

Chemical Analysis Report

SE-DIST-2020-08-13-01

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

Event Description: **SMP- 3134, 3136**
Request ID: **RQ-2020-08-10-42**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Drew Liddick

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 03-SEP-2020 18:22



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: Fellsmere Canal W of Spillway

Collection Date/Time: 08/12/2020 12:15

Field ID: G5SE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2190194	EPA 180.1 Rev. 2.0	Turbidity	2.6		NTU	P386011	
	EPA 300.0 Rev. 2.1	Chloride	170		mg Cl/L	P386274	
		Sulfate	41		mg SO4/L	P386278	
	SM 2120 B-2011	Color (true)	180		PCU	P386021	
	SM 2320 B-2011	Total Alkalinity	169		mg CaCO3/L	P386118	
	SM 2540 C-2011	TDS	586		mg/L	P386374	
	SM 2540 D-2011	TSS	2	U	mg/L	P386186	
2190195	SM 4500 F-C-2011	Fluoride	0.34		mg F/L	P386122	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P386101	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P386309	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P386036	
	EPA 365.1 Rev. 2.0	Total-P	0.29		mg P/L	P386103	
2190196	SM 5310 B-2011	Organic Carbon	20		mg C/L	P386259	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.23		mg P/L	P386018	
2190201	EPA 8321B	2,4-D	0.021		ug/L	P386033	
		Acesulfame K**	0.10	U	ug/L	P386032	
		AMPA**	1.7		ug/L	P386032	
		Sucralose**	0.10	U	ug/L	P386032	RPD
		Acetaminophen**	0.0080	U	ug/L	P386033	
		Acetamiprid**	0.0020	U	ug/L	P386033	
		Endothall**	0.25	U	ug/L	P386032	
		Glufosinate**	0.10	U	ug/L	P386032	
		Glyphosate**	2.3		ug/L	P386032	
		Afidopyropen**	0.0020	U	ug/L	P386033	
		Bentazon	0.0020	I	ug/L	P386033	
		Benzovindiflupyr**	0.0020	U	ug/L	P386033	
		Carbamazepine**	8.0E-04	U	ug/L	P386033	
		Clothianidin**	0.0023	I	ug/L	P386033	
		Dinotefuran**	0.0020	U	ug/L	P386033	
		Diuron	0.0047	I	ug/L	P386033	
		Fenuron	0.016	U	ug/L	P386033	
		Fluridone**	8.0E-04	U	ug/L	P386033	
		Imazapyr**	0.030		ug/L	P386033	
		Hydrocodone**	0.0020	U	ug/L	P386033	
		Ibuprofen**	0.020	U	ug/L	P386033	
		Imidacloprid	0.038		ug/L	P386033	
		Linuron	0.0040	U	ug/L	P386033	
		Mandestrobin**	0.0020	U	ug/L	P386033	
		MCPD	0.0020	U	ug/L	P386033	
		Naproxen**	0.0080	U	ug/L	P386033	
		Primidone**	0.0040	U	ug/L	P386033	
		Pyraclostrobin**	0.0020	U	ug/L	P386033	
		Thiamethoxam**	0.0032	I	ug/L	P386033	

Field ID: G5SE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2190201	EPA 8321B	Tolfenpyrad**	0.0020	U	ug/L	P386033	
		Triclopyr**	0.0040	U	ug/L	P386033	
2190202	EPA 200.7 Rev. 4.4	Barium	30.7		ug/L	P386012	
		Calcium	87.1		mg/L	P386012	
		Iron	1.31E+03		ug/L	P386012	
		Magnesium	18.4		mg/L	P386012	
		Potassium	6.3		mg/L	P386012	
		Sodium	82.7		mg/L	P386012	
		Zinc	5.0	U	ug/L	P386012	
	EPA 200.8 Rev. 5.4	Aluminum	28		ug/L	P386012	
		Antimony	0.076	I	ug/L	P386012	
		Arsenic	1.57		ug/L	P386012	
		Boron**	64.2		ug/L	P386012	
		Cadmium	0.020	U	ug/L	P386012	
		Chromium	0.43	I	ug/L	P386012	
		Copper	2.76		ug/L	P386012	
		Lead	0.20	U	ug/L	P386012	
		Nickel	0.52	I	ug/L	P386012	
		Selenium	0.30	I	ug/L	P386012	
		Silver	0.010	U	ug/L	P386012	
		Thallium	0.10	U	ug/L	P386012	
	SM 2340B	Hardness	293		mg/L	P386012	
2190203	EPA 8270E	Acetochlor	0.25	U	ng/L	P386047	
		Alachlor	0.25	U	ng/L	P386047	
		Ametryn	0.61	U	ng/L	P386047	
		Atrazine	2.6		ng/L	P386047	
		Atrazine Desethyl	1.5	U	ng/L	P386047	
		Azinphos Methyl	2.0	U	ng/L	P386047	
		Bromacil	4.4		ng/L	P386047	
		Butylate	0.41	U	ng/L	P386047	
		Carbophenothion	0.51	U	ng/L	P386047	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P386047	
		Chlorpyrifos Methyl	0.051	U	ng/L	P386047	
		Cyanazine	3.3	UJ	ng/L	P386047	RPD
		Demeton	1.5	U	ng/L	P386047	
		Diazinon	0.13	U	ng/L	P386047	
		Dimethenamid**	0.10	U	ng/L	P386047	
		Disulfoton	0.51	U	ng/L	P386047	
		Dithiopyr**	0.10	U	ng/L	P386047	
		EPTC	1.3	U	ng/L	P386047	
		Ethion	0.15	U	ng/L	P386047	
		Ethoprop	0.10	U	ng/L	P386047	
		Fenamiphos	0.51	U	ng/L	P386047	
		Fipronil	0.25	U	ng/L	P386047	
		Fipronil Desulfinyl**	0.13	U	ng/L	P386047	

