

Chemical Analysis Report

NE-DIST-2019-12-20-01

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

Event Description: **SCI Brandy Br and Cracker Br**
Request ID: **RQ-2019-09-09-18**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 14-JAN-2020 08:33

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first few letters of the last name.

Case Narrative

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

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited by the Florida Department of Health Environmental Laboratory Certification Program or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Mill Branch 400m upstream of Old San Mateo at Corrections

Collection Date/Time: 12/19/2019 11:00

Field ID: G2NE1209

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145936	EPA 180.1 Rev. 2.0	Turbidity	8.5	A	NTU	P376272	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P376811	
		Sulfate	78		mg SO4/L	P376815	
	SM 2120 B-2011	Color (true)	170		PCU	P376280	
	SM 2320 B-2011	Total Alkalinity	71		mg CaCO3/L	P376377	
	SM 2540 C-2011	TDS	483		mg/L	P376548	
	SM 2540 D-2011	TSS	7	I	mg/L	P376537	
	SM 4500 F-C-2011	Fluoride	0.25		mg F/L	P376381	
2145937	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P376468	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P376664	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.49		mg N/L	P376476	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P376439	MS
	SM 5310 B-2011	Organic Carbon	22		mg C/L	P376455	
2145938	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.14		mg P/L	P376299	
2145942	EPA 8321B	2,4-D	0.013		ug/L	P376238	
		Acesulfame K**	0.10	U	ug/L	P376239	
		AMPA**	0.27	I	ug/L	P376239	
		Sucralose**	0.084		ug/L	P376239	
		Acetaminophen**	0.0080	U	ug/L	P376238	
		Acetamiprid**	0.0020	U	ug/L	P376238	
		Endothall**	0.25	U	ug/L	P376239	
		Glufosinate**	0.10	U	ug/L	P376239	
		Glyphosate**	0.78		ug/L	P376239	MS
		Afidopyropen**	0.0020	UJ	ug/L	P376238	RPD
		Bentazon	8.0E-04	U	ug/L	P376238	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P376238	
		Carbamazepine**	8.0E-04	U	ug/L	P376238	
		Clothianidin**	0.0020	U	ug/L	P376238	
		Dinotefuran**	0.0026	I	ug/L	P376238	
		Diuron	0.0020	U	ug/L	P376238	
		Fenuron	0.016	U	ug/L	P376238	
		Fluridone**	8.0E-04	U	ug/L	P376238	
		Imazapyr**	0.10		ug/L	P376238	
		Hydrocodone**	0.0020	U	ug/L	P376238	
		Ibuprofen**	0.020	U	ug/L	P376238	
		Imidacloprid	0.098		ug/L	P376238	
		Linuron	0.15		ug/L	P376238	
		Mandestrobin**	0.0020	UJ	ug/L	P376238	
		MCPP	0.0020	U	ug/L	P376238	
		Naproxen**	0.0080	U	ug/L	P376238	
		Primidone**	0.0040	U	ug/L	P376238	
		Pyraclostrobin**	0.0020	U	ug/L	P376238	

Field ID: G2NE1209

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145942	EPA 8321B	Thiamethoxam**	0.012		ug/L	P376238	
		Tolfenpyrad**	0.0020	U	ug/L	P376238	
		Triclopyr**	0.0040	U	ug/L	P376238	
2145943	EPA 200.7 Rev. 4.4	Barium	22.8		ug/L	P376573	
		Calcium	58.3		mg/L	P376573	
		Iron	1.63E+03		ug/L	P376573	
		Magnesium	18.6		mg/L	P376573	
		Potassium	6.6		mg/L	P376573	
		Sodium	65.9		mg/L	P376573	
		Zinc	7.4	I	ug/L	P376573	
	EPA 200.8 Rev. 5.4	Aluminum	283		ug/L	P376573	
		Antimony	0.085	I	ug/L	P376573	
		Arsenic	0.74		ug/L	P376573	
		Boron**	61.1		ug/L	P376573	
		Cadmium	0.030	I	ug/L	P376573	
		Chromium	1.3	I	ug/L	P376573	
		Copper	1.43		ug/L	P376573	
		Lead	0.44		ug/L	P376573	
		Nickel	0.90	I	ug/L	P376573	
		Selenium	0.20	U	ug/L	P376573	
		Silver	0.010	U	ug/L	P376573	
		Thallium	0.10	U	ug/L	P376573	
2145944	EPA 8270E	Acetochlor	0.27	U	ng/L	P376287	
		Alachlor	0.27	U	ng/L	P376287	
		Ametryn	0.64	U	ng/L	P376287	
		Atrazine	0.35	I	ng/L	P376287	
		Atrazine Desethyl	1.6	U	ng/L	P376287	
		Azinphos Methyl	5.3	U	ng/L	P376287	
		Bromacil	0.53	U	ng/L	P376287	MS, RPD
		Butylate	0.43	U	ng/L	P376287	
		Chlorpyrifos Ethyl	68		ng/L	P376287	
		Chlorpyrifos Methyl	0.11	U	ng/L	P376287	
		Cyanazine	3.5	U	ng/L	P376287	
		Demeton	7.4	U	ng/L	P376287	
		Diazinon	16		ng/L	P376287	
		Dimethenamid**	0.11	U	ng/L	P376287	
		Disulfoton	0.53	U	ng/L	P376287	
		Dithiopyr**	0.11	U	ng/L	P376287	
		EPTC	1.3	U	ng/L	P376287	
		Ethion	0.16	U	ng/L	P376287	
		Ethoprop	0.74		ng/L	P376287	
		Fenamiphos	0.53	U	ng/L	P376287	
		Fipronil	0.61	I	ng/L	P376287	
		Fipronil Desulfinyl**	0.34	I	ng/L	P376287	
		Fipronil Sulfide	5.1		ng/L	P376287	

