Chemical Analysis Report

CEN-DIST-2021-12-21-01

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

Event Description: **Upper Cypress SCI and Johns Lake Outlet**
Request ID: **RQ-2021-11-01-21**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator Date Certified: 14-JAN-2022 17:56

B. Steinbock

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: Upper Cypress Creek @ Jacaranda **Collection Date/Time: 12/20/2021 13:02**

Field ID: G4CE0157 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2296316	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P407775	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P407903	
		Sulfate	8.6		mg SO4/L	P407905	
	SM 2120 B-2011	Color (true)	250		PCU	P407773	
	SM 2320 B-2011	Total Alkalinity	14		mg CaCO3/L	P407987	
	SM 2540 C-2011	TDS	151		mg/L	P407915	
	SM 2540 D-2011	TSS	3	I A	mg/L	P407819	
	SM 4500 F-C-2011	Fluoride	0.083	I	mg F/L	P407994	
2296317	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P408068	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.77		mg N/L	P408321	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P407881	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P407999	MS
	SM 5310 B-2011	Organic Carbon	21		mg C/L	P408216	
2296318	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P407770	
2296320	EPA 8321B	2,4-D	0.0051	I	ug/L	P407753	
		Acesulfame K	0.10	U	ug/L	P407617	
		2,4,5-T	0.0040	U	ug/L	P407753	
		AMPA	0.10	U	ug/L	P407617	
		Acetaminophen	0.0080	U	ug/L	P407753	
		Acetamiprid	0.0020	U	ug/L	P407753	
		Endothall	0.25	U	ug/L	P407617	
		Glufosinate	0.10	U	ug/L	P407617	
		Glyphosate	0.10	U	ug/L	P407617	
		Afidopyropen	0.0020	U	ug/L	P407753	RPD
		Bentazon	0.044		ug/L	P407753	
		Sucralose	0.65		ug/L	P407617	
		Benzovindiflupyr	0.0020	U	ug/L	P407753	
		Carbamazepine	8.0E-04	U	ug/L	P407753	
		Clothianidin	0.0020	U	ug/L	P407753	
		Dinotefuran	0.0020	U	ug/L	P407753	
		Diuron	0.0020	U	ug/L	P407753	
		Fenuron	0.016	U	ug/L	P407753	
		Fluridone	0.0029	I	ug/L	P407753	
		Imazapyr	0.084		ug/L	P407753	
		Hydrocodone	0.0020	U	ug/L	P407753	
		Ibuprofen	0.020	U	ug/L	P407753	
		Imidacloprid	0.0020	U	ug/L	P407753	
		Linuron	0.0040	U	ug/L	P407753	
		Mandestrobin	0.0020	U	ug/L	P407753	
		MCPP	0.0040	U	ug/L	P407753	
		Naproxen	0.0080	U	ug/L	P407753	
		Primidone	0.0040	U	ug/L	P407753	RPD
		Pyraclostrobin	0.0020	U	ug/L	P407753	

Field ID: G4CE0157 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2296320	EPA 8321B	Thiamethoxam	0.0020	U	ug/L	P407753	
		Tolfenpyrad	0.0020	U	ug/L	P407753	
		Triclopyr	0.0040	U	ug/L	P407753	
2296321	EPA 200.7 Rev. 4.4	Barium	6.5		ug/L	P407790	
		Calcium	7.73		mg/L	P407790	
		Iron	77	I	ug/L	P407790	
		Magnesium	3.92		mg/L	P407790	
		Manganese	3.0	I	ug/L	P407790	
		Potassium	5.4		mg/L	P407790	
		Sodium	20.1		mg/L	P407790	
		Zinc	5.0	U	ug/L	P407790	
	EPA 200.8 Rev. 5.4	Aluminum	83		ug/L	P407790	
		Antimony	0.050	U	ug/L	P407790	
		Arsenic	0.62		ug/L	P407790	
		Boron**	41.0		ug/L	P407790	
		Cadmium	0.020	U	ug/L	P407790	
		Chromium	0.40	U	ug/L	P407790	
		Copper	0.40	U	ug/L	P407790	
		Lead	0.32	I	ug/L	P407790	
		Nickel	0.50	U	ug/L	P407790	
		Selenium	0.20	U	ug/L	P407790	
		Silver	0.010	U	ug/L	P407790	
		Thallium	0.10	U	ug/L	P407790	
	SM 2340B	Hardness	35.5		mg/L	P407790	
2296322	EPA 8270E	Acetochlor	0.24	U	ng/L	P407868	
		Alachlor	0.24	U	ng/L	P407868	
		Ametryn	0.57	U	ng/L	P407868	
		Atrazine	0.24	U	ng/L	P407868	
		Atrazine Desethyl	1.4	U	ng/L	P407868	
		Azinphos Methyl	1.9	U	ng/L	P407868	
		Azoxystrobin**	0.48	U	ng/L	P407868	
		Bromacil	0.48	U	ng/L	P407868	
		Butylate	0.38	U	ng/L	P407868	
		Caffeine**	7.2	U	ng/L	P407868	
		Carbophenothion	0.48	U	ng/L	P407868	
		Carfentrazone Ethyl**	0.095	U	ng/L	P407868	
		Chlorfenapyr**	0.17	U	ng/L	P407868	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P407868	
		Chlorpyrifos Methyl	0.048	U	ng/L	P407868	
		Coumaphos**	0.48	U	ng/L	P407868	
		Cyanazine	3.1	U	ng/L	P407868	
		Cyprodinil**	0.095	U	ng/L	P407868	
		Demeton	1.4	U	ng/L	P407868	
		Diazinon	0.12	U	ng/L	P407868	
		Difenoconazole**	0.57	U	ng/L	P407868	RPD

Field ID: G4CE0157 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2296322	EPA 8270E	Dimethenamid**	0.095	U	ng/L	P407868	
		Dimethomorph**	0.17	UJ	ng/L	P407868	LCS
		Disulfoton	0.48	U	ng/L	P407868	
		Dithiopyr**	0.17	U	ng/L	P407868	
		EPTC	1.2	U	ng/L	P407868	
		Ethion	0.14	U	ng/L	P407868	
		Ethoprop	0.095	U	ng/L	P407868	
		Etridiazole**	0.14	U	ng/L	P407868	
		Fenamiphos	0.48	U	ng/L	P407868	
		Fenbuconazole**	0.12	U	ng/L	P407868	MS, RPD
		Fipronil	0.24	U	ng/L	P407868	
		Fipronil Desulfinyl**	0.13	I	ng/L	P407868	
		Fipronil Sulfide	0.14	U	ng/L	P407868	
		Fipronil Sulfone	0.15	I	ng/L	P407868	
		Fluazifop-P-butyl**	0.095	U	ng/L	P407868	
		Fludioxonil**	0.12	U	ng/L	P407868	
		Flumioxazin**	1.7	U	ng/L	P407868	
		Flutolanil**	0.095	U	ng/L	P407868	
		Fluxapyroxad**	0.095	U	ng/L	P407868	
		Fonofos	0.19	U	ng/L	P407868	
		Hexazinone	0.48	U	ng/L	P407868	
		Imazalil**	0.72	U	ng/L	P407868	
		Iprodione**	0.57	U	ng/L	P407868	
		Loratadine**	0.095	UJ	ng/L	P407868	LCS, RPD
		Malathion	0.33	UJ	ng/L	P407868	LCS, RPD
		Metalaxyl	0.72	U	ng/L	P407868	
		Metolachlor	0.33	U	ng/L	P407868	
		Metribuzin	3.1	U	ng/L	P407868	
		Mevinphos	1.0	U	ng/L	P407868	
		Molinate	0.29	U	ng/L	P407868	
		Myclobutanil**	0.24	U	ng/L	P407868	
		Naled**	1.4	U	ng/L	P407868	
		Napropamide**	0.38	U	ng/L	P407868	
		Norflurazon	0.48	U	ng/L	P407868	
		Oxadiazon	0.29	U	ng/L	P407868	
		Oxyfluorfen**	0.14	U	ng/L	P407868	
		Parathion Ethyl	0.24	U	ng/L	P407868	
		Parathion Methyl	0.52	U	ng/L	P407868	
		Pendimethalin	0.95	UJ	ng/L	P407868	LCS, MS
		Phenytoin**	3.3	UJ	ng/L	P407868	LCS, MS, RPD
		Phorate	0.50	U	ng/L	P407868	
		Prodiamine**	0.17	U	ng/L	P407868	
		Prometon	0.86	U	ng/L	P407868	
		Prometryn	0.19	U	ng/L	P407868	