Field ID: G5SE0085

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2190203	EPA 8270E	Fipronil Sulfide	0.15	U	ng/L	P386047	
		Fipronil Sulfone	0.15	U	ng/L	P386047	
		Flumioxazin**	1.8	U	ng/L	P386047	MS
		Fonofos	0.20	U	ng/L	P386047	
		Hexazinone	3.9		ng/L	P386047	
		Imazalil**	0.76	U	ng/L	P386047	
		Malathion	0.36	U	ng/L	P386047	
		Metaxyl	0.82	I	ng/L	P386047	
		Metolachlor	0.51	U	ng/L	P386047	
		Metribuzin	3.3	U	ng/L	P386047	
		Mevinphos	0.51	U	ng/L	P386047	
		Molinate	0.30	UJ	ng/L	P386047	RPD
		Naled**	1.5	U	ng/L	P386047	
		Norflurazon	72		ng/L	P386047	
		Oxadiazon	0.14	I	ng/L	P386047	
		Parathion Ethyl	0.25	U	ng/L	P386047	
		Parathion Methyl	0.56	U	ng/L	P386047	
		Pendimethalin	1.0	U	ng/L	P386047	
		Phorate	0.25	U	ng/L	P386047	
		Prodiamine**	0.18	U	ng/L	P386047	
		Prometon	1.2	I	ng/L	P386047	
		Prometryn	0.20	U	ng/L	P386047	
		Pronamide**	0.15	U	ng/L	P386047	
		Propiconazole**	0.51	U	ng/L	P386047	
		Simazine	28		ng/L	P386047	
		Sulfentrazone**	0.70	I	ng/L	P386047	
		Tebuconazole**	0.51	UJ	ng/L	P386047	RPD
		Terbufos	0.10	U	ng/L	P386047	
		Terbuthylazine	0.43	U	ng/L	P386047	

Ref. Method and Comment:

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy and precision for bentazon could not be assessed due to high concentration of parameter in the spiked sample.

EPA 8321B: MDL elevated due to matrix interference.

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.

Sample Location: C-54 W of I-95

Collection Date/Time: 08/12/2020 13:10

Field ID: G5SE0057

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2190188	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P386010	
	EPA 300.0 Rev. 2.1	Chloride	130		mg Cl/L	P386274	
		Sulfate	36		mg SO4/L	P386278	
	SM 2120 B-2011	Color (true)	120	A	PCU	P386022	
	SM 2320 B-2011	Total Alkalinity	157		mg CaCO3/L	P386118	
	SM 2540 C-2011	TDS	497		mg/L	P386373	
	SM 2540 D-2011	TSS	2	I	mg/L	P386185	
	SM 4500 F-C-2011	Fluoride	0.24		mg F/L	P386122	
2190189	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P386100	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P386308	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P386036	
	EPA 365.1 Rev. 2.0	Total-P	0.057		mg P/L	P386055	
	SM 5310 B-2011	Organic Carbon	19		mg C/L	P386259	
2190190	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P386018	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: C-54 W of I-95

Collection Date/Time: 08/12/2020 13:20

Field ID: FB_08122020

Matrix: W-FIELD-BK

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2190191	EPA 180.1 Rev. 2.0	Turbidity	0.10	U	NTU	P386011	
	EPA 300.0 Rev. 2.1	Chloride	0.20	U	mg Cl/L	P386274	
		Sulfate	0.20	U	mg SO4/L	P386278	
	SM 2120 B-2011	Color (true)	2.5	U	PCU	P386022	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P386118	
	SM 2540 C-2011	TDS	15	U	mg/L	P386374	
	SM 2540 D-2011	TSS	2	U	mg/L	P386186	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P386122	
2190192	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P386240	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P386308	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P386036	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P386103	
	SM 5310 B-2011	Organic Carbon	0.50	U	mg C/L	P386259	
2190193	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P386018	

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386010

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386011

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386012

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: P386012

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: P386274

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386278

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386100

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386101

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386240

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386308

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386309

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386036

Component	Result	Code	Units
NO ₂ NO ₃ -N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386055

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386103

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386018

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
 Batch ID: P386047

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	2.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Carbophenothion	0.50	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	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
Flumioxazin	1.8	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Naled	1.5	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
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P386032

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: P386033

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: SM 2120 B-2011
Batch ID: P386021

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B-2011
Batch ID: P386022

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P386118

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P386373

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-2011
Batch ID: P386374

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P386185

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P386186

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P386122

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P386259

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: P386012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	102		P	85 - 115
Calcium	105		P	85 - 115
Iron	106		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	101		P	85 - 115
Sodium	101		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	109		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	103		P	85 - 115
Boron	98.9		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	104		P	85 - 115
Copper	103		P	85 - 115
Lead	106		P	85 - 115
Nickel	103		P	85 - 115
Selenium	104		P	85 - 115
Silver	104		P	85 - 115
Thallium	105		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386274

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386278

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386101

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.0		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P386240

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P386308

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P386309

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P386036

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386055

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P386103

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P386018

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

Reference Method: EPA 8270E
 Batch ID: P386047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	91.3	99.3	P/P	71 - 122
Alachlor	93.6	98.9	P/P	70 - 121
Ametryn	93.8	108	P/P	49 - 137
Atrazine	97.8	100	P/P	76 - 125
Atrazine Desethyl	74.7	85.3	P/P	31 - 144
Azinphos Methyl	116	138	P/P	67 - 150
Bromacil	90.8	98.4	P/P	36 - 121
Butylate	52.0	67.6	P/P	33 - 88.0
Carbophenothion	93.8	91.0	P/P	50 - 150
Chlorpyrifos Ethyl	87.1	92.8	P/P	73 - 117