Field ID: G2NE1209

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2145944	EPA 8270E	Fipronil Sulfone	9.3		ng/L	P376287	
		Fonofos	0.21	U	ng/L	P376287	
		Hexazinone	1.8	I	ng/L	P376287	
		Malathion	0.37	U	ng/L	P376287	
		Metalaxyl	49		ng/L	P376287	
		Metolachlor	210		ng/L	P376287	
		Metribuzin	15	J	ng/L	P376287	RPD
		Mevinphos	0.53	U	ng/L	P376287	
		Molinate	0.32	U	ng/L	P376287	
		Norflurazon	0.53	U	ng/L	P376287	
		Oxadiazon**	0.16	I	ng/L	P376287	MS
		Parathion Ethyl	0.27	U	ng/L	P376287	
		Parathion Methyl	0.58	U	ng/L	P376287	
		Pendimethalin	1.1	U	ng/L	P376287	
		Phorate	0.27	U	ng/L	P376287	
		Prodiamine**	0.19	UJ	ng/L	P376287	RPD
		Prometon	0.96	U	ng/L	P376287	
		Prometryn	0.21	U	ng/L	P376287	
		Simazine	0.53	U	ng/L	P376287	
		Tebuconazole**	0.53	UJ	ng/L	P376287	RPD
		Terbufos	0.11	U	ng/L	P376287	
		Terbuthylazine	0.45	U	ng/L	P376287	MS

Ref. Method and Comment:

SM 2540 D-2011: 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 imazapyr could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable because of high analyte concentration in the QC sample.

EPA 8270E: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376272

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376573

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376573

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376664

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376439

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

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

Reference Method: EPA 8270E
Batch ID: P376287

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P376287

Component	Result	Code	Units
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P376238

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P376239

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P376239

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-2011
Batch ID: P376280

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P376377

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

Reference Method: SM 2540 C-2011
Batch ID: P376548

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P376537

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P376455

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	98.6		P	85 - 115
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	102		P	85 - 115
Sodium	103		P	85 - 115
Zinc	97.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376573

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.6		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	98.8		P	85 - 115
Boron	97.3		P	85 - 115
Cadmium	97.7		P	85 - 115
Chromium	98.8		P	85 - 115
Copper	97.7		P	85 - 115
Lead	101		P	85 - 115
Nickel	99.4		P	85 - 115
Selenium	98.3		P	85 - 115
Silver	106		P	85 - 115
Thallium	107		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376664

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376439

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

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

Reference Method: EPA 8270E
Batch ID: P376287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.2	96.7	P/P	69 - 122
Alachlor	95.1	96.3	P/P	71 - 120
Ametryn	108	100	P/P	47 - 138
Atrazine	94.9	98.7	P/P	74 - 124
Atrazine Desethyl	93.5	84.9	P/P	38 - 138
Azinphos Methyl	112	95.3	P/P	69 - 154
Bromacil	90.3	92.9	P/P	39 - 121
Butylate	53.4	55.4	P/P	27 - 87.0
Chlorpyrifos Ethyl	100	98.3	P/P	69 - 118
Chlorpyrifos Methyl	96.0	93.1	P/P	70 - 120
Cyanazine	111	93.9	P/P	20 - 250
Demeton	85.9	78.1	P/P	39 - 118
Diazinon	97.6	95.9	P/P	68 - 127
Dimethenamid	94.6	97.5	P/P	66 - 125
Disulfoton	93.5	88.8	P/P	52 - 126
Dithiopyr	93.4	97.4	P/P	67 - 127
EPTC	53.9	60.8	P/P	24 - 88.0
Ethion	90.3	101	P/P	51 - 132
Ethoprop	76.2	72.7	P/P	58 - 117
Fenamiphos	95.0	99.1	P/P	38 - 139
Fipronil	99.5	101	P/P	61 - 124
Fipronil Desulfinyl	94.6	101	P/P	47 - 120
Fipronil Sulfide	84.4	87.7	P/P	56 - 119
Fipronil Sulfone	83.6	92.4	P/P	50 - 117
Fonofos	82.6	76.3	P/P	60 - 121
Hexazinone	98.2	106	P/P	55 - 137
Malathion	85.6	104	P/P	66 - 126
Metalaxyl	93.7	99.4	P/P	33 - 140
Metolachlor	90.4	98.5	P/P	69 - 119
Metribuzin	132	93.4	P/P	31 - 238
Mevinphos	78.7	72.1	P/P	42 - 113
Molinate	66.1	66.5	P/P	32 - 96.0
Norflurazon	88.3	96.7	P/P	54 - 123
Oxadiazon	82.1	90.4	P/P	63 - 128

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P376287

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	89.5	89.3	P/P	72 - 111
Parathion Methyl	101	93.3	P/P	74 - 126
Pendimethalin	88.0	91.6	P/P	61 - 131
Phorate	92.7	87.5	P/P	51 - 115
Prodiamine	45.6	103	P/P	38 - 144
Prometon	96.0	96.9	P/P	54 - 119
Prometryn	101	107	P/P	63 - 120
Simazine	94.4	97.6	P/P	75 - 126
Tebuconazole	50.9	89.7	P/P	20 - 119
Terbufos	93.6	85.8	P/P	64 - 116
Terbuthylazine	90.7	97.7	P/P	73 - 117