Field ID: G4CE0157 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2296322	EPA 8270E	Pronamide**	0.14	U	ng/L	P407868	
		Propanil**	0.12	U	ng/L	P407868	
		Propargite**	1.4	U	ng/L	P407868	
		Propiconazole**	0.48	U	ng/L	P407868	
		Pyraflufen Ethyl**	0.24	U	ng/L	P407868	
		Pyridaben**	0.43	UJ	ng/L	P407868	RPD
		Pyriproxyfen**	0.12	U	ng/L	P407868	
		Simazine	0.48	U	ng/L	P407868	
		Stirophos**	0.12	UJ	ng/L	P407868	LCS
		Sulfentrazone**	4.3		ng/L	P407868	
		Tebuconazole**	0.48	U	ng/L	P407868	
		Terbufos	0.095	U	ng/L	P407868	
		Terbuthylazine	0.41	U	ng/L	P407868	
		Thiobencarb**	0.57	UJ	ng/L	P407868	LCS, RPD
		Triadimefon**	0.24	U	ng/L	P407868	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8270E: 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: P407775

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P407790

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
Manganese	1.0	U	ug/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P407790

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: P407903

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407905

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408068

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: P408321

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407881

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407999

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407770

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

Reference Method: EPA 8270E
Batch ID: P407868

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P407868

Component	Result	Code	Units
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P407868

Component	Result	Code	Units
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytoin	3.5	U	ng/L
Phenytoin	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270E
Batch ID: P407868

Component	Result	Code	Units
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B
Batch ID: P407617

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: P407753

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P407753

Component	Result	Code	Units
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	0.0040	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-2011
Batch ID: P407773

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011
Batch ID: P407987

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

Reference Method: SM 2540 C-2011
Batch ID: P407915

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P407819

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P407994

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 5310 B-2011
Batch ID: P408216

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: P407790

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	107		P	85 - 115
Iron	108		P	85 - 115
Magnesium	107		P	85 - 115
Manganese	102		P	85 - 115
Potassium	106		P	85 - 115
Sodium	105		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P407790

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	102		P	85 - 115
Boron	98.6		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	103		P	85 - 115
Copper	102		P	85 - 115
Lead	98.2		P	85 - 115
Nickel	104		P	85 - 115
Selenium	104		P	85 - 115
Silver	107		P	85 - 115
Thallium	99.8		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407903

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407905

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408068

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408321

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	93.7		P	90 - 110

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407881

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407999

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407770

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

Reference Method: EPA 8270E
Batch ID: P407868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	102	113	P/P	70 - 121
Alachlor	95.0	88.6	P/P	70 - 119
Ametryn	91.7	92.5	P/P	61 - 135
Atrazine	110	114	P/P	76 - 123
Atrazine Desethyl	64.6	65.1	P/P	35 - 140
Azinphos Methyl	122	102	P/P	57 - 163
Azoxystrobin	123	109	P/P	43 - 231
Bromacil	79.8	64.5	P/P	42 - 123
Butylate	70.8	73.6	P/P	34 - 92.0
Caffeine	89.0	90.1	P/P	70 - 130
Carbophenothion	79.5	79.1	P/P	61 - 121
Carfentrazone Ethyl	89.6	92.5	P/P	62 - 139
Chlorfenapyr	71.1	63.7	P/P	50 - 150
Chlorpyrifos Ethyl	81.8	77.4	P/P	67 - 121
Chlorpyrifos Methyl	85.3	87.1	P/P	67 - 120
Coumaphos	74.2	61.5	P/P	50 - 220
Cyanazine	109	118	P/P	20 - 226
Cyprodinil	80.8	97.2	P/P	50 - 150
Demeton	92.4	102	P/P	35 - 125
Diazinon	110	121	P/P	70 - 122
Difenoconazole	102	72.4	P/P	56 - 186
Dimethenamid	81.3	97.1	P/P	67 - 119
Dimethomorph	233	184	F/F	50 - 150
Disulfoton	85.3	110	P/P	47 - 120
Dithiopyr	82.7	81.7	P/P	67 - 118
EPTC	65.1	58.4	P/P	33 - 90.0
Ethion	46.9	71.7	P/P	40 - 133
Ethoprop	88.5	96.1	P/P	61 - 121
Etridiazole	89.0	84.8	P/P	50 - 150
Fenamiphos	71.4	67.4	P/P	31 - 139
Fenbuconazole	121	84.8	P/P	66 - 141
Fipronil	91.8	99.4	P/P	62 - 129
Fipronil Desulfinyl	83.0	80.3	P/P	59 - 126
Fipronil Sulfide	63.2	63.3	P/P	63 - 117

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P407868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfone	72.3	57.7	P/P	57 - 117
Fluazifop-P-butyl	86.7	71.9	P/P	63 - 124
Fludioxonil	98.2	97.1	P/P	63 - 123
Flumioxazin	173	128	P/P	34 - 245
Flutolanil	73.6	57.9	P/P	56 - 131
Fluxapyroxad	73.6	67.8	P/P	57 - 117
Fonofos	80.1	88.8	P/P	61 - 116
Hexazinone	79.9	92.5	P/P	55 - 138
Imazalil	63.5	83.8	P/P	33 - 143
Iprodione	90.5	94.8	P/P	59 - 118
Loratadine	219	161	F/F	50 - 150
Malathion	81.8	5.02	P/F	62 - 138
Metalaxyl	79.8	68.4	P/P	24 - 147
Metolachlor	92.4	84.7	P/P	68 - 118
Metribuzin	96.7	88.0	P/P	20 - 239
Mevinphos	79.6	83.3	P/P	46 - 124
Molinate	69.6	71.2	P/P	46 - 100
Myclobutanil	91.7	80.6	P/P	32 - 149
Naled	62.2	61.5	P/P	32 - 95.0
Napropamide	66.5	58.7	P/P	50 - 150
Norflurazon	87.6	78.1	P/P	57 - 127
Oxadiazon	78.8	68.4	P/P	63 - 118
Oxyfluorfen	97.9	102	P/P	69 - 137
Parathion Ethyl	92.7	101	P/P	70 - 113
Parathion Methyl	102	124	P/P	71 - 130
Pendimethalin	106	123	P/F	55 - 118
Phenytoin	26.0	40.8	F/F	50 - 200
Phorate	77.5	97.7	P/P	46 - 125
Prodiamine	42.1	55.3	P/P	20 - 141
Prometon	94.3	86.3	P/P	54 - 122
Prometryn	73.0	71.3	P/P	66 - 124
Pronamide	97.8	118	P/P	79 - 122
Propanil	107	107	P/P	50 - 150
Propargite	56.5	68.5	P/P	50 - 200
Propiconazole	79.2	73.9	P/P	61 - 126
Pyraflufen Ethyl	82.2	76.1	P/P	50 - 150
Pyridaben	78.7	53.6	P/P	50 - 200
Pyriproxyfen	83.4	71.7	P/P	52 - 131
Simazine	98.5	89.2	P/P	75 - 128
Stirophos	46.1	59.5	F/P	50 - 150
Sulfentrazone	80.9	69.3	P/P	20 - 132
Tebuconazole	46.3	60.2	P/P	20 - 116
Terbufos	105	117	P/P	61 - 117
Terbuthylazine	101	110	P/P	74 - 116
Thiobencarb	91.7	12.2	P/F	50 - 150
Triadimefon	88.5	94.9	P/P	50 - 150

Reference Method: EPA 8321B
Batch ID: P407617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	61.8		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P407617

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	127		P	40 - 160
Endothall	77.6		P	40 - 150
Glufosinate	119		P	40 - 160
Glyphosate	116		P	40 - 160
Sucralose	104		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P407753