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P386047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	81.7	102	P/P	68 - 121
Cyanazine	109	150	P/P	20 - 250
Demeton	74.4	99.6	P/P	30 - 123
Diazinon	93.7	103	P/P	70 - 128
Dimethenamid	92.3	94.7	P/P	66 - 122
Disulfoton	77.9	93.3	P/P	46 - 124
Dithiopyr	94.6	91.1	P/P	69 - 122
EPTC	48.3	63.7	P/P	31 - 90.0
Ethion	106	79.6	P/P	45 - 135
Ethoprop	76.0	102	P/P	59 - 118
Fenamiphos	91.9	86.4	P/P	30 - 136
Fipronil	101	105	P/P	57 - 127
Fipronil Desulfinyl	99.2	102	P/P	51 - 122
Fipronil Sulfide	93.2	95.7	P/P	57 - 119
Fipronil Sulfone	92.7	98.8	P/P	51 - 119
Flumioxazin	139	177	P/P	70 - 200
Fonofos	74.5	98.7	P/P	60 - 120
Hexazinone	93.9	89.2	P/P	57 - 142
Imazalil	90.6	101	P/P	50 - 150
Malathion	98.3	118	P/P	67 - 128
Metalaxyl	95.4	96.5	P/P	21 - 148
Metolachlor	94.5	93.8	P/P	70 - 120
Metribuzin	98.8	108	P/P	20 - 253
Mevinphos	70.2	85.4	P/P	47 - 116
Molinate	54.1	81.8	P/P	41 - 99.0
Naled	58.5	74.7	P/P	40 - 130
Norflurazon	95.3	89.3	P/P	54 - 127
Oxadiazon	96.3	86.7	P/P	65 - 122
Parathion Ethyl	98.5	102	P/P	71 - 113
Parathion Methyl	93.1	114	P/P	73 - 129
Pendimethalin	89.0	77.5	P/P	63 - 130
Phorate	70.2	88.5	P/P	48 - 118
Prodiamine	118	111	P/P	20 - 144
Prometon	93.7	103	P/P	53 - 120
Prometryn	96.5	107	P/P	63 - 119
Pronamide	96.8	91.9	P/P	50 - 150
Propiconazole	92.2	89.7	P/P	50 - 150
Simazine	93.8	103	P/P	77 - 129
Sulfentrazone	82.0	85.2	P/P	50 - 150
Tebuconazole	67.6	21.7	P/P	20 - 118
Terbufos	78.2	99.9	P/P	61 - 119
Terbutylazine	99.3	99.2	P/P	75 - 119

Reference Method: EPA 8321B
Batch ID: P386032

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	90.4		P	40 - 150
Endothall	94.0		P	40 - 150
Glufosinate	90.9		P	40 - 150
Glyphosate	79.7		P	40 - 140

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P386032

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	85.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P386033

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	106		P	30 - 160
Acetaminophen	79.6		P	30 - 160
Acetamiprid	75.6		P	30 - 160
Afidopyropen	56.3		P	30 - 160
Bentazon	70.3		P	30 - 160
Benzovindiflupyr	65.8		P	30 - 160
Carbamazepine	64.0		P	30 - 160
Clothianidin	74.9		P	30 - 160
Dinotefuran	84.9		P	30 - 160
Diuron	55.6		P	30 - 160
Fenuron	80.9		P	30 - 160
Fluridone	70.6		P	30 - 160
Hydrocodone	79.2		P	30 - 160
Ibuprofen	86.4		P	30 - 160
Imazapyr	77.3		P	30 - 160
Imidacloprid	88.3		P	30 - 160
Linuron	64.6		P	30 - 160
Mandestrobin	73.6		P	30 - 160
MCPP	104		P	30 - 160
Naproxen	68.2		P	30 - 160
Primidone	78.2		P	30 - 160
Pyraclostrobin	60.4		P	30 - 160
Thiamethoxam	78.0		P	30 - 160
Tolfenpyrad	43.7		P	30 - 160
Triclopyr	95.8		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P386021

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2120 B-2011
Batch ID: P386022

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	102		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P386118

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	93 - 104

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P386122

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	90 - 106

Reference Method: SM 5310 B-2011
Batch ID: P386259

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190181	Barium	105		P	80 - 120
2190181	Calcium	106		P	80 - 120
2190181	Iron	110		P	80 - 120
2190181	Magnesium	110		P	80 - 120
2190181	Potassium	103		P	80 - 120
2190181	Sodium	101		P	80 - 120
2190181	Zinc	109		P	80 - 120
2190277	Barium	105	105	P/P	80 - 120
2190277	Calcium	105		P	80 - 120
2190277	Iron	110	109	P/P	80 - 120
2190277	Magnesium	109	107	P/P	80 - 120
2190277	Potassium	103	101	P/P	80 - 120
2190277	Sodium	100		P	80 - 120
2190277	Zinc	106	106	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190181	Aluminum	103		P	80 - 120
2190181	Antimony	108		P	80 - 120
2190181	Arsenic	106		P	80 - 120
2190181	Boron	103		P	80 - 120
2190181	Cadmium	104		P	80 - 120
2190181	Chromium	107		P	80 - 120
2190181	Copper	105		P	80 - 120
2190181	Lead	109		P	80 - 120
2190181	Nickel	105		P	80 - 120
2190181	Selenium	102		P	80 - 120
2190181	Silver	105		P	80 - 120
2190181	Thallium	111		P	80 - 120
2190277	Aluminum	106	107	P/P	80 - 120
2190277	Antimony	107	107	P/P	80 - 120
2190277	Arsenic	105	104	P/P	80 - 120
2190277	Boron	101	102	P/P	80 - 120
2190277	Cadmium	104	105	P/P	80 - 120
2190277	Chromium	107	108	P/P	80 - 120
2190277	Copper	106	107	P/P	80 - 120
2190277	Lead	107	109	P/P	80 - 120
2190277	Nickel	104	105	P/P	80 - 120
2190277	Selenium	100	101	P/P	80 - 120
2190277	Silver	106	106	P/P	80 - 120
2190277	Thallium	108	111	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190038	Chloride	97.4		P	90 - 110
2190131	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386278