Reference Method: EPA 8321B
Batch ID: P376238

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	133		P	40 - 160
Acetaminophen	74.2		P	30 - 160
Acetamiprid	79.0		P	40 - 160
Afidopyropen	77.2		P	40 - 160
Bentazon	66.7		P	30 - 160
Benzovindiflupyr	102		P	40 - 160
Carbamazepine	88.7		P	40 - 160
Clothianidin	85.9		P	40 - 160
Dinotefuran	76.7		P	40 - 160
Diuron	62.9		P	40 - 160
Fenuron	93.6		P	40 - 160
Fluridone	84.8		P	40 - 160
Hydrocodone	73.3		P	40 - 160
Ibuprofen	68.9		P	30 - 160
Imazapyr	87.9		P	40 - 160
Imidacloprid	92.7		P	40 - 160
Linuron	50.1		P	40 - 160
Mandestrobin	86.8		P	40 - 160
MCPP	157		P	40 - 160
Naproxen	74.2		P	40 - 160
Primidone	70.3		P	40 - 160
Pyraclostrobin	94.6		P	30 - 160
Thiamethoxam	88.9		P	40 - 160
Tolfenpyrad	68.7		P	40 - 160
Triclopyr	98.1		P	30 - 160

Reference Method: EPA 8321B
Batch ID: P376239

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	118		P	40 - 150
AMPA	86.3		P	40 - 150
Endothall	119		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	130		P	40 - 140
Sucralose	98.4		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B-2011
Batch ID: P376280

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.9		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P376377

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

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	92 - 103

Reference Method: SM 5310 B-2011
Batch ID: P376455

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145468	Barium	96.8	95.5	P/P	80 - 120
2145468	Iron	103	103	P/P	80 - 120
2145468	Magnesium	103		P	80 - 120
2145468	Potassium	99.1	101	P/P	80 - 120
2145468	Sodium	104		P	80 - 120
2145468	Zinc	96.3	95.1	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376573

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145468	Aluminum	95.3	98.0	P/P	80 - 120
2145468	Antimony	103	106	P/P	80 - 120
2145468	Arsenic	99.7	102	P/P	80 - 120
2145468	Boron	95.7	98.4	P/P	80 - 120
2145468	Cadmium	99.6	103	P/P	80 - 120
2145468	Chromium	97.8	99.1	P/P	80 - 120
2145468	Copper	92.2	94.6	P/P	80 - 120
2145468	Lead	102	105	P/P	80 - 120
2145468	Nickel	93.0	96.6	P/P	80 - 120
2145468	Selenium	96.2	98.9	P/P	80 - 120
2145468	Silver	106	106	P/P	80 - 120
2145468	Thallium	110	114	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145829	Chloride	99.7		P	90 - 110
2145968	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145829	Sulfate	101		P	90 - 110
2145968	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145513	Ammonia-N	97.5	96.8	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145002	Kjeldahl Nitrogen	111	106	F/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145456	NO2NO3-N	99.4	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376439

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145903	Total-P	111	105	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145837	O-Phosphate-P	95.7	97.4	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P376287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145488	Acetochlor	92.6	87.4	P/P	63 - 129
2145488	Alachlor	104	94.7	P/P	65 - 127
2145488	Ametryn	135	129	P/P	40 - 164
2145488	Azinphos Methyl	108	129	P/P	49 - 180
2145488	Bromacil	89.8	151	P/F	48 - 130
2145488	Butylate	50.9	52.9	P/P	10 - 94.0
2145488	Chlorpyrifos Ethyl	101	86.3	P/P	58 - 123
2145488	Chlorpyrifos Methyl	93.5	93.2	P/P	58 - 125
2145488	Cyanazine	105	102	P/P	24 - 253
2145488	Demeton	94.0	95.5	P/P	25 - 149
2145488	Diazinon	108	101	P/P	59 - 144
2145488	Dimethenamid	97.3	91.3	P/P	46 - 139
2145488	Disulfoton	90.9	90.3	P/P	54 - 132
2145488	Dithiopyr	88.5	80.7	P/P	64 - 130
2145488	EPTC	50.5	54.6	P/P	10 - 92.0
2145488	Ethion	92.5	90.6	P/P	30 - 148
2145488	Ethoprop	74.6	69.9	P/P	50 - 130
2145488	Fenamiphos	95.8	96.8	P/P	49 - 142
2145488	Fipronil	92.1	91.1	P/P	46 - 140
2145488	Fipronil Desulfinyl	98.3	98.0	P/P	30 - 121
2145488	Fipronil Sulfide	92.5	82.7	P/P	31 - 136
2145488	Fipronil Sulfone	86.9	81.9	P/P	16 - 136
2145488	Fonofos	90.9	90.5	P/P	55 - 129
2145488	Malathion	88.4	83.4	P/P	56 - 135
2145488	Metalaxyl	85.5	75.7	P/P	54 - 135
2145488	Mevinphos	92.4	93.1	P/P	33 - 131
2145488	Molinate	71.5	73.3	P/P	14 - 98.0
2145488	Oxadiazon	70.1	65.5	P/F	67 - 116
2145488	Parathion Ethyl	100	96.1	P/P	66 - 118
2145488	Parathion Methyl	112	113	P/P	64 - 136
2145488	Pendimethalin	100	93.8	P/P	59 - 144
2145488	Phorate	93.2	97.6	P/P	42 - 130
2145488	Prodiamine	60.2	54.3	P/P	42 - 148
2145488	Prometon	93.9	83.1	P/P	59 - 134

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
 Batch ID: P376287

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145488	Prometryn	99.8	92.1	P/P	54 - 135
2145488	Tebuconazole	84.3	56.9	P/P	10 - 131
2145488	Terbufos	98.9	101	P/P	57 - 131
2145488	Terbuthylazine	12.4	8.61	F/F	68 - 125