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	98.4		P	40 - 150
2,4,5-T	92.0		P	40 - 150
Acetaminophen	79.0		P	30 - 150
Acetamiprid	75.0		P	40 - 150
Afidopyropen	40.3		P	40 - 150
Bentazon	104		P	30 - 150
Benzovindiflupyr	83.7		P	40 - 150
Carbamazepine	80.0		P	40 - 150
Clothianidin	81.4		P	40 - 150
Dinotefuran	72.9		P	40 - 150
Diuron	81.5		P	40 - 150
Fenuron	79.8		P	40 - 150
Fluridone	76.5		P	40 - 150
Hydrocodone	92.6		P	40 - 150
Ibuprofen	110		P	40 - 150
Imazapyr	86.0		P	40 - 150
Imidacloprid	96.9		P	40 - 150
Linuron	81.2		P	40 - 150
Mandestrobin	72.9		P	40 - 150
MCPP	104		P	40 - 150
Naproxen	47.1		P	40 - 150
Primidone	99.5		P	40 - 150
Pyraclostrobin	70.1		P	40 - 150
Thiamethoxam	74.8		P	40 - 150
Tolfenpyrad	33.9		P	30 - 150
Triclopyr	96.6		P	40 - 150

Reference Method: SM 2120 B-2011
Batch ID: P407773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	103		P	90 - 110

Reference Method: SM 2320 B-2011
Batch ID: P407987

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.9		P	94 - 106

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P407994

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.8		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P408216

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.1		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P407790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296447	Barium	99.4		P	80 - 120
2296447	Calcium	98.8		P	80 - 120
2296447	Iron	104		P	80 - 120
2296447	Magnesium	99.2		P	80 - 120
2296447	Manganese	98.8		P	80 - 120
2296447	Potassium	103		P	80 - 120
2296447	Sodium	99.5		P	80 - 120
2296447	Zinc	102		P	80 - 120
2296531	Barium	101	101	P/P	80 - 120
2296531	Calcium	99.7	103	P/P	80 - 120
2296531	Iron	103	106	P/P	80 - 120
2296531	Magnesium	100	105	P/P	80 - 120
2296531	Manganese	101	101	P/P	80 - 120
2296531	Potassium	109	111	P/P	80 - 120
2296531	Sodium	104	103	P/P	80 - 120
2296531	Zinc	104	105	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P407790

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296447	Aluminum	104		P	80 - 120
2296447	Antimony	105		P	80 - 120
2296447	Arsenic	102		P	80 - 120
2296447	Boron	103		P	80 - 120
2296447	Cadmium	104		P	80 - 120
2296447	Chromium	105		P	80 - 120
2296447	Copper	101		P	80 - 120
2296447	Lead	98.6		P	80 - 120
2296447	Nickel	101		P	80 - 120
2296447	Selenium	101		P	80 - 120
2296447	Silver	107		P	80 - 120
2296447	Thallium	101		P	80 - 120
2296531	Aluminum	105	103	P/P	80 - 120
2296531	Antimony	103	103	P/P	80 - 120
2296531	Arsenic	103	102	P/P	80 - 120
2296531	Boron	103	101	P/P	80 - 120
2296531	Cadmium	102	102	P/P	80 - 120
2296531	Chromium	104	104	P/P	80 - 120
2296531	Copper	106	105	P/P	80 - 120
2296531	Lead	101	100	P/P	80 - 120
2296531	Nickel	105	105	P/P	80 - 120
2296531	Selenium	103	104	P/P	80 - 120
2296531	Silver	107	107	P/P	80 - 120
2296531	Thallium	102	103	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407903

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295799	Chloride	96.9		P	90 - 110
2296187	Chloride	98.8		P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407905

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295799	Sulfate	96.7		P	90 - 110
2296187	Sulfate	97.5		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408068

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296258	Ammonia-N	96.0	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408321

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2297836	Kjeldahl Nitrogen	105	94.1	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407881

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295645	NO2NO3-N	98.2	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407999

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296312	Total-P	111	102	F/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407770

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296482	O-Phosphate-P	98.3	98.6	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P407868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296202	Acetochlor	84.0	85.5	P/P	66 - 122
2296202	Alachlor	69.9	73.1	P/P	65 - 122
2296202	Ametryn	82.7	71.6	P/P	45 - 173
2296202	Atrazine	96.9	99.3	P/P	70 - 134
2296202	Atrazine Desethyl	39.0	30.0	P/P	25 - 150
2296202	Azinphos Methyl	94.8	75.9	P/P	44 - 174
2296202	Azoxystrobin	90.9	89.1	P/P	10 - 268
2296202	Bromacil	61.9	53.8	P/P	31 - 145
2296202	Butylate	48.2	51.8	P/P	15 - 97.0
2296202	Caffeine	80.1	78.1	P/P	70 - 130
2296202	Carbophenothion	63.8	78.6	P/P	42 - 129
2296202	Carfentrazone Ethyl	93.1	82.6	P/P	62 - 145
2296202	Chlorfenapyr	55.2	63.3	P/P	50 - 150
2296202	Chlorpyrifos Ethyl	74.5	76.4	P/P	60 - 124
2296202	Chlorpyrifos Methyl	66.6	75.4	P/P	66 - 119

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P407868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296202	Coumaphos	72.9	60.4	P/P	50 - 220
2296202	Cyanazine	79.3	80.7	P/P	17 - 225
2296202	Cyprodinil	75.1	77.5	P/P	50 - 150
2296202	Demeton	84.0	97.6	P/P	36 - 142
2296202	Diazinon	91.1	93.5	P/P	70 - 128
2296202	Difenoconazole	105	76.6	P/P	33 - 222
2296202	Dimethenamid	72.3	74.1	P/P	54 - 125
2296202	Dimethomorph	117	145	P/P	50 - 150
2296202	Disulfoton	70.6	79.6	P/P	49 - 133
2296202	Dithiopyr	69.0	76.3	P/P	55 - 123
2296202	EPTC	40.9	43.4	P/P	19 - 91.0
2296202	Ethion	59.5	69.3	P/P	13 - 143
2296202	Ethoprop	80.2	94.4	P/P	49 - 144
2296202	Etridiazole	64.4	64.1	P/P	50 - 150
2296202	Fenamiphos	48.5	65.6	P/P	32 - 136
2296202	Fenbuconazole	93.2	42.9	P/F	73 - 148
2296202	Fipronil	72.1	79.6	P/P	57 - 129
2296202	Fipronil Desulfinyl	58.6	68.3	P/P	49 - 127
2296202	Fipronil Sulfide	51.6	63.4	P/P	44 - 127
2296202	Fipronil Sulfone	61.0	63.7	P/P	35 - 126
2296202	Fluazifop-P-butyl	95.7	85.1	P/P	67 - 129
2296202	Fludioxonil	67.0	74.8	P/P	61 - 126
2296202	Flumioxazin	93.5	114	P/P	38 - 279
2296202	Flutolanil	60.2	67.1	P/P	55 - 136
2296202	Fluxapyroxad	56.6	60.8	P/P	33 - 140
2296202	Fonofos	67.3	79.1	P/P	58 - 125
2296202	Hexazinone	83.7	85.2	P/P	57 - 148
2296202	Imazalil	48.4	67.9	P/P	10 - 221
2296202	Iprodione	62.5	67.4	P/P	32 - 140
2296202	Loratadine	93.9	133	P/P	50 - 150
2296202	Malathion	73.0	85.9	P/P	52 - 138
2296202	Metalaxyl	65.4	68.2	P/P	46 - 134
2296202	Metolachlor	77.6	71.7	P/P	58 - 122
2296202	Metribuzin	83.6	90.4	P/P	16 - 272
2296202	Mevinphos	64.4	67.5	P/P	45 - 140
2296202	Molinate	65.7	72.8	P/P	41 - 103
2296202	Myclobutanil	73.1	65.5	P/P	60 - 134
2296202	Naled	88.8	92.6	P/P	20 - 113
2296202	Napropamide	78.3	68.7	P/P	50 - 150
2296202	Norflurazon	68.1	71.5	P/P	51 - 123
2296202	Oxadiazon	57.4	56.3	P/P	44 - 125
2296202	Oxyfluorfen	87.4	88.5	P/P	66 - 176
2296202	Parathion Ethyl	86.2	90.7	P/P	57 - 132
2296202	Parathion Methyl	87.4	110	P/P	59 - 156
2296202	Pendimethalin	102	139	P/F	59 - 129
2296202	Phenytoin	30.6	28.6	F/F	50 - 200
2296202	Phorate	68.2	78.2	P/P	47 - 136
2296202	Prodiamine	38.5	51.0	P/P	10 - 159
2296202	Prometon	110	92.5	P/P	59 - 127
2296202	Prometryn	62.8	64.7	P/P	59 - 129
2296202	Pronamide	108	110	P/P	65 - 145
2296202	Propanil	89.6	89.3	P/P	50 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P407868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296202	Propargite	70.2	57.4	P/P	50 - 200
2296202	Propiconazole	74.2	66.8	P/P	28 - 165
2296202	Pyraflufen Ethyl	65.3	68.2	P/P	50 - 150
2296202	Pyridaben	63.6	65.4	P/P	50 - 200
2296202	Pyriproxyfen	76.4	76.3	P/P	21 - 180
2296202	Simazine	68.0	70.4	P/P	63 - 147
2296202	Stirophos	53.9	50.5	P/P	50 - 150
2296202	Sulfentrazone	59.0	64.8	P/P	32 - 136
2296202	Tebuconazole	55.4	56.3	P/P	10 - 117
2296202	Terbufos	92.8	115	P/P	61 - 131
2296202	Terbuthylazine	88.1	90.3	P/P	62 - 126
2296202	Thiobencarb	70.2	73.9	P/P	50 - 150
2296202	Triadimefon	77.5	76.0	P/P	50 - 150