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190038	Sulfate	101		P	90 - 110
2190131	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190129	Ammonia-N	99.2	105	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190195	Ammonia-N	100	106	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386240

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2189429	Ammonia-N	100	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190151	Kjeldahl Nitrogen	92.3	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386036

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190151	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190114	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190195	Total-P	104	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386018

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190152	O-Phosphate-P	98.6	98.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P386047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190160	Acetochlor	104	99.4	P/P	68 - 126
2190160	Alachlor	106	101	P/P	66 - 125
2190160	Ametryn	127	112	P/P	31 - 182
2190160	Atrazine Desethyl	61.3	58.3	P/P	13 - 161
2190160	Azinphos Methyl	144	127	P/P	54 - 162
2190160	Bromacil	74.3	66.3	P/P	34 - 144
2190160	Butylate	42.5	37.8	P/P	16 - 92.0
2190160	Carbophenothion	84.5	81.3	P/P	50 - 150
2190160	Chlorpyrifos Ethyl	87.1	83.0	P/P	63 - 124
2190160	Chlorpyrifos Methyl	83.7	80.6	P/P	64 - 125
2190160	Cyanazine	125	115	P/P	13 - 245
2190160	Demeton	82.9	77.3	P/P	20 - 154
2190160	Diazinon	109	102	P/P	66 - 141
2190160	Dimethenamid	106	101	P/P	50 - 130
2190160	Disulfoton	77.2	75.0	P/P	55 - 130
2190160	Dithiopyr	98.2	98.4	P/P	66 - 122
2190160	EPTC	40.1	34.5	P/P	15 - 93.0
2190160	Ethion	90.7	86.7	P/P	15 - 148
2190160	Ethoprop	91.2	84.5	P/P	59 - 126
2190160	Fenamiphos	83.7	82.4	P/P	39 - 137
2190160	Fipronil Desulfinyl	108	105	P/P	43 - 121
2190160	Flumioxazin	262	245	F/F	70 - 200
2190160	Fonofos	91.8	87.4	P/P	62 - 128
2190160	Hexazinone	93.5	92.1	P/P	58 - 154
2190160	Imazalil	146	129	P/P	50 - 150
2190160	Malathion	108	99.3	P/P	54 - 135
2190160	Metalaxyl	100	93.6	P/P	46 - 136
2190160	Metolachlor	103	98.4	P/P	62 - 126
2190160	Metribuzin	108	99.2	P/P	44 - 277
2190160	Mevinphos	83.5	75.4	P/P	44 - 135
2190160	Molinate	61.8	52.4	P/P	31 - 104
2190160	Naled	63.1	68.6	P/P	40 - 130
2190160	Norflurazon	95.1	93.4	P/P	32 - 134
2190160	Oxadiazon	88.1	90.0	P/P	55 - 123
2190160	Parathion Ethyl	103	101	P/P	67 - 120
2190160	Parathion Methyl	107	99.8	P/P	70 - 140
2190160	Pendimethalin	104	101	P/P	59 - 145
2190160	Phorate	73.4	69.3	P/P	52 - 127
2190160	Prodiamine	98.7	116	P/P	11 - 157
2190160	Prometon	106	104	P/P	55 - 130
2190160	Prometryn	113	108	P/P	55 - 127
2190160	Pronamide	110	105	P/P	50 - 150
2190160	Propiconazole	104	95.3	P/P	50 - 150
2190160	Simazine	109	102	P/P	58 - 159
2190160	Tebuconazole	75.9	74.2	P/P	10 - 122
2190160	Terbufos	91.4	85.1	P/P	65 - 131
2190160	Terbutylazine	106	103	P/P	63 - 131

Reference Method: EPA 8321B
Batch ID: P386032

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P386032

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2189780	Acesulfame K	105	106	P/P	40 - 150
2189780	AMPA	90.1	85.3	P/P	40 - 150
2189780	Endothall	119	125	P/P	40 - 150
2189780	Glufosinate	77.8	79.7	P/P	40 - 150
2189780	Glyphosate	57.3	62.6	P/P	40 - 140
2189780	Sucralose	94.1	60.3	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P386033

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2189403	2,4-D	133	110	P/P	30 - 160
2189403	Acetaminophen	80.3	79.4	P/P	30 - 160
2189403	Acetamiprid	78.1	73.9	P/P	30 - 160
2189403	Afidopyropen	56.5	51.4	P/P	30 - 160
2189403	Benzovindiflupyr	68.9	63.8	P/P	30 - 160
2189403	Carbamazepine	56.3	53.7	P/P	30 - 160
2189403	Clothianidin	69.3	66.9	P/P	30 - 160
2189403	Dinotefuran	91.7	85.6	P/P	30 - 160
2189403	Diuron	46.1	49.2	P/P	30 - 160
2189403	Fenuron	70.0	67.5	P/P	30 - 160
2189403	Fluridone	75.9	68.4	P/P	30 - 160
2189403	Hydrocodone	64.5	63.9	P/P	30 - 160
2189403	Ibuprofen	69.0	63.8	P/P	30 - 160
2189403	Imazapyr	92.4	88.4	P/P	30 - 160
2189403	Imidacloprid	114	105	P/P	30 - 160
2189403	Linuron	57.4	58.3	P/P	30 - 160
2189403	Mandestrobin	71.4	66.1	P/P	30 - 160
2189403	MCPP	117	97.7	P/P	30 - 160
2189403	Naproxen	68.4	73.8	P/P	30 - 160
2189403	Primidone	76.8	71.8	P/P	30 - 160
2189403	Pyraclostrobin	71.3	62.7	P/P	30 - 160
2189403	Thiamethoxam	79.4	78.1	P/P	30 - 160
2189403	Tolfenpyrad	42.2	43.1	P/P	30 - 160
2189403	Triclopyr	101	92.0	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P386122