Reference Method: EPA 8321B
 Batch ID: P376238

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145486	2,4-D	134	127	P/P	40 - 160
2145486	Acetaminophen	92.4	98.6	P/P	30 - 160
2145486	Acetamiprid	66.7	61.7	P/P	40 - 160
2145486	Afidopyropen	88.5	48.9	P/P	40 - 160
2145486	Bentazon	42.9	44.1	P/P	30 - 160
2145486	Benzovindiflupyr	104	96.9	P/P	40 - 160
2145486	Carbamazepine	78.1	68.2	P/P	40 - 160
2145486	Clothianidin	90.8	86.7	P/P	40 - 160
2145486	Dinotefuran	99.3	95.1	P/P	40 - 160
2145486	Diuron	59.8	56.3	P/P	40 - 160
2145486	Fenuron	76.8	80.8	P/P	40 - 160
2145486	Fluridone	78.1	75.2	P/P	40 - 160
2145486	Hydrocodone	100	81.7	P/P	40 - 160
2145486	Ibuprofen	61.0	62.0	P/P	30 - 160
2145486	Imidacloprid	149	145	P/P	40 - 160
2145486	Linuron	52.2	48.7	P/P	40 - 160
2145486	Mandestrobin	82.6	74.8	P/P	40 - 160
2145486	MCP	147	139	P/P	40 - 160
2145486	Naproxen	66.7	60.7	P/P	40 - 160
2145486	Primidone	93.1	98.3	P/P	40 - 160
2145486	Pyraclostrobin	88.7	86.8	P/P	30 - 160
2145486	Thiamethoxam	104	106	P/P	40 - 160
2145486	Tolfenpyrad	61.5	62.8	P/P	40 - 160
2145486	Triclopyr	88.9	91.7	P/P	30 - 160

Reference Method: EPA 8321B
 Batch ID: P376239

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2146115	Acesulfame K	45.1	50.4	P/P	40 - 150
2146115	AMPA	88.6	92.9	P/P	40 - 150
2146115	Endothall	122	126	P/P	40 - 150
2146115	Glufosinate	96.0	83.6	P/P	40 - 150
2146115	Glyphosate	152	139	F/P	40 - 140
2146115	Sucralose	91.7	95.6	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
 Batch ID: P376381

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145832	Fluoride	102	102	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 5310 B-2011
Batch ID: P376455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2145834	Organic Carbon	95.8	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P376272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145936	Turbidity	1.99	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P376573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145468	Barium	1.27	Spike	P	0 - 20
2145468	Calcium	1.23	Spike	P	0 - 20
2145468	Iron	0.554	Spike	P	0 - 20
2145468	Magnesium	2.33	Spike	P	0 - 20
2145468	Potassium	1.30	Spike	P	0 - 20
2145468	Sodium	1.85	Spike	P	0 - 20
2145468	Zinc	1.30	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P376573

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145468	Aluminum	2.81	Spike	P	0 - 20
2145468	Antimony	2.85	Spike	P	0 - 20
2145468	Arsenic	2.57	Spike	P	0 - 20
2145468	Boron	1.95	Spike	P	0 - 20
2145468	Cadmium	2.88	Spike	P	0 - 20
2145468	Chromium	1.31	Spike	P	0 - 20
2145468	Copper	2.47	Spike	P	0 - 20
2145468	Lead	2.64	Spike	P	0 - 20
2145468	Nickel	3.70	Spike	P	0 - 20
2145468	Selenium	2.73	Spike	P	0 - 20
2145468	Silver	0.0133	Spike	P	0 - 20
2145468	Thallium	3.31	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376811

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	Chloride	0.325	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P376815

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	Sulfate	0.123	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P376468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145513	Ammonia-N	0.503	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P376664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145002	Kjeldahl Nitrogen	3.72	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P376476

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145456	NO2NO3-N	0.456	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P376439

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145903	Total-P	4.62	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P376299