Reference Method: EPA 8321B
Batch ID: P407617

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2295641	Acesulfame K	106	104	P/P	40 - 150
2295641	AMPA	131	135	P/P	40 - 160
2295641	Endothall	97.3	103	P/P	40 - 150
2295641	Glufosinate	128	126	P/P	40 - 160
2295641	Glyphosate	126	127	P/P	40 - 160
2295641	Sucralose	105	102	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P407753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296200	2,4-D	91.0	104	P/P	40 - 150
2296200	2,4,5-T	113	115	P/P	40 - 150
2296200	Acetaminophen	86.7	99.7	P/P	30 - 150
2296200	Acetamiprid	73.6	85.8	P/P	40 - 150
2296200	Afidopyropen	45.1	68.4	P/P	40 - 150
2296200	Bentazon	95.9	98.0	P/P	30 - 150
2296200	Benzovindiflupyr	80.1	67.3	P/P	40 - 150
2296200	Carbamazepine	87.2	82.7	P/P	40 - 150
2296200	Clothianidin	94.2	86.0	P/P	40 - 150
2296200	Dinotefuran	79.9	93.9	P/P	40 - 150
2296200	Diuron	80.6	75.4	P/P	40 - 150
2296200	Fenuron	75.4	77.5	P/P	40 - 150
2296200	Fluridone	73.1	69.9	P/P	40 - 150
2296200	Hydrocodone	91.8	94.3	P/P	40 - 150
2296200	Ibuprofen	104	81.1	P/P	40 - 150
2296200	Imazapyr	115	123	P/P	40 - 150
2296200	Imidacloprid	107	110	P/P	40 - 150
2296200	Linuron	50.4	62.2	P/P	40 - 150
2296200	Mandestrobin	85.6	79.6	P/P	40 - 150
2296200	MCPP	110	108	P/P	40 - 150
2296200	Naproxen	54.3	44.0	P/P	40 - 150
2296200	Primidone	64.9	128	P/P	40 - 150
2296200	Pyraclostrobin	74.4	64.2	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P407753

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296200	Thiamethoxam	85.0	98.5	P/P	40 - 150
2296200	Tolfenpyrad	35.1	39.9	P/P	30 - 150
2296200	Triclopyr	110	88.4	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P407994

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296526	Fluoride	98.6	99.2	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P408216

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2296188	Organic Carbon	95.2	95.1	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P407775

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296276	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P407790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296531	Barium	0.579	Spike	P	0 - 20
2296531	Calcium	3.09	Spike	P	0 - 20
2296531	Iron	3.00	Spike	P	0 - 20
2296531	Magnesium	3.74	Spike	P	0 - 20
2296531	Manganese	0.858	Spike	P	0 - 20
2296531	Potassium	1.43	Spike	P	0 - 20
2296531	Sodium	0.354	Spike	P	0 - 20
2296531	Zinc	1.25	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P407790

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296531	Aluminum	1.69	Spike	P	0 - 20
2296531	Antimony	0.126	Spike	P	0 - 20
2296531	Arsenic	0.426	Spike	P	0 - 20
2296531	Boron	1.27	Spike	P	0 - 20
2296531	Cadmium	0.0844	Spike	P	0 - 20
2296531	Chromium	0.427	Spike	P	0 - 20
2296531	Copper	0.537	Spike	P	0 - 20
2296531	Lead	0.604	Spike	P	0 - 20
2296531	Nickel	0.438	Spike	P	0 - 20
2296531	Selenium	0.734	Spike	P	0 - 20
2296531	Silver	0.470	Spike	P	0 - 20
2296531	Thallium	1.43	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407903

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295799	Chloride	0.389	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P407905

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295799	Sulfate	0.364	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P408068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296258	Ammonia-N	0.511	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P408321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2297836	Kjeldahl Nitrogen	6.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P407881

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295645	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P407999