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190150	Fluoride	100	101	P/P	94 - 107

Reference Method: SM 5310 B-2011
Batch ID: P386259

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2190174	Organic Carbon	97.8	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190039	Turbidity	2.33	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P386011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190207	Turbidity	15.5	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P386012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190277	Barium	0.152	Spike	P	0 - 20
2190277	Calcium	0.282	Spike	P	0 - 20
2190277	Iron	1.32	Spike	P	0 - 20
2190277	Magnesium	1.24	Spike	P	0 - 20
2190277	Potassium	0.930	Spike	P	0 - 20
2190277	Sodium	0.329	Spike	P	0 - 20
2190277	Zinc	0.491	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P386012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190277	Aluminum	0.552	Spike	P	0 - 20
2190277	Antimony	0.0168	Spike	P	0 - 20
2190277	Arsenic	0.615	Spike	P	0 - 20
2190277	Boron	1.36	Spike	P	0 - 20
2190277	Cadmium	1.21	Spike	P	0 - 20
2190277	Chromium	1.71	Spike	P	0 - 20
2190277	Copper	0.788	Spike	P	0 - 20
2190277	Lead	1.28	Spike	P	0 - 20
2190277	Nickel	1.45	Spike	P	0 - 20
2190277	Selenium	0.692	Spike	P	0 - 20
2190277	Silver	0.205	Spike	P	0 - 20
2190277	Thallium	2.43	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190038	Chloride	0.164	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P386278

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190038	Sulfate	0.556	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190129	Ammonia-N	4.74	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190195	Ammonia-N	4.14	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P386240

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2189429	Ammonia-N	0.826	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190151	Kjeldahl Nitrogen	5.61	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P386309

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190195	Kjeldahl Nitrogen	3.46	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P386036

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190151	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190114	Total-P	0.886	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P386103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190195	Total-P	1.32	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P386018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190152	O-Phosphate-P	0.203	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P386047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190160	Acetochlor	4.67	Spike	P	0 - 30
2190160	Alachlor	4.73	Spike	P	0 - 30
2190160	Ametryn	12.0	Spike	P	0 - 30
2190160	Atrazine	0.110	Spike	P	0 - 30
2190160	Atrazine Desethyl	2.03	Spike	P	0 - 30
2190160	Azinphos Methyl	12.6	Spike	P	0 - 30
2190160	Bromacil	11.3	Spike	P	0 - 30
2190160	Butylate	11.8	Spike	P	0 - 30
2190160	Carbophenothion	3.81	Spike	P	0 - 30
2190160	Chlorpyrifos Ethyl	4.89	Spike	P	0 - 30
2190160	Chlorpyrifos Methyl	3.77	Spike	P	0 - 30
2190160	Cyanazine	8.32	Spike	P	0 - 30
2190160	Demeton	7.04	Spike	P	0 - 30
2190160	Diazinon	7.05	Spike	P	0 - 30
2190160	Dimethenamid	4.52	Spike	P	0 - 30
2190160	Disulfoton	2.80	Spike	P	0 - 30
2190160	Dithiopyr	0.175	Spike	P	0 - 30
2190160	EPTC	14.9	Spike	P	0 - 30
2190160	Ethion	4.58	Spike	P	0 - 30
2190160	Ethoprop	7.54	Spike	P	0 - 30
2190160	Fenamiphos	1.55	Spike	P	0 - 30
2190160	Fipronil	0.582	Spike	P	0 - 30
2190160	Fipronil Desulfinyl	3.15	Spike	P	0 - 30
2190160	Fipronil Sulfide	5.27	Spike	P	0 - 30
2190160	Fipronil Sulfone	7.01	Spike	P	0 - 30
2190160	Flumioxazin	6.45	Spike	P	0 - 30
2190160	Fonofos	4.90	Spike	P	0 - 30
2190160	Hexazinone	1.51	Spike	P	0 - 30
2190160	Imazalil	12.1	Spike	P	0 - 30
2190160	Malathion	8.42	Spike	P	0 - 30
2190160	Metalaxyl	6.97	Spike	P	0 - 30
2190160	Metolachlor	4.07	Spike	P	0 - 30
2190160	Metribuzin	8.86	Spike	P	0 - 30
2190160	Mevinphos	10.2	Spike	P	0 - 30
2190160	Molinate	16.5	Spike	P	0 - 30
2190160	Naled	8.25	Spike	P	0 - 30
2190160	Norflurazon	1.83	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P386047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190160	Oxadiazon	2.10	Spike	P	0 - 30
2190160	Parathion Ethyl	2.25	Spike	P	0 - 30
2190160	Parathion Methyl	7.24	Spike	P	0 - 30
2190160	Pendimethalin	2.71	Spike	P	0 - 30
2190160	Phorate	5.76	Spike	P	0 - 30
2190160	Prodiamine	15.8	Spike	P	0 - 30
2190160	Prometon	2.24	Spike	P	0 - 30
2190160	Prometryn	4.29	Spike	P	0 - 30
2190160	Pronamide	4.88	Spike	P	0 - 30
2190160	Propiconazole	8.26	Spike	P	0 - 30
2190160	Simazine	6.48	Spike	P	0 - 30
2190160	Sulfentrazone	0.899	Spike	P	0 - 30
2190160	Tebuconazole	2.18	Spike	P	0 - 30
2190160	Terbufos	7.13	Spike	P	0 - 30
2190160	Terbutylazine	2.48	Spike	P	0 - 30
LFB	Acetochlor	8.35	LCS	P	0 - 30
LFB	Alachlor	5.59	LCS	P	0 - 30
LFB	Ametryn	14.4	LCS	P	0 - 30
LFB	Atrazine	2.63	LCS	P	0 - 30
LFB	Atrazine Desethyl	13.2	LCS	P	0 - 30
LFB	Azinphos Methyl	17.5	LCS	P	0 - 30
LFB	Bromacil	8.10	LCS	P	0 - 30
LFB	Butylate	26.2	LCS	P	0 - 30
LFB	Carbophenothion	3.05	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.27	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	22.3	LCS	P	0 - 30
LFB	Cyanazine	31.6	LCS	F	0 - 30
LFB	Demeton	29.0	LCS	P	0 - 30
LFB	Diazinon	9.84	LCS	P	0 - 30
LFB	Dimethenamid	2.56	LCS	P	0 - 30
LFB	Disulfoton	17.9	LCS	P	0 - 30
LFB	Dithiopyr	3.77	LCS	P	0 - 30
LFB	EPTC	27.5	LCS	P	0 - 30
LFB	Ethion	28.3	LCS	P	0 - 30
LFB	Ethoprop	29.1	LCS	P	0 - 30
LFB	Fenamiphos	6.13	LCS	P	0 - 30
LFB	Fipronil	4.39	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	2.57	LCS	P	0 - 30
LFB	Fipronil Sulfide	2.72	LCS	P	0 - 30
LFB	Fipronil Sulfone	6.38	LCS	P	0 - 30
LFB	Flumioxazin	23.6	LCS	P	0 - 30
LFB	Fonofos	28.0	LCS	P	0 - 30
LFB	Hexazinone	5.18	LCS	P	0 - 30
LFB	Imazalil	10.8	LCS	P	0 - 30
LFB	Malathion	18.0	LCS	P	0 - 30
LFB	Metalaxyl	1.06	LCS	P	0 - 30
LFB	Metolachlor	0.714	LCS	P	0 - 30
LFB	Metribuzin	8.80	LCS	P	0 - 30
LFB	Mevinphos	19.6	LCS	P	0 - 30
LFB	Molinate	40.8	LCS	F	0 - 30
LFB	Naled	24.3	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P386047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Norflurazon	6.42	LCS	P	0 - 30
LFB	Oxadiazon	10.5	LCS	P	0 - 30
LFB	Parathion Ethyl	3.86	LCS	P	0 - 30
LFB	Parathion Methyl	20.0	LCS	P	0 - 30
LFB	Pendimethalin	13.8	LCS	P	0 - 30
LFB	Phorate	23.1	LCS	P	0 - 30
LFB	Prodiamine	6.34	LCS	P	0 - 30
LFB	Prometon	9.56	LCS	P	0 - 30
LFB	Prometryn	10.0	LCS	P	0 - 30
LFB	Pronamide	5.20	LCS	P	0 - 30
LFB	Propiconazole	2.77	LCS	P	0 - 30
LFB	Simazine	9.36	LCS	P	0 - 30
LFB	Sulfentrazone	3.92	LCS	P	0 - 30
LFB	Tebuconazole	103	LCS	F	0 - 30
LFB	Terbufos	24.4	LCS	P	0 - 30
LFB	Terbutylazine	0.103	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P386032