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145837	O-Phosphate-P	1.01	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P376287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145488	Acetochlor	5.79	Spike	P	0 - 30
2145488	Alachlor	9.62	Spike	P	0 - 30
2145488	Ametryn	4.16	Spike	P	0 - 30
2145488	Atrazine	0.0330	Spike	P	0 - 30
2145488	Atrazine Desethyl	1.39	Spike	P	0 - 30
2145488	Azinphos Methyl	18.1	Spike	P	0 - 30
2145488	Bromacil	50.8	Spike	F	0 - 30
2145488	Butylate	3.94	Spike	P	0 - 30
2145488	Chlorpyrifos Ethyl	15.4	Spike	P	0 - 30
2145488	Chlorpyrifos Methyl	0.321	Spike	P	0 - 30
2145488	Cyanazine	2.92	Spike	P	0 - 30
2145488	Demeton	1.64	Spike	P	0 - 30
2145488	Diazinon	6.69	Spike	P	0 - 30
2145488	Dimethenamid	6.31	Spike	P	0 - 30
2145488	Disulfoton	0.608	Spike	P	0 - 30
2145488	Dithiopyr	9.17	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P376287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145488	EPTC	7.75	Spike	P	0 - 30
2145488	Ethion	2.03	Spike	P	0 - 30
2145488	Ethoprop	6.48	Spike	P	0 - 30
2145488	Fenamiphos	1.08	Spike	P	0 - 30
2145488	Fipronil	1.04	Spike	P	0 - 30
2145488	Fipronil Desulfinyl	0.317	Spike	P	0 - 30
2145488	Fipronil Sulfide	11.3	Spike	P	0 - 30
2145488	Fipronil Sulfone	5.93	Spike	P	0 - 30
2145488	Fonofos	0.452	Spike	P	0 - 30
2145488	Hexazinone	4.37	Spike	P	0 - 30
2145488	Malathion	5.74	Spike	P	0 - 30
2145488	Metaxyl	7.66	Spike	P	0 - 30
2145488	Metolachlor	3.13	Spike	P	0 - 30
2145488	Metribuzin	3.16	Spike	P	0 - 30
2145488	Mevinphos	0.759	Spike	P	0 - 30
2145488	Molinate	2.47	Spike	P	0 - 30
2145488	Norflurazon	6.19	Spike	P	0 - 30
2145488	Oxadiazon	6.00	Spike	P	0 - 30
2145488	Parathion Ethyl	4.24	Spike	P	0 - 30
2145488	Parathion Methyl	0.878	Spike	P	0 - 30
2145488	Pendimethalin	6.78	Spike	P	0 - 30
2145488	Phorate	4.55	Spike	P	0 - 30
2145488	Prodiamine	10.2	Spike	P	0 - 30
2145488	Prometon	12.1	Spike	P	0 - 30
2145488	Prometryn	8.02	Spike	P	0 - 30
2145488	Simazine	0.375	Spike	P	0 - 30
2145488	Tebuconazole	38.8	Spike	F	0 - 30
2145488	Terbufos	1.89	Spike	P	0 - 30
2145488	Terbutylazine	4.34	Spike	P	0 - 30
LFB	Acetochlor	1.53	LCS	P	0 - 30
LFB	Alachlor	1.18	LCS	P	0 - 30
LFB	Ametryn	7.78	LCS	P	0 - 30
LFB	Atrazine	3.91	LCS	P	0 - 30
LFB	Atrazine Desethyl	9.65	LCS	P	0 - 30
LFB	Azinphos Methyl	15.7	LCS	P	0 - 30
LFB	Bromacil	2.85	LCS	P	0 - 30
LFB	Butylate	3.69	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	1.66	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	3.05	LCS	P	0 - 30
LFB	Cyanazine	16.9	LCS	P	0 - 30
LFB	Demeton	9.49	LCS	P	0 - 30
LFB	Diazinon	1.81	LCS	P	0 - 30
LFB	Dimethenamid	3.04	LCS	P	0 - 30
LFB	Disulfoton	5.13	LCS	P	0 - 30
LFB	Dithiopyr	4.17	LCS	P	0 - 30
LFB	EPTC	12.2	LCS	P	0 - 30
LFB	Ethion	11.0	LCS	P	0 - 30
LFB	Ethoprop	4.67	LCS	P	0 - 30
LFB	Fenamiphos	4.13	LCS	P	0 - 30
LFB	Fipronil	1.19	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	6.18	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P376287

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	3.80	LCS	P	0 - 30
LFB	Fipronil Sulfone	9.98	LCS	P	0 - 30
LFB	Fonofos	7.93	LCS	P	0 - 30
LFB	Hexazinone	7.90	LCS	P	0 - 30
LFB	Malathion	19.7	LCS	P	0 - 30
LFB	Metalaxyl	5.86	LCS	P	0 - 30
LFB	Metolachlor	8.64	LCS	P	0 - 30
LFB	Metribuzin	34.5	LCS	F	0 - 30
LFB	Mevinphos	8.87	LCS	P	0 - 30
LFB	Molinate	0.583	LCS	P	0 - 30
LFB	Norflurazon	9.13	LCS	P	0 - 30
LFB	Oxadiazon	9.71	LCS	P	0 - 30
LFB	Parathion Ethyl	0.323	LCS	P	0 - 30
LFB	Parathion Methyl	7.88	LCS	P	0 - 30
LFB	Pendimethalin	3.98	LCS	P	0 - 30
LFB	Phorate	5.70	LCS	P	0 - 30
LFB	Prodiamine	77.3	LCS	F	0 - 30
LFB	Prometon	0.933	LCS	P	0 - 30
LFB	Prometryn	5.77	LCS	P	0 - 30
LFB	Simazine	3.35	LCS	P	0 - 30
LFB	Tebuconazole	55.3	LCS	F	0 - 30
LFB	Terbufos	8.68	LCS	P	0 - 30
LFB	Terbuthylazine	7.43	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P376238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145486	2,4-D	4.51	Spike	P	0 - 30
2145486	Acetaminophen	6.51	Spike	P	0 - 30
2145486	Acetamiprid	7.73	Spike	P	0 - 30
2145486	Afidopyropen	57.7	Spike	F	0 - 30
2145486	Bentazon	2.60	Spike	P	0 - 30
2145486	Benzovindiflupyr	7.14	Spike	P	0 - 30
2145486	Carbamazepine	13.4	Spike	P	0 - 30
2145486	Clothianidin	4.65	Spike	P	0 - 30
2145486	Dinotefuran	4.35	Spike	P	0 - 30
2145486	Diuron	5.60	Spike	P	0 - 30
2145486	Fenuron	5.20	Spike	P	0 - 30
2145486	Fluridone	1.98	Spike	P	0 - 30
2145486	Hydrocodone	20.3	Spike	P	0 - 30
2145486	Ibuprofen	1.70	Spike	P	0 - 30
2145486	Imazapyr	6.76	Spike	P	0 - 30
2145486	Imidacloprid	2.58	Spike	P	0 - 30
2145486	Linuron	6.91	Spike	P	0 - 30
2145486	Mandestrobin	9.90	Spike	P	0 - 30
2145486	MCP	5.89	Spike	P	0 - 30
2145486	Naproxen	9.41	Spike	P	0 - 30
2145486	Primidone	5.43	Spike	P	0 - 30
2145486	Pyraclostrobin	2.11	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P376238

