408, 2129409
SM 2120 B / E31780	True Color measured at 450 nm	2129373, 2129374
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2129373, 2129374, 2129379, 2129382, 2129383
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2129373, 2129374
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2129373, 2129374, 2129379, 2129382, 2129383
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2129373, 2129374, 2129379, 2129382, 2129383
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2129375, 2129376, 2129380, 2129384, 2129385

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	10/18/2019			10/18/2019 15:49	Samantha Davila	2129373, 2129374, 2129379, 2129382, 2129383
EPA 300.0	10/18/2019			10/29/2019 21:47	Julia Storbeck	2129379
	10/18/2019			10/29/2019 22:04	Julia Storbeck	2129382
	10/18/2019			10/29/2019 22:21	Julia Storbeck	2129383
EPA 300.0 Rev. 2.1	10/18/2019			10/29/2019 20:57	Julia Storbeck	2129373
	10/18/2019			10/29/2019 21:09	Julia Storbeck	2129374
EPA 350.1 Rev. 2.0	10/18/2019			10/23/2019 11:59	Ping Hua	2129380
	10/18/2019			10/23/2019 12:00	Ping Hua	2129384
	10/18/2019			10/23/2019 12:02	Ping Hua	2129385
	10/18/2019			10/23/2019 12:18	Ping Hua	2129375
	10/18/2019			10/23/2019 12:20	Ping Hua	2129376
EPA 351.2 Rev. 2.0	10/18/2019	10/23/2019 13:06	Sima Feizi	10/24/2019 17:25	Jhamieka S. Greenwood	2129375
	10/18/2019	10/23/2019 13:06	Sima Feizi	10/24/2019 17:45	Jhamieka S. Greenwood	2129376
	10/18/2019	10/29/2019 12:47	Sima Feizi	10/31/2019 19:41	Jhamieka S. Greenwood	2129380
	10/18/2019	10/29/2019 12:47	Sima Feizi	10/31/2019 19:42	Jhamieka S. Greenwood	2129384
	10/18/2019	10/29/2019 12:47	Sima Feizi	10/31/2019 19:44	Jhamieka S. Greenwood	2129385
EPA 353.2 Rev. 2.0	10/18/2019			10/21/2019 11:13	Lauren Lees	2129375
	10/18/2019			10/21/2019 11:20	Lauren Lees	2129376
	10/18/2019			10/23/2019 11:26	Beverly Y. Sanders	2129380
	10/18/2019			10/23/2019 11:27	Beverly Y. Sanders	2129384
	10/18/2019			10/23/2019 11:28	Beverly Y. Sanders	2129385
EPA 365.1 Rev. 2.0	10/18/2019	10/22/2019 14:40	Lipi Saha	10/23/2019 13:20	Rosalyn Ballman	2129375
	10/18/2019	10/22/2019 14:40	Lipi Saha	10/23/2019 13:21	Rosalyn Ballman	2129376
	10/18/2019	10/22/2019 14:40	Lipi Saha	10/23/2019 18:05	Rosalyn Ballman	2129380
	10/18/2019	10/22/2019 14:40	Lipi Saha	10/24/2019 17:40	Rosalyn Ballman	2129384
	10/18/2019	10/22/2019 14:40	Lipi Saha	10/24/2019 17:41	Rosalyn Ballman	2129385
EPA 365.1 Rev. 2.0 dissolved	10/18/2019			10/18/2019 15:39	Virginia P. Brown	2129378
	10/18/2019			10/18/2019 15:44	Virginia P. Brown	2129381
	10/18/2019			10/18/2019 16:07	Virginia P. Brown	2129377
	10/18/2019			10/18/2019 16:19	Virginia P. Brown	2129386
	10/18/2019			10/18/2019 16:20	Virginia P. Brown	2129387
EPA 8321B	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 12:40	Mohammad Ghaffari	2129406
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 12:51	Mohammad Ghaffari	2129407
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 14:25	Mohammad Ghaffari	2129406
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 14:39	Mohammad Ghaffari	2129407
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 14:53	Mohammad Ghaffari	2129408
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 15:07	Mohammad Ghaffari	2129409
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 15:42	Mohammad Ghaffari	2129408
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/21/2019 15:53	Mohammad Ghaffari	2129409

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/31/2019 03:13	Rebecca Ware	2129406
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/31/2019 03:25	Rebecca Ware	2129407
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/31/2019 03:37	Rebecca Ware	2129408
	10/18/2019	10/21/2019 11:30	Mohammad Ghaffari	10/31/2019 03:49	Rebecca Ware	2129409
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 06:58	Juyoung Kim	2129406
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 07:32	Juyoung Kim	2129407
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 08:07	Juyoung Kim	2129408
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 08:42	Juyoung Kim	2129409
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 20:48	Juyoung Kim	2129406
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 21:23	Juyoung Kim	2129407
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 21:57	Juyoung Kim	2129408
	10/18/2019	10/22/2019 09:00	Hoor Shaik	10/23/2019 22:32	Juyoung Kim	2129409
SM 2120 B	10/18/2019			10/18/2019 17:44	Madeline Funaro	2129373, 2129374
SM 2320 B-97	10/18/2019			10/22/2019 02:23	Dale L. Simmons	2129382
	10/18/2019			10/22/2019 02:45	Dale L. Simmons	2129379
	10/18/2019			10/22/2019 04:12	Dale L. Simmons	2129383
	10/18/2019			10/23/2019 22:21	Dale L. Simmons	2129373
	10/18/2019			10/23/2019 23:21	Dale L. Simmons	2129374
SM 2540 C-97	10/18/2019			10/23/2019 14:58	Yijie Li	2129373, 2129374
SM 2540 D-97	10/18/2019			10/23/2019 14:58	Yijie Li	2129373, 2129374, 2129379, 2129382, 2129383
SM 4500 F-C-97	10/18/2019			10/22/2019 02:01	Dale L. Simmons	2129379
	10/18/2019			10/23/2019 22:21	Dale L. Simmons	2129373
	10/18/2019			10/23/2019 23:21	Dale L. Simmons	2129374
	10/18/2019			10/24/2019 02:06	Dale L. Simmons	2129382
	10/18/2019			10/26/2019 12:35	Dale L. Simmons	2129383
SM 5310 B-00	10/18/2019			10/22/2019 05:37	Madeline Funaro	2129375
	10/18/2019			10/22/2019 05:54	Madeline Funaro	2129376
	10/18/2019			10/22/2019 06:10	Madeline Funaro	2129384
	10/18/2019			10/24/2019 06:14	Madeline Funaro	2129380
	10/18/2019			10/24/2019 06:55	Madeline Funaro	2129385