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2189780	Acesulfame K	1.02	Spike	P	0 - 30
2189780	AMPA	4.73	Spike	P	0 - 30
2189780	Endothall	4.71	Spike	P	0 - 30
2189780	Glufosinate	2.45	Spike	P	0 - 30
2189780	Glyphosate	7.18	Spike	P	0 - 30
2189780	Sucralose	43.9	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P386033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2189403	2,4-D	18.4	Spike	P	0 - 30
2189403	Acetaminophen	1.20	Spike	P	0 - 30
2189403	Acetamiprid	5.51	Spike	P	0 - 30
2189403	Afidopyropen	9.43	Spike	P	0 - 30
2189403	Benzovindiflupyr	7.75	Spike	P	0 - 30
2189403	Carbamazepine	4.68	Spike	P	0 - 30
2189403	Clothianidin	3.50	Spike	P	0 - 30
2189403	Dinotefuran	6.95	Spike	P	0 - 30
2189403	Diuron	6.54	Spike	P	0 - 30
2189403	Fenuron	3.65	Spike	P	0 - 30
2189403	Fluridone	9.74	Spike	P	0 - 30
2189403	Hydrocodone	0.931	Spike	P	0 - 30
2189403	Ibuprofen	7.80	Spike	P	0 - 30
2189403	Imazapyr	4.49	Spike	P	0 - 30
2189403	Imidacloprid	7.93	Spike	P	0 - 30
2189403	Linuron	1.47	Spike	P	0 - 30
2189403	Mandestrobin	7.62	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P386033

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2189403	MCP	18.3	Spike	P	0 - 30
2189403	Naproxen	7.50	Spike	P	0 - 30
2189403	Primidone	6.68	Spike	P	0 - 30
2189403	Pyraclostrobin	12.8	Spike	P	0 - 30
2189403	Thiamethoxam	1.66	Spike	P	0 - 30
2189403	Tolfenpyrad	2.17	Spike	P	0 - 30
2189403	Triclopyr	9.32	Spike	P	0 - 30

Reference Method: SM 2120 B-2011
Batch ID: P386021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190173	Color (true)	1.12	Sample	P	0 - 20

Reference Method: SM 2120 B-2011
Batch ID: P386022

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190188	Color (true)	0.295	Sample	P	0 - 20

Reference Method: SM 2320 B-2011
Batch ID: P386118

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190150	Total Alkalinity	3.11	Sample	P	0 - 8.1

Reference Method: SM 2540 C-2011
Batch ID: P386373

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190050	TDS	0.858	Sample	P	0 - 10

Reference Method: SM 2540 C-2011
Batch ID: P386374

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190207	TDS	0.398	Sample	P	0 - 10

Reference Method: SM 2540 D-2011
Batch ID: P386186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190207	TSS	4.08	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-2011
Batch ID: P386122

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190150	Fluoride	0.454	Spike	P	0 - 2.8