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145486	Thiamethoxam	2.33	Spike	P	0 - 30
2145486	Tolfenpyrad	2.13	Spike	P	0 - 30
2145486	Triclopyr	3.17	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P376239

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2146115	Acesulfame K	11.1	Spike	P	0 - 30
2146115	AMPA	4.84	Spike	P	0 - 30
2146115	Endothall	3.41	Spike	P	0 - 30
2146115	Glufosinate	13.9	Spike	P	0 - 30
2146115	Glyphosate	8.37	Spike	P	0 - 30
2146115	Sucralose	3.69	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P376280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Color (true)	0.455	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P376377

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Total Alkalinity	0.0199	Sample	P	0 - 2.8

Reference Method: SM 2540 C-2011
Batch ID: P376548

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145829	TDS	1.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P376381

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145832	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-2011
Batch ID: P376455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2145834	Organic Carbon	0.835	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2145942
Field Sample ID: G2NE1209

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	114	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	80.8	P	30 - 160
EPA 8321B	Diuron-d6	66.9	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	89.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.9	P	30 - 160
EPA 8321B	Primidone-d5	66.6	P	30 - 160
EPA 8321B	Sucralose-d6	87.7	P	30 - 160
EPA 8321B	Sucralose-d6	87.7	P	30 - 160

Lab Sample ID: 2145944
Field Sample ID: G2NE1209

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	118	P	68 - 130
EPA 8270E	Terbufos-d10	117	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A96514

Included Lab Sample IDs: 2145936

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

Reference Method: SM 2120 B-2011

Run ID: A96516

Included Lab Sample IDs: 2145936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	105	102	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A96521

Included Lab Sample IDs: 2145942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	94.0	100	P/P	60 - 160
Endothall	115	110	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A96528

Included Lab Sample IDs: 2145938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.3	97.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96534

Included Lab Sample IDs: 2145942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	91.7	98.3	P/P	60 - 160

Reference Method: SM 2320 B-2011

Run ID: A96559

Included Lab Sample IDs: 2145936

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

Reference Method: SM 4500 F-C-2011

Run ID: A96559

Included Lab Sample IDs: 2145936

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	103	105	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A96584

Included Lab Sample IDs: 2145937

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A96586

Included Lab Sample IDs: 2145937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	98.9	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A96588

Included Lab Sample IDs: 2145942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	103	125	P/P	50 - 150
Acetaminophen	104	98.0	P/P	60 - 160
Acetamiprid	114	115	P/P	50 - 150
Afidopyropen	116	123	P/P	50 - 150
Bentazon	90.1	78.6	P/P	50 - 160
Benzovindiflupyr	119	121	P/P	50 - 150
Carbamazepine	98.3	111	P/P	60 - 150
Clothianidin	105	93.1	P/P	60 - 150
Dinotefuran	99.1	107	P/P	50 - 150
Diuron	111	97.6	P/P	60 - 150
Fenuron	114	111	P/P	60 - 150
Fluridone	116	116	P/P	60 - 160
Hydrocodone	113	110	P/P	60 - 150
Ibuprofen	120	134	P/P	50 - 160
Imazapyr	120	122	P/P	50 - 150
Imidacloprid	110	106	P/P	60 - 150
Linuron	101	97.1	P/P	60 - 150
Mandestrobin	120	118	P/P	50 - 150
MCPP	120	125	P/P	50 - 150
Naproxen	92.8	127	P/P	50 - 160
Primidone	101	116	P/P	60 - 150
Pyraclostrobin	125	127	P/P	60 - 150
Thiamethoxam	124	106	P/P	50 - 150
Tolfenpyrad	123	129	P/P	60 - 150
Triclopyr	125	116	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A96590

Included Lab Sample IDs: 2145937

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: A96642

Included Lab Sample IDs: 2145937

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A96650

Included Lab Sample IDs: 2145942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	79.9	125	P/P	60 - 160
Glufosinate	95.4	81.4	P/P	60 - 160
Glyphosate	102	102	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A96710

Included Lab Sample IDs: 2145943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	99.0	99.7	P/P	90 - 110
Calcium	101	102	P/P	90 - 110
Iron	103	102	P/P	90 - 110
Magnesium	102	104	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	101	101	P/P	90 - 110
Zinc	99.6	101	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A96741

Included Lab Sample IDs: 2145944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	98.7		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	100		P	80 - 120
Atrazine	97.2		P	80 - 120
Atrazine Desethyl	97.4		P	80 - 120
Azinphos Methyl	95.1		P	80 - 120
Bromacil	95.1		P	80 - 120
Butylate	105		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	90.2		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	101		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	94.8		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	104		P	80 - 120
Ethion	99.7		P	80 - 120
Ethoprop	97.7		P	80 - 120
Fenamiphos	102		P	80 - 120
Fipronil	101		P	80 - 120
Fipronil Desulfinyl	102		P	80 - 120
Fipronil Sulfide	97.4		P	80 - 120
Fipronil Sulfone	99.9		P	80 - 120
Fonofos	97.7		P	80 - 120
Hexazinone	99.6		P	80 - 120
Malathion	101		P	80 - 120
Metalaxyl	102		P	80 - 120
Metribuzin	91.4		P	80 - 120
Mevinphos	102		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A96741
Included Lab Sample IDs: 2145944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molinate	104		P	80 - 120
Norflurazon	101		P	80 - 120
Oxadiazon	98.7		P	80 - 120
Parathion Ethyl	96.0		P	80 - 120
Parathion Methyl	98.2		P	80 - 120
Pendimethalin	95.8		P	80 - 120
Phorate	100		P	80 - 120
Prodiamine	96.2		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	90.9		P	80 - 120
Tebuconazole	93.5		P	80 - 120
Terbufos	98.8		P	80 - 120
Terbutylazine	99.8		P	80 - 120