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296312	Total-P	6.85	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P407770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296482	O-Phosphate-P	0.190	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P407868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296202	Acetochlor	1.88	Spike	P	0 - 24
2296202	Alachlor	4.44	Spike	P	0 - 24
2296202	Ametryn	14.4	Spike	P	0 - 27
2296202	Atrazine	2.46	Spike	P	0 - 29
2296202	Atrazine Desethyl	26.1	Spike	P	0 - 30
2296202	Azinphos Methyl	22.1	Spike	P	0 - 50
2296202	Azoxystrobin	1.98	Spike	P	0 - 32
2296202	Bromacil	14.0	Spike	P	0 - 30
2296202	Butylate	7.09	Spike	P	0 - 47
2296202	Caffeine	2.49	Spike	P	0 - 60
2296202	Carbophenothion	20.7	Spike	P	0 - 24
2296202	Carfentrazone Ethyl	12.0	Spike	P	0 - 26
2296202	Chlorfenapyr	13.7	Spike	P	0 - 30
2296202	Chlorpyrifos Ethyl	2.59	Spike	P	0 - 27
2296202	Chlorpyrifos Methyl	12.4	Spike	P	0 - 22
2296202	Coumaphos	18.8	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P407868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296202	Cyanazine	1.78	Spike	P	0 - 32
2296202	Cyprodinil	3.13	Spike	P	0 - 30
2296202	Demeton	15.0	Spike	P	0 - 25
2296202	Diazinon	2.60	Spike	P	0 - 24
2296202	Difenoconazole	31.5	Spike	F	0 - 25
2296202	Dimethenamid	2.50	Spike	P	0 - 30
2296202	Dimethomorph	21.2	Spike	P	0 - 30
2296202	Disulfoton	12.0	Spike	P	0 - 26
2296202	Dithiopyr	10.0	Spike	P	0 - 22
2296202	EPTC	5.82	Spike	P	0 - 38
2296202	Ethion	15.2	Spike	P	0 - 47
2296202	Ethoprop	16.2	Spike	P	0 - 23
2296202	Etridiazole	0.418	Spike	P	0 - 30
2296202	Fenamiphos	29.9	Spike	P	0 - 34
2296202	Fenbuconazole	73.9	Spike	F	0 - 37
2296202	Fipronil	9.80	Spike	P	0 - 23
2296202	Fipronil Desulfinyl	15.2	Spike	P	0 - 26
2296202	Fipronil Sulfide	20.5	Spike	P	0 - 23
2296202	Fipronil Sulfone	4.30	Spike	P	0 - 24
2296202	Fluazifop-P-butyl	11.8	Spike	P	0 - 24
2296202	Fludioxonil	10.5	Spike	P	0 - 26
2296202	Flumioxazin	19.6	Spike	P	0 - 37
2296202	Flutolanil	10.9	Spike	P	0 - 26
2296202	Fluxapyroxad	7.07	Spike	P	0 - 34
2296202	Fonofos	16.2	Spike	P	0 - 22
2296202	Hexazinone	1.30	Spike	P	0 - 21
2296202	Imazalil	33.5	Spike	P	0 - 65
2296202	Iprodione	7.61	Spike	P	0 - 33
2296202	Loratadine	34.2	Spike	F	0 - 30
2296202	Malathion	16.1	Spike	P	0 - 26
2296202	Metalaxyl	4.24	Spike	P	0 - 38
2296202	Metolachlor	7.92	Spike	P	0 - 36
2296202	Metribuzin	7.83	Spike	P	0 - 29
2296202	Mevinphos	4.70	Spike	P	0 - 26
2296202	Molinate	10.2	Spike	P	0 - 27
2296202	Myclobutanil	11.0	Spike	P	0 - 21
2296202	Naled	4.23	Spike	P	0 - 26
2296202	Napropamide	13.1	Spike	P	0 - 30
2296202	Norflurazon	4.91	Spike	P	0 - 24
2296202	Oxadiazon	2.03	Spike	P	0 - 23
2296202	Oxyfluorfen	1.30	Spike	P	0 - 24
2296202	Parathion Ethyl	5.18	Spike	P	0 - 23
2296202	Parathion Methyl	22.7	Spike	P	0 - 23
2296202	Pendimethalin	30.7	Spike	P	0 - 31
2296202	Phenytoin	6.85	Spike	P	0 - 30
2296202	Phorate	13.6	Spike	P	0 - 27
2296202	Prodiamine	28.0	Spike	P	0 - 52
2296202	Prometon	17.1	Spike	P	0 - 31
2296202	Prometryn	3.05	Spike	P	0 - 24
2296202	Pronamide	1.60	Spike	P	0 - 26
2296202	Propanil	0.340	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P407868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296202	Propargite	20.1	Spike	P	0 - 30
2296202	Propiconazole	10.5	Spike	P	0 - 31
2296202	Pyraflufen Ethyl	4.24	Spike	P	0 - 30
2296202	Pyridaben	2.66	Spike	P	0 - 30
2296202	Pyriproxyfen	0.0786	Spike	P	0 - 50
2296202	Simazine	3.55	Spike	P	0 - 25
2296202	Stirophos	6.40	Spike	P	0 - 30
2296202	Sulfentrazone	9.38	Spike	P	0 - 33
2296202	Tebuconazole	1.58	Spike	P	0 - 43
2296202	Terbufos	21.5	Spike	P	0 - 22
2296202	Terbuthylazine	2.54	Spike	P	0 - 24
2296202	Thiobencarb	5.23	Spike	P	0 - 30
2296202	Triadimefon	1.94	Spike	P	0 - 30
LFB	Acetochlor	10.7	LCS	P	0 - 22
LFB	Alachlor	6.88	LCS	P	0 - 20
LFB	Ametryn	0.899	LCS	P	0 - 25
LFB	Atrazine	3.41	LCS	P	0 - 20
LFB	Atrazine Desethyl	0.830	LCS	P	0 - 33
LFB	Azinphos Methyl	17.4	LCS	P	0 - 51
LFB	Azoxystrobin	11.7	LCS	P	0 - 47
LFB	Bromacil	21.2	LCS	P	0 - 26
LFB	Butylate	3.77	LCS	P	0 - 35
LFB	Caffeine	1.26	LCS	P	0 - 27
LFB	Carbophenothion	0.533	LCS	P	0 - 22
LFB	Carfentrazone Ethyl	3.21	LCS	P	0 - 21
LFB	Chlorfenapyr	11.0	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.57	LCS	P	0 - 23
LFB	Chlorpyrifos Methyl	1.98	LCS	P	0 - 24
LFB	Coumaphos	18.7	LCS	P	0 - 30
LFB	Cyanazine	8.20	LCS	P	0 - 37
LFB	Cyprodinil	18.4	LCS	P	0 - 30
LFB	Demeton	9.80	LCS	P	0 - 32
LFB	Diazinon	9.34	LCS	P	0 - 21
LFB	Difenoconazole	33.9	LCS	P	0 - 37
LFB	Dimethenamid	17.7	LCS	P	0 - 21
LFB	Dimethomorph	23.9	LCS	P	0 - 30
LFB	Disulfoton	25.0	LCS	P	0 - 31
LFB	Dithiopyr	1.27	LCS	P	0 - 21
LFB	EPTC	10.9	LCS	P	0 - 41
LFB	Ethion	41.7	LCS	P	0 - 45
LFB	Ethoprop	8.22	LCS	P	0 - 28
LFB	Etridiazole	4.82	LCS	P	0 - 30
LFB	Fenamiphos	5.80	LCS	P	0 - 28
LFB	Fenbuconazole	35.3	LCS	P	0 - 36
LFB	Fipronil	7.99	LCS	P	0 - 23
LFB	Fipronil Desulfinyl	3.37	LCS	P	0 - 22
LFB	Fipronil Sulfide	0.101	LCS	P	0 - 24
LFB	Fipronil Sulfone	22.5	LCS	P	0 - 24
LFB	Fluazifop-P-butyl	18.6	LCS	P	0 - 23
LFB	Fludioxonil	1.11	LCS	P	0 - 23
LFB	Flumioxazin	30.3	LCS	P	0 - 39

Quality Assurance Report
Precision

Reference Method: EPA 8270E
Batch ID: P407868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Flutolanil	23.9	LCS	P	0 - 27
LFB	Fluxapyroxad	8.16	LCS	P	0 - 38
LFB	Fonofos	10.3	LCS	P	0 - 28
LFB	Hexazinone	14.7	LCS	P	0 - 27
LFB	Imazalil	27.6	LCS	P	0 - 45
LFB	Iprodione	4.67	LCS	P	0 - 42
LFB	Loratadine	30.5	LCS	F	0 - 30
LFB	Malathion	177	LCS	F	0 - 23
LFB	Metalaxyl	15.4	LCS	P	0 - 41
LFB	Metolachlor	8.75	LCS	P	0 - 21
LFB	Metribuzin	9.46	LCS	P	0 - 31
LFB	Mevinphos	4.49	LCS	P	0 - 32
LFB	Molinate	2.29	LCS	P	0 - 31
LFB	Myclobutanil	12.9	LCS	P	0 - 27
LFB	Naled	1.02	LCS	P	0 - 32
LFB	Napropamide	12.5	LCS	P	0 - 30
LFB	Norflurazon	11.5	LCS	P	0 - 25
LFB	Oxadiazon	14.2	LCS	P	0 - 25
LFB	Oxyfluorfen	3.80	LCS	P	0 - 22
LFB	Parathion Ethyl	8.35	LCS	P	0 - 32
LFB	Parathion Methyl	19.5	LCS	P	0 - 30
LFB	Pendimethalin	15.2	LCS	P	0 - 39
LFB	Phenytoin	44.5	LCS	F	0 - 30
LFB	Phorate	23.1	LCS	P	0 - 36
LFB	Prodiamine	27.0	LCS	P	0 - 71
LFB	Prometon	8.90	LCS	P	0 - 23
LFB	Prometryn	2.36	LCS	P	0 - 22
LFB	Pronamide	18.7	LCS	P	0 - 21
LFB	Propanil	0.575	LCS	P	0 - 30
LFB	Propargite	19.3	LCS	P	0 - 30
LFB	Propiconazole	6.84	LCS	P	0 - 23
LFB	Pyraflufen Ethyl	7.77	LCS	P	0 - 30
LFB	Pyridaben	38.0	LCS	F	0 - 30
LFB	Pyriproxyfen	15.1	LCS	P	0 - 53
LFB	Simazine	9.86	LCS	P	0 - 22
LFB	Stirophos	25.3	LCS	P	0 - 30
LFB	Sulfentrazone	15.5	LCS	P	0 - 45
LFB	Tebuconazole	26.1	LCS	P	0 - 52
LFB	Terbufos	10.8	LCS	P	0 - 27
LFB	Terbuthylazine	8.46	LCS	P	0 - 21
LFB	Thiobencarb	153	LCS	F	0 - 30
LFB	Triadimefon	6.96	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P407617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295641	Acesulfame K	1.49	Spike	P	0 - 30
2295641	AMPA	2.83	Spike	P	0 - 30
2295641	Endothall	6.00	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8321B
Batch ID: P407617