Reference Method: SM 5310 B-2011
Batch ID: P386259

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2190174	Organic Carbon	0.839	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2190201
Field Sample ID: G5SE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	81.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	71.0	P	30 - 160
EPA 8321B	Carbamazepine-d10	47.1	P	30 - 160
EPA 8321B	Diuron-d6	45.8	P	30 - 160
EPA 8321B	Endothall-d6	96.0	P	30 - 160
EPA 8321B	Endothall-d6	96.0	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	104	P	30 - 160
EPA 8321B	Ibuprofen-d3	65.3	P	30 - 160
EPA 8321B	Primidone-d5	64.5	P	30 - 160
EPA 8321B	Sucralose-d6	72.1	P	30 - 160
EPA 8321B	Sucralose-d6	72.1	P	30 - 160

Lab Sample ID: 2190203
Field Sample ID: G5SE0085

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	103	P	72 - 135
EPA 8270E	Terbufos-d10	98.5	P	57 - 134

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A100446

Included Lab Sample IDs: 2190188, 2190191, 2190194

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A100450

Included Lab Sample IDs: 2190190, 2190193, 2190196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.5	P/P	90 - 110
O-Phosphate-P	100	98.9	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A100451

Included Lab Sample IDs: 2190188, 2190191, 2190194

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	104	P/P	90 - 115
Color (true)	105	104	P/P	90 - 115

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A100462

Included Lab Sample IDs: 2190189, 2190192, 2190195

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A100481

Included Lab Sample IDs: 2190202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	104	103	P/P	90 - 110
Calcium	104	105	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	99.1	100	P/P	90 - 110
Sodium	98.4	99.6	P/P	90 - 110
Zinc	106	105	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100488

Included Lab Sample IDs: 2190201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	101	P/P	60 - 160
Endothall	95.2	104	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100489

Included Lab Sample IDs: 2190189, 2190195

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

Reference Method: SM 2320 B-2011

Run ID: A100491

Included Lab Sample IDs: 2190188, 2190191, 2190194

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.9	99.2	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A100491

Included Lab Sample IDs: 2190188, 2190191, 2190194

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100494

Included Lab Sample IDs: 2190189

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

Reference Method: EPA 8321B

Run ID: A100503

Included Lab Sample IDs: 2190201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.7	94.1	P/P	60 - 160
Glufosinate	86.4	95.5	P/P	60 - 160
Glyphosate	85.0	84.3	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100516

Included Lab Sample IDs: 2190195

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A100524

Included Lab Sample IDs: 2190192

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100530

Included Lab Sample IDs: 2190192

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A100530

Included Lab Sample IDs: 2190192

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.9	97.0	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A100535

Included Lab Sample IDs: 2190189, 2190192, 2190195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.9	97.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A100543

Included Lab Sample IDs: 2190188, 2190191, 2190194

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

Reference Method: EPA 8321B

Run ID: A100565

Included Lab Sample IDs: 2190201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.4	81.6	P/P	50 - 150
Acetaminophen	108	88.8	P/P	60 - 160
Acetamiprid	98.0	95.6	P/P	50 - 150
Afidopyropen	94.4	84.6	P/P	50 - 150
Bentazon	135	145	P/P	50 - 160
Benzovindiflupyr	96.6	103	P/P	50 - 150
Carbamazepine	93.7	88.7	P/P	60 - 150
Clothianidin	105	90.9	P/P	60 - 150
Dinotefuran	102	92.8	P/P	50 - 150
Diuron	100	101	P/P	60 - 160
Fenuron	110	101	P/P	60 - 150
Fluridone	106	95.7	P/P	60 - 160
Hydrocodone	103	92.0	P/P	60 - 150
Ibuprofen	77.4	87.7	P/P	50 - 160
Imazapyr	97.9	87.5	P/P	50 - 150
Imidacloprid	108	87.0	P/P	60 - 150
Linuron	103	105	P/P	60 - 150
Mandestrobin	113	114	P/P	50 - 150
MCPP	93.7	92.2	P/P	50 - 150
Naproxen	113	115	P/P	50 - 160
Primidone	95.1	100	P/P	60 - 150
Pyraclostrobin	91.4	95.9	P/P	60 - 150
Thiamethoxam	103	92.8	P/P	50 - 150
Tolfenpyrad	87.4	95.4	P/P	60 - 150
Triclopyr	98.2	102	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A100590

Included Lab Sample IDs: 2190189, 2190192, 2190195

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	101	P/P	90 - 110
Kjeldahl Nitrogen	98.0	101	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100601

Included Lab Sample IDs: 2190202

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	108	108	P/P	90 - 110
Arsenic	102	101	P/P	90 - 110
Boron	101	104	P/P	90 - 110
Cadmium	103	102	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Copper	98.8	98.3	P/P	90 - 110
Lead	103	104	P/P	90 - 110
Nickel	100	99.8	P/P	90 - 110
Selenium	102	101	P/P	90 - 110
Silver	105	105	P/P	90 - 110
Thallium	102	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A100617

Included Lab Sample IDs: 2190201

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	130	79.3	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A100621

Included Lab Sample IDs: 2190202

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

Reference Method: EPA 8270E

Run ID: A100646

Included Lab Sample IDs: 2190203

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	96.3		P	80 - 120
Alachlor	98.5		P	80 - 120
Ametryn	101		P	80 - 120
Atrazine	98.8		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	108		P	80 - 120
Bromacil	103		P	80 - 120
Butylate	99.2		P	80 - 120
Carbophenothion	97.9		P	80 - 120
Chlorpyrifos Ethyl	99.6		P	80 - 120
Chlorpyrifos Methyl	97.3		P	80 - 120
Cyanazine	93.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A100646
Included Lab Sample IDs: 2190203