Reference Method: EPA 8270E
Run ID: A96744
Included Lab Sample IDs: 2145944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlorpyrifos Ethyl	96.6		P	80 - 120
Metolachlor	98.9		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A96766
Included Lab Sample IDs: 2145937

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A96767
Included Lab Sample IDs: 2145943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	101	102	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Boron	103	101	P/P	90 - 110
Cadmium	102	102	P/P	90 - 110
Chromium	104	104	P/P	90 - 110
Copper	102	104	P/P	90 - 110
Lead	102	104	P/P	90 - 110
Nickel	103	104	P/P	90 - 110
Selenium	101	102	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A96770
Included Lab Sample IDs: 2145936

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A96770

Included Lab Sample IDs: 2145936

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A96794

Included Lab Sample IDs: 2145943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	103	101	P/P	90 - 110
Thallium	95.2	92.6	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.99	
EPA 200.7 Rev. 4.4	Barium	98.6		96.8	95.5			1.27
	Calcium	102						1.23
	Iron	106		103	103			0.554
	Magnesium	102		103				2.33
	Potassium	102		99.1	101			1.30
	Sodium	103		104				1.85
	Zinc	97.3		96.3	95.1			1.30
EPA 200.8 Rev. 5.4	Aluminum	99.6		95.3	98.0			2.81
	Antimony	102		103	106			2.85
	Arsenic	98.8		99.7	102			2.57
	Boron	97.3		95.7	98.4			1.95
	Cadmium	97.7		99.6	103			2.88
	Chromium	98.8		97.8	99.1			1.31
	Copper	97.7		92.2	94.6			2.47
	Lead	101		102	105			2.64
	Nickel	99.4		93.0	96.6			3.70
	Selenium	98.3		96.2	98.9			2.73
	Silver	106		106	106			0.0133
	Thallium	107		110	114			3.31
EPA 300.0 Rev. 2.1	Chloride	103		99.7	99.3		0.325	
	Sulfate	103		101	100		0.123	
EPA 350.1 Rev. 2.0	Ammonia-N	98.7		97.5	96.8			0.503
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106		111	106			3.72
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101		99.4	98.8			0.456
EPA 365.1 Rev. 2.0	Total-P	105		111	105			4.62
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		95.7	97.4			1.01
EPA 8270E	Acetochlor	98.2	96.7	92.6	87.4	1.53		5.79
	Alachlor	95.1	96.3	104	94.7	1.18		9.62
	Ametryn	108	100	135	129	7.78		4.16
	Atrazine	94.9	98.7			3.91		0.0330
	Atrazine Desethyl	93.5	84.9			9.65		1.39
	Azinphos Methyl	112	95.3	108	129	15.7		18.1
	Bromacil	90.3	92.9	89.8	151	2.85		50.8
	Butylate	53.4	55.4	50.9	52.9	3.69		3.94
	Chlorpyrifos Ethyl	100	98.3	101	86.3	1.66		15.4
	Chlorpyrifos Methyl	96.0	93.1	93.5	93.2	3.05		0.321
	Cyanazine	111	93.9	105	102	16.9		2.92
	Demeton	85.9	78.1	94.0	95.5	9.49		1.64
	Diazinon	97.6	95.9	108	101	1.81		6.69
	Dimethenamid	94.6	97.5	97.3	91.3	3.04		6.31
	Disulfoton	93.5	88.8	90.9	90.3	5.13		0.608
	Dithiopyr	93.4	97.4	88.5	80.7	4.17		9.17
	EPTC	53.9	60.8	50.5	54.6	12.2		7.75
	Ethion	90.3	101	92.5	90.6	11.0		2.03
	Ethoprop	76.2	72.7	74.6	69.9	4.67		6.48
	Fenamiphos	95.0	99.1	95.8	96.8	4.13		1.08
	Fipronil	99.5	101	92.1	91.1	1.19		1.04
	Fipronil Desulfanyl	94.6	101	98.3	98.0	6.18		0.317
	Fipronil Sulfide	84.4	87.7	92.5	82.7	3.80		11.3
	Fipronil Sulfone	83.6	92.4	86.9	81.9	9.98		5.93
	Fonofos	82.6	76.3	90.9	90.5	7.93		0.452
	Hexazinone	98.2	106			7.90		4.37
	Malathion	85.6	104	88.4	83.4	19.7		5.74