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295641	Glufosinate	1.72	Spike	P	0 - 30
2295641	Glyphosate	0.769	Spike	P	0 - 30
2295641	Sucralose	3.20	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P407753

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296200	2,4-D	13.4	Spike	P	0 - 30
2296200	2,4,5-T	1.84	Spike	P	0 - 30
2296200	Acetaminophen	13.9	Spike	P	0 - 30
2296200	Acetamiprid	15.3	Spike	P	0 - 30
2296200	Afidopyropen	41.0	Spike	F	0 - 30
2296200	Bentazon	2.17	Spike	P	0 - 30
2296200	Benzovindiflupyr	17.4	Spike	P	0 - 30
2296200	Carbamazepine	5.25	Spike	P	0 - 30
2296200	Clothianidin	9.14	Spike	P	0 - 30
2296200	Dinotefuran	16.0	Spike	P	0 - 30
2296200	Diuron	6.63	Spike	P	0 - 30
2296200	Fenuron	2.77	Spike	P	0 - 30
2296200	Fluridone	4.42	Spike	P	0 - 30
2296200	Hydrocodone	2.73	Spike	P	0 - 30
2296200	Ibuprofen	24.5	Spike	P	0 - 30
2296200	Imazapyr	5.39	Spike	P	0 - 30
2296200	Imidacloprid	3.32	Spike	P	0 - 30
2296200	Linuron	21.0	Spike	P	0 - 30
2296200	Mandestrobin	7.26	Spike	P	0 - 30
2296200	MCPP	2.44	Spike	P	0 - 30
2296200	Naproxen	21.0	Spike	P	0 - 30
2296200	Primidone	65.7	Spike	F	0 - 30
2296200	Pyraclostrobin	14.7	Spike	P	0 - 30
2296200	Thiamethoxam	14.7	Spike	P	0 - 30
2296200	Tolfenpyrad	12.7	Spike	P	0 - 30
2296200	Triclopyr	21.5	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P407773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296276	Color (true)	8.09	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P407987

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296526	Total Alkalinity	3.63	Sample	P	0 - 5.2

Quality Assurance Report
Precision

Reference Method: SM 2540 C-2011
Batch ID: P407915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2295938	TDS	2.87	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P407994

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296526	Fluoride	0.492	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P408216

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2296188	Organic Carbon	0.127	Spike	P	0 - 20

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

Quality Assurance Report
Surrogates

Lab Sample ID: 2296320
Field Sample ID: G4CE0157

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.7	P	30 - 160
EPA 8321B	Diuron-d6	74.4	P	30 - 160
EPA 8321B	Endothall-d6	82.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	102	P	30 - 160
EPA 8321B	Ibuprofen-d3	67.2	P	30 - 160
EPA 8321B	Primidone-d5	82.9	P	30 - 160
EPA 8321B	Sucralose-d6	112	P	30 - 160

Lab Sample ID: 2296322
Field Sample ID: G4CE0157

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	53.8	P	20 - 200
EPA 8270E	Simazine-d10	95.8	P	73 - 135
EPA 8270E	Terbufos-d10	91.5	P	58 - 130

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A109514
Included Lab Sample IDs: 2296318

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.4	100	P/P	90 - 110

Reference Method: SM 2120 B-2011
Run ID: A109516
Included Lab Sample IDs: 2296316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A109517
Included Lab Sample IDs: 2296316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	99.5	P/P	95 - 105

Reference Method: EPA 8321B
Run ID: A109521
Included Lab Sample IDs: 2296320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	128	130	P/P	60 - 160
Glufosinate	130	128	P/P	60 - 160
Glyphosate	114	121	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A109560
Included Lab Sample IDs: 2296320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	78.1	74.7	P/P	60 - 160
Sucralose	93.4	90.8	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A109561
Included Lab Sample IDs: 2296320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	139	156	P/P	60 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A109563
Included Lab Sample IDs: 2296317

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A109573
Included Lab Sample IDs: 2296316

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A109575
Included Lab Sample IDs: 2296321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.6	98.4	P/P	90 - 110
Calcium	98.9	97.9	P/P	90 - 110
Iron	101	98.7	P/P	90 - 110
Magnesium	99.9	98.0	P/P	90 - 110
Manganese	97.9	98.0	P/P	90 - 110
Potassium	98.3	98.3	P/P	90 - 110
Sodium	97.7	97.8	P/P	90 - 110
Zinc	99.3	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A109624
Included Lab Sample IDs: 2296321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	100	99.3	P/P	90 - 110
Cadmium	99.5	100	P/P	90 - 110
Chromium	97.9	96.7	P/P	90 - 110
Nickel	97.9	96.9	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	109	107	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A109633
Included Lab Sample IDs: 2296316

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.3	96.8	P/P	90 - 110

Reference Method: SM 4500 F-C-2011
Run ID: A109633
Included Lab Sample IDs: 2296316

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A109643
Included Lab Sample IDs: 2296321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	99.9	P/P	90 - 110
Arsenic	98.8	99.3	P/P	90 - 110
Boron	100	99.1	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A109643
Included Lab Sample IDs: 2296321

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	100	98.0	P/P	90 - 110
Lead	93.2	93.7	P/P	90 - 110
Selenium	98.3	98.6	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A109654
Included Lab Sample IDs: 2296320

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	118	92.2	P/P	50 - 150
2,4,5-T	122	113	P/P	50 - 150
Acetaminophen	79.5	83.3	P/P	60 - 160
Acetamiprid	96.0	108	P/P	50 - 150
Afidopyropen	69.6	85.0	P/P	50 - 150
Bentazon	109	125	P/P	50 - 160
Benzovindiflupyr	95.2	96.6	P/P	50 - 150
Carbamazepine	104	87.0	P/P	60 - 150
Clothianidin	97.8	108	P/P	60 - 150
Dinotefuran	109	95.4	P/P	50 - 150
Diuron	95.8	93.3	P/P	60 - 160
Fenuron	96.9	82.7	P/P	60 - 150
Fluridone	91.7	95.2	P/P	60 - 160
Hydrocodone	98.3	103	P/P	60 - 150
Ibuprofen	119	137	P/P	50 - 160
Imazapyr	127	84.8	P/P	50 - 150
Imidacloprid	106	87.8	P/P	60 - 150
Linuron	99.2	92.6	P/P	60 - 150
Mandestrobin	106	98.8	P/P	50 - 150
MCPP	107	114	P/P	50 - 150
Naproxen	118	106	P/P	50 - 160
Primidone	116	70.0	P/P	60 - 150
Pyraclostrobin	96.5	92.2	P/P	60 - 150
Thiamethoxam	98.2	83.5	P/P	50 - 150
Tolfenpyrad	88.3	94.3	P/P	60 - 150
Triclopyr	104	110	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A109658
Included Lab Sample IDs: 2296317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.5	98.9	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A109678
Included Lab Sample IDs: 2296322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	92.3		P	80 - 120
Alachlor	86.5		P	80 - 120
Ametryn	89.9		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A109678
Included Lab Sample IDs: 2296322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	98.3		P	80 - 120
Atrazine Desethyl	95.4		P	80 - 120
Azinphos Methyl	90.9		P	80 - 120
Azoxystrobin	96.0		P	80 - 120
Bromacil	96.3		P	80 - 120
Butylate	97.8		P	80 - 120
Caffeine	95.8		P	80 - 120
Carbophenothion	110		P	80 - 120
Carfentrazone Ethyl	101		P	80 - 120
Chlorfenapyr	104		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	98.6		P	80 - 120
Coumaphos	107		P	80 - 120
Cyanazine	105		P	80 - 120
Cyprodinil	92.3		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	90.7		P	80 - 120
Difenoconazole	93.4		P	80 - 120
Dimethenamid	91.5		P	80 - 120
Dimethomorph	98.2		P	80 - 120
Disulfoton	97.9		P	80 - 120
Dithiopyr	103		P	80 - 120
EPTC	101		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	102		P	80 - 120
Etridiazole	95.0		P	80 - 120
Fenamiphos	109		P	80 - 120
Fenbuconazole	102		P	80 - 120
Fipronil	96.5		P	80 - 120
Fipronil Desulfinyl	93.6		P	80 - 120
Fipronil Sulfide	107		P	80 - 120
Fipronil Sulfone	108		P	80 - 120
Fluazifop-P-butyl	85.6		P	80 - 120
Fludioxonil	94.1		P	80 - 120
Flumioxazin	102		P	80 - 120
Flutolanil	100		P	80 - 120
Fluxapyroxad	97.6		P	80 - 120
Fonofos	98.2		P	80 - 120
Hexazinone	97.6		P	80 - 120
Imazalil	88.6		P	80 - 120
Iprodione	98.9		P	80 - 120
Loratadine	93.4		P	80 - 120
Malathion	98.1		P	80 - 120
Metalaxyl	91.3		P	80 - 120
Metolachlor	95.1		P	80 - 120
Metribuzin	107		P	80 - 120
Mevinphos	104		P	80 - 120
Molinate	98.5		P	80 - 120
Myclobutanil	97.6		P	80 - 120
Naled	115		P	80 - 120
Napropamide	103		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270E
Run ID: A109678
Included Lab Sample IDs: 2296322

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Norflurazon	94.0		P	80 - 120
Oxadiazon	98.6		P	80 - 120
Oxyfluorfen	98.8		P	80 - 120
Parathion Ethyl	96.4		P	80 - 120
Parathion Methyl	86.9		P	80 - 120
Pendimethalin	105		P	80 - 120
Phenytoin	94.4		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	109		P	80 - 120
Prometon	92.9		P	80 - 120
Prometryn	90.0		P	80 - 120
Pronamide	91.5		P	80 - 120
Propanil	91.5		P	80 - 120
Propargite	93.3		P	80 - 120
Propiconazole	95.6		P	80 - 120
Pyraflufen Ethyl	96.0		P	80 - 120
Pyridaben	103		P	80 - 120
Pyriproxyfen	95.6		P	80 - 120
Simazine	104		P	80 - 120
Stirophos	101		P	80 - 120
Sulfentrazone	89.8		P	80 - 120
Tebuconazole	102		P	80 - 120
Terbufos	99.6		P	80 - 120
Terbuthylazine	90.5		P	80 - 120
Thiobencarb	95.2		P	80 - 120
Triadimefon	96.3		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A109706
Included Lab Sample IDs: 2296317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	96.2	96.5	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A109725
Included Lab Sample IDs: 2296317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.0	95.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A109854
Included Lab Sample IDs: 2296317

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	92.4	102	P/P	90 - 110

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision		
							LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							0.0	
EPA 200.7 Rev. 4.4	Barium	102		99.4	101	101			0.579
	Calcium	107		98.8	99.7	103			3.09
	Iron	108		104	103	106			3.00
	Magnesium	107		99.2	100	105			3.74
	Manganese	102		98.8	101	101			0.858
	Potassium	106		103	109	111			1.43
	Sodium	105		99.5	104	103			0.354
	Zinc	104		102	104	105			1.25
EPA 200.8 Rev. 5.4	Aluminum	102		105	103	104			1.69
	Antimony	102		103	103	105			0.126
	Arsenic	102		103	102	102			0.426
	Boron	98.6		103	101	103			1.27
	Cadmium	101		102	102	104			0.0844
	Chromium	103		104	104	105			0.427
	Copper	102		106	105	101			0.537
	Lead	98.2		101	100	98.6			0.604
	Nickel	104		105	105	101			0.438
	Selenium	104		103	104	101			0.734
	Silver	107		107	107	107			0.470
	Thallium	99.8		102	103	101			1.43
EPA 300.0 Rev. 2.1	Chloride	98.4		96.9	98.8			0.389	
	Sulfate	96.7		96.7	97.5			0.364	
EPA 350.1 Rev. 2.0	Ammonia-N	101		96.0	95.4				0.511
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	93.7		105	94.1				6.02
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		98.2	98.2				0.0
EPA 365.1 Rev. 2.0	Total-P	104		111	102				6.85
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		98.3	98.6				0.190
EPA 8270E	Acetochlor	102	113	84.0	85.5		10.7		1.88
	Alachlor	95.0	88.6	69.9	73.1		6.88		4.44
	Ametryn	91.7	92.5	82.7	71.6		0.899		14.4
	Atrazine	110	114	96.9	99.3		3.41		2.46
	Atrazine Desethyl	64.6	65.1	39.0	30.0		0.830		26.1
	Azinphos Methyl	122	102	94.8	75.9		17.4		22.1
	Azoxystrobin	123	109	90.9	89.1		11.7		1.98
	Bromacil	79.8	64.5	61.9	53.8		21.2		14.0
	Butylate	70.8	73.6	48.2	51.8		3.77		7.09
	Caffeine	89.0	90.1	80.1	78.1		1.26		2.49
	Carbophenothion	79.5	79.1	63.8	78.6		0.533		20.7
	Carfentrazone Ethyl	89.6	92.5	93.1	82.6		3.21		12.0
	Chlorfenapyr	71.1	63.7	55.2	63.3		11.0		13.7
	Chlorpyrifos Ethyl	81.8	77.4	74.5	76.4		5.57		2.59
	Chlorpyrifos Methyl	85.3	87.1	66.6	75.4		1.98		12.4
	Coumaphos	74.2	61.5	72.9	60.4		18.7		18.8
	Cyanazine	109	118	79.3	80.7		8.20		1.78
	Cyprodinil	80.8	97.2	75.1	77.5		18.4		3.13
	Demeton	92.4	102	84.0	97.6		9.80		15.0
	Diazinon	110	121	91.1	93.5		9.34		2.60
	Difenoconazole	102	72.4	105	76.6		33.9		31.5
	Dimethenamid	81.3	97.1	72.3	74.1		17.7		2.50
	Dimethomorph	233	184	117	145		23.9		21.2
	Disulfoton	85.3	110	70.6	79.6		25.0		12.0
	Dithiopyr	82.7	81.7	69.0	76.3		1.27		10.0
	EPTC	65.1	58.4	40.9	43.4		10.9		5.82