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Metalaxyl	93.7	99.4	85.5	75.7	5.86	7.66
	Metolachlor	90.4	98.5			8.64	3.13
	Metribuzin	132	93.4			34.5	3.16
	Mevinphos	78.7	72.1	92.4	93.1	8.87	0.759
	Molinate	66.1	66.5	71.5	73.3	0.583	2.47
	Norflurazon	88.3	96.7			9.13	6.19
	Oxadiazon	82.1	90.4	70.1	65.5	9.71	6.00
	Parathion Ethyl	89.5	89.3	100	96.1	0.323	4.24
	Parathion Methyl	101	93.3	112	113	7.88	0.878
	Pendimethalin	88.0	91.6	100	93.8	3.98	6.78
	Phorate	92.7	87.5	93.2	97.6	5.70	4.55
	Prodiamine	45.6	103	60.2	54.3	77.3	10.2
	Prometon	96.0	96.9	93.9	83.1	0.933	12.1
	Prometryn	101	107	99.8	92.1	5.77	8.02
	Simazine	94.4	97.6			3.35	0.375
	Tebuconazole	50.9	89.7	84.3	56.9	55.3	38.8
	Terbufos	93.6	85.8	98.9	101	8.68	1.89
	Terbuthylazine	90.7	97.7	12.4	8.61	7.43	4.34
EPA 8321B	2,4-D	133		134	127		4.51
	Acesulfame K	118		45.1	50.4		11.1
	Acetaminophen	74.2		92.4	98.6		6.51
	Acetamiprid	79.0		66.7	61.7		7.73
	Afidopyropen	77.2		88.5	48.9		57.7
	AMPA	86.3		88.6	92.9		4.84
	Bentazon	66.7		42.9	44.1		2.60
	Benzovindiflupyr	102		104	96.9		7.14
	Carbamazepine	88.7		78.1	68.2		13.4
	Clothianidin	85.9		90.8	86.7		4.65
	Dinotefuran	76.7		99.3	95.1		4.35
	Diuron	62.9		59.8	56.3		5.60
	Endothall	119		122	126		3.41
	Fenuron	93.6		76.8	80.8		5.20
	Fluridone	84.8		78.1	75.2		1.98
	Glufosinate	110		96.0	83.6		13.9
	Glyphosate	130		152	139		8.37
	Hydrocodone	73.3		100	81.7		20.3
	Ibuprofen	68.9		61.0	62.0		1.70
	Imazapyr	87.9					6.76
	Imidacloprid	92.7		149	145		2.58
	Linuron	50.1		52.2	48.7		6.91
	Mandestrobin	86.8		82.6	74.8		9.90
	MCPP	157		147	139		5.89
	Naproxen	74.2		66.7	60.7		9.41
	Primidone	70.3		93.1	98.3		5.43
	Pyraclostrobin	94.6		88.7	86.8		2.11
	Sucralose	98.4		91.7	95.6		3.69
	Thiamethoxam	88.9		104	106		2.33
	Tolfenpyrad	68.7		61.5	62.8		2.13
	Triclopyr	98.1		88.9	91.7		3.17
SM 2120 B-2011	Color (true)	99.9				0.455	
SM 2320 B-2011	Total Alkalinity	104				0.0199	
SM 2540 C-2011	TDS					1.80	
SM 4500 F-C-2011	Fluoride	101		102	102		0.0
SM 5310 B-2011	Organic Carbon	97.6		95.8	97.4		0.835

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2145936
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2145943
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2145943
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2145936
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2145936
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2145937
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2145937
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2145937
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2145937
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2145938
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2145944
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2145942
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2145942
SM 2120 B-2011 / E31780	True Color measured at 450 nm	2145936
SM 2320 B-2011 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2145936
SM 2540 C-2011 / E31780	Total Dissolved Solids in aqueous matrices	2145936
SM 2540 D-2011 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2145936
SM 4500 F-C-2011 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2145936
SM 5310 B-2011 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2145937

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	12/20/2019			12/20/2019 15:03	Yen Ta	2145936
EPA 200.7 Rev. 4.4	12/20/2019	01/02/2020 13:10	Elliott D. Healy	01/06/2020 13:33	Betina Topolski	2145943
EPA 200.8 Rev. 5.4	12/20/2019	01/02/2020 13:10	Elliott D. Healy	01/09/2020 04:54	Alexander Thompson	2145943
	12/20/2019	01/02/2020 13:10	Elliott D. Healy	01/10/2020 00:06	Alexander Thompson	2145943
EPA 300.0 Rev. 2.1	12/20/2019			01/08/2020 09:22	Jhamieka S. Greenwood	2145936
EPA 350.1 Rev. 2.0	12/20/2019			12/26/2019 19:12	Ping Hua	2145937
EPA 351.2 Rev. 2.0	12/20/2019	01/06/2020 17:22	Jhamieka S. Greenwood	01/08/2020 14:24	Virginia P. Brown	2145937
EPA 353.2 Rev. 2.0	12/20/2019			12/27/2019 11:37	Beverly Y. Sanders	2145937
EPA 365.1 Rev. 2.0	12/20/2019	12/26/2019 15:49	Yen Ta	12/30/2019 13:03	Benjamin T. Nordmann	2145937
EPA 365.1 Rev. 2.0 dissolved	12/20/2019			12/20/2019 16:48	Virginia P. Brown	2145938
EPA 8270E	12/20/2019	12/23/2019 08:00	Fe-Val Siddell	12/27/2019 00:38	Vandana T. Nagar	2145944
	12/20/2019	12/23/2019 08:00	Fe-Val Siddell	12/27/2019 19:39	Vandana T. Nagar	2145944
EPA 8321B	12/20/2019	12/20/2019 16:00	Rebecca Ware	12/20/2019 22:07	Rebecca Ware	2145942
	12/20/2019	12/20/2019 16:00	Rebecca Ware	12/22/2019 14:27	Mohammad Ghaffari	2145942
	12/20/2019	12/20/2019 16:00	Rebecca Ware	12/24/2019 12:22	Mohammad Ghaffari	2145942
	12/20/2019	12/23/2019 10:00	Hoor Shaik	12/28/2019 13:32	Juyoung Kim	2145942
SM 2120 B-2011	12/20/2019			12/20/2019 16:33	Madeline Funaro	2145936
SM 2320 B-2011	12/20/2019			12/24/2019 23:52	Dale L. Simmons	2145936
SM 2540 C-2011	12/20/2019			12/23/2019 16:45	Yijie Li	2145936
SM 2540 D-2011	12/20/2019			12/23/2019 16:45	Yijie Li	2145936
SM 4500 F-C-2011	12/20/2019			12/24/2019 23:52	Dale L. Simmons	2145936
SM 5310 B-2011	12/20/2019			12/27/2019 03:35	Madeline Funaro	2145937