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270E	Ethion	46.9	71.7	59.5	69.3	41.7		15.2
	Ethoprop	88.5	96.1	80.2	94.4	8.22		16.2
	Etridiazole	89.0	84.8	64.4	64.1	4.82		0.418
	Fenamiphos	71.4	67.4	48.5	65.6	5.80		29.9
	Fenbuconazole	121	84.8	93.2	42.9	35.3		73.9
	Fipronil	91.8	99.4	72.1	79.6	7.99		9.80
	Fipronil Desulfinyl	83.0	80.3	58.6	68.3	3.37		15.2
	Fipronil Sulfide	63.2	63.3	51.6	63.4	0.101		20.5
	Fipronil Sulfone	72.3	57.7	61.0	63.7	22.5		4.30
	Fluazifop-P-butyl	86.7	71.9	95.7	85.1	18.6		11.8
	Fludioxonil	98.2	97.1	67.0	74.8	1.11		10.5
	Flumioxazin	173	128	93.5	114	30.3		19.6
	Flutolanil	73.6	57.9	60.2	67.1	23.9		10.9
	Fluxapyroxad	73.6	67.8	56.6	60.8	8.16		7.07
	Fonofos	80.1	88.8	67.3	79.1	10.3		16.2
	Hexazinone	79.9	92.5	83.7	85.2	14.7		1.30
	Imazalil	63.5	83.8	48.4	67.9	27.6		33.5
	Iprodione	90.5	94.8	62.5	67.4	4.67		7.61
	Loratadine	219	161	93.9	133	30.5		34.2
	Malathion	81.8	5.02	73.0	85.9	177		16.1
	Metalaxyl	79.8	68.4	65.4	68.2	15.4		4.24
	Metolachlor	92.4	84.7	77.6	71.7	8.75		7.92
	Metribuzin	96.7	88.0	83.6	90.4	9.46		7.83
	Mevinphos	79.6	83.3	64.4	67.5	4.49		4.70
	Molinate	69.6	71.2	65.7	72.8	2.29		10.2
	Myclobutanil	91.7	80.6	73.1	65.5	12.9		11.0
	Naled	62.2	61.5	88.8	92.6	1.02		4.23
	Napropamide	66.5	58.7	78.3	68.7	12.5		13.1
	Norflurazon	87.6	78.1	68.1	71.5	11.5		4.91
	Oxadiazon	78.8	68.4	57.4	56.3	14.2		2.03
	Oxyfluorfen	97.9	102	87.4	88.5	3.80		1.30
	Parathion Ethyl	92.7	101	86.2	90.7	8.35		5.18
	Parathion Methyl	102	124	87.4	110	19.5		22.7
	Pendimethalin	106	123	102	139	15.2		30.7
	Phenytoin	26.0	40.8	30.6	28.6	44.5		6.85
	Phorate	77.5	97.7	68.2	78.2	23.1		13.6
	Prodiamine	42.1	55.3	38.5	51.0	27.0		28.0
	Prometon	94.3	86.3	110	92.5	8.90		17.1
	Prometryn	73.0	71.3	62.8	64.7	2.36		3.05
	Pronamide	97.8	118	108	110	18.7		1.60
	Propanil	107	107	89.6	89.3	0.575		0.340
	Propargite	56.5	68.5	70.2	57.4	19.3		20.1
	Propiconazole	79.2	73.9	74.2	66.8	6.84		10.5
	Pyraflufen Ethyl	82.2	76.1	65.3	68.2	7.77		4.24
	Pyridaben	78.7	53.6	63.6	65.4	38.0		2.66
	Pyriproxyfen	83.4	71.7	76.4	76.3	15.1		0.0786
	Simazine	98.5	89.2	68.0	70.4	9.86		3.55
	Stirophos	46.1	59.5	53.9	50.5	25.3		6.40
	Sulfentrazone	80.9	69.3	59.0	64.8	15.5		9.38
	Tebuconazole	46.3	60.2	55.4	56.3	26.1		1.58
	Terbufos	105	117	92.8	115	10.8		21.5
	Terbuthylazine	101	110	88.1	90.3	8.46		2.54
	Thiobencarb	91.7	12.2	70.2	73.9	153		5.23
	Triadimefon	88.5	94.9	77.5	76.0	6.96		1.94

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	2,4-D	98.4	91.0	104			13.4
	2,4,5-T	92.0	113	115			1.84
	Acesulfame K	61.8	106	104			1.49
	Acetaminophen	79.0	86.7	99.7			13.9
	Acetamiprid	75.0	73.6	85.8			15.3
	Afidopyropen	40.3	45.1	68.4			41.0
	AMPA	127	131	135			2.83
	Bentazon	104	95.9	98.0			2.17
	Benzovindiflupyr	83.7	80.1	67.3			17.4
	Carbamazepine	80.0	87.2	82.7			5.25
	Clothianidin	81.4	94.2	86.0			9.14
	Dinotefuran	72.9	79.9	93.9			16.0
	Diuron	81.5	80.6	75.4			6.63
	Endothall	77.6	97.3	103			6.00
	Fenuron	79.8	75.4	77.5			2.77
	Fluridone	76.5	73.1	69.9			4.42
	Glufosinate	119	128	126			1.72
	Glyphosate	116	126	127			0.769
	Hydrocodone	92.6	91.8	94.3			2.73
	Ibuprofen	110	104	81.1			24.5
	Imazapyr	86.0	115	123			5.39
	Imidacloprid	96.9	107	110			3.32
	Linuron	81.2	50.4	62.2			21.0
	Mandestrobin	72.9	85.6	79.6			7.26
	MCPP	104	110	108			2.44
	Naproxen	47.1	54.3	44.0			21.0
	Primidone	99.5	64.9	128			65.7
	Pyraclostrobin	70.1	74.4	64.2			14.7
	Sucralose	104	105	102			3.20
	Thiamethoxam	74.8	85.0	98.5			14.7
	Tolfenpyrad	33.9	35.1	39.9			12.7
	Triclopyr	96.6	110	88.4			21.5
SM 2120 B-2011	Color (true)	103				8.09	
SM 2320 B-2011	Total Alkalinity	99.9				3.63	
SM 2540 C-2011	TDS					2.87	
SM 4500 F-C-2011	Fluoride	99.8	98.6	99.2			0.492
SM 5310 B-2011	Organic Carbon	94.1	95.2	95.1			0.127

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2296316
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2296321
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2296321
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2296316
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2296316
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2296317
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2296317
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2296317
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2296317

Reference Method Descriptions

Method	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2296318
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2296322
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2296320
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2296316
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2296316
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2296321
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2296316
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2296316
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2296316
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2296317

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	12/21/2021			12/21/2021 16:02	Khloe J Berg	2296316
EPA 200.7 Rev. 4.4	12/21/2021	12/22/2021 10:05	Vijayalakshmi Reddy	12/28/2021 01:48	Josef B Mick	2296321
EPA 200.8 Rev. 5.4	12/21/2021	12/22/2021 10:05	Vijayalakshmi Reddy	01/03/2022 17:09	Alexander Thompson	2296321
	12/21/2021	12/22/2021 10:05	Vijayalakshmi Reddy	12/29/2021 16:46	McKinley C Carter	2296321
EPA 300.0 Rev. 2.1	12/21/2021			12/22/2021 14:37	Roberta Tatti	2296316
EPA 350.1 Rev. 2.0	12/21/2021			01/04/2022 12:23	Ping Hua	2296317
EPA 351.2 Rev. 2.0	12/21/2021	01/12/2022 03:17	Samantha L Bates	01/13/2022 14:38	Alexandra J Mattheus	2296317
EPA 353.2 Rev. 2.0	12/21/2021			12/27/2021 11:03	Beverly Y. Sanders	2296317
EPA 365.1 Rev. 2.0	12/21/2021	01/04/2022 16:25	Simonne.V. Calhoun	01/06/2022 14:49	Shengyu Ding	2296317
EPA 365.1 Rev. 2.0 dissolved	12/21/2021			12/21/2021 14:51	James L Waggerby	2296318
EPA 8270E	12/21/2021	12/27/2021 08:00	Fe-Val Siddell	12/31/2021 17:34	Michael Poppell	2296322
EPA 8321B	12/21/2021	12/21/2021 13:20	Juyoung Kim	12/21/2021 15:20	Juyoung Kim	2296320
	12/21/2021	12/21/2021 13:20	Juyoung Kim	12/21/2021 19:22	Manjita Shrestha	2296320
	12/21/2021	12/21/2021 13:20	Juyoung Kim	12/22/2021 22:20	Manjita Shrestha	2296320
	12/21/2021	12/27/2021 09:00	Hoor Shaik	12/28/2021 22:29	Juyoung Kim	2296320
SM 2120 B-2011	12/21/2021			12/21/2021 16:39	Samantha L Bates	2296316
SM 2320 B-2011	12/21/2021			12/28/2021 19:06	Dale L. Simmons	2296316
SM 2340B	12/21/2021			12/28/2021 01:48	Josef B Mick	2296321
SM 2540 C-2011	12/21/2021			12/21/2021 16:06	Yijie Li	2296316
SM 2540 D-2011	12/21/2021			12/21/2021 16:06	Yijie Li	2296316
SM 4500 F-C-2011	12/21/2021			12/28/2021 19:06	Dale L. Simmons	2296316
SM 5310 B-2011	12/21/2021			01/05/2022 07:56	Touraj Touran	2296317