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Demeton	94.6		P	80 - 120
Diazinon	94.5		P	80 - 120
Dimethenamid	98.9		P	80 - 120
Disulfoton	95.1		P	80 - 120
Dithiopyr	99.1		P	80 - 120
EPTC	96.9		P	80 - 120
Ethion	95.6		P	80 - 120
Ethoprop	95.9		P	80 - 120
Fenamiphos	97.2		P	80 - 120
Fipronil	97.2		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	98.0		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Flumioxazin	94.3		P	80 - 120
Fonofos	94.6		P	80 - 120
Imazalil	95.1		P	80 - 120
Malathion	102		P	80 - 120
Metalaxyl	101		P	80 - 120
Metolachlor	96.9		P	80 - 120
Metribuzin	93.3		P	80 - 120
Mevinphos	95.8		P	80 - 120
Molinate	98.5		P	80 - 120
Naled	97.2		P	80 - 120
Norflurazon	97.8		P	80 - 120
Oxadiazon	100		P	80 - 120
Parathion Ethyl	97.0		P	80 - 120
Parathion Methyl	93.7		P	80 - 120
Pendimethalin	100		P	80 - 120
Phorate	93.1		P	80 - 120
Prodiamine	97.3		P	80 - 120
Prometon	98.6		P	80 - 120
Prometryn	100		P	80 - 120
Pronamide	99.3		P	80 - 120
Propiconazole	98.4		P	80 - 120
Simazine	95.3		P	80 - 120
Sulfentrazone	98.0		P	80 - 120
Tebuconazole	99.0		P	80 - 120
Terbufos	93.5		P	80 - 120
Terbutylazine	98.7		P	80 - 120

Reference Method: EPA 8270E
Run ID: A100727
Included Lab Sample IDs: 2190203

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Hexazinone	111		P	80 - 120

* 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	MS
								SMP	
EPA 180.1 Rev. 2.0	Turbidity							2.33	
	Turbidity							15.5	
EPA 200.7 Rev. 4.4	Barium	102		105	105	105			0.152
	Calcium	105		106	105				0.282
	Iron	106		110	110	109			1.32
	Magnesium	107		110	109	107			1.24
	Potassium	101		103	103	101			0.930
	Sodium	101		101	100				0.329
	Zinc	104		109	106	106			0.491
EPA 200.8 Rev. 5.4	Aluminum	109		106	107	103			0.552
	Antimony	104		107	107	108			0.0168
	Arsenic	103		105	104	106			0.615
	Boron	98.9		101	102	103			1.36
	Cadmium	103		104	105	104			1.21
	Chromium	104		107	108	107			1.71
	Copper	103		106	107	105			0.788
	Lead	106		107	109	109			1.28
	Nickel	103		104	105	105			1.45
	Selenium	104		100	101	102			0.692
	Silver	104		106	106	105			0.205
	Thallium	105		108	111	111			2.43
EPA 300.0 Rev. 2.1	Chloride	98.7		97.4	101			0.164	
	Sulfate	101		101	102			0.556	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0		99.2	105				4.74
	Ammonia-N	97.0		100	106				4.14
	Ammonia-N	102		100	101				0.826
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102		92.3	100				5.61
	Kjeldahl Nitrogen	105							3.46
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	102		102	102				0.0
EPA 365.1 Rev. 2.0	Total-P	101		101	100				0.886
	Total-P	103		104	102				1.32
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		98.6	98.8				0.203
EPA 8270E	Acetochlor	91.3	99.3	104	99.4	8.35			4.67
	Alachlor	93.6	98.9	106	101	5.59			4.73
	Ametryn	93.8	108	112	127	14.4			12.0
	Atrazine	97.8	100			2.63			0.110
	Atrazine Desethyl	74.7	85.3	58.3	61.3	13.2			2.03
	Azinphos Methyl	116	138	127	144	17.5			12.6
	Bromacil	90.8	98.4	66.3	74.3	8.10			11.3
	Butylate	52.0	67.6	37.8	42.5	26.2			11.8
	Carbophenothion	93.8	91.0	81.3	84.5	3.05			3.81
	Chlorpyrifos Ethyl	87.1	92.8	87.1	83.0	6.27			4.89
	Chlorpyrifos Methyl	81.7	102	83.7	80.6	22.3			3.77
	Cyanazine	109	150	125	115	31.6			8.32
	Demeton	74.4	99.6	82.9	77.3	29.0			7.04
	Diazinon	93.7	103	109	102	9.84			7.05
	Dimethenamid	92.3	94.7	106	101	2.56			4.52
	Disulfoton	77.9	93.3	77.2	75.0	17.9			2.80
	Dithiopyr	94.6	91.1	98.2	98.4	3.77			0.175
	EPTC	48.3	63.7	40.1	34.5	27.5			14.9
	Ethion	106	79.6	90.7	86.7	28.3			4.58
	Ethoprop	76.0	102	91.2	84.5	29.1			7.54
	Fenamiphos	91.9	86.4	83.7	82.4	6.13			1.55
	Fipronil	101	105			4.39			0.582

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Fipronil Desulfinyl	99.2	102	108	105	2.57		3.15
	Fipronil Sulfide	93.2	95.7			2.72		5.27
	Fipronil Sulfone	92.7	98.8			6.38		7.01
	Flumioxazin	139	177	262	245	23.6		6.45
	Fonofos	74.5	98.7	87.4	91.8	28.0		4.90
	Hexazinone	93.9	89.2	92.1	93.5	5.18		1.51
	Imazalil	90.6	101	129	146	10.8		12.1
	Malathion	98.3	118	99.3	108	18.0		8.42
	Metalaxyl	95.4	96.5	93.6	100	1.06		6.97
	Metolachlor	94.5	93.8	98.4	103	0.714		4.07
	Metribuzin	98.8	108	99.2	108	8.80		8.86
	Mevinphos	70.2	85.4	75.4	83.5	19.6		10.2
	Molinate	54.1	81.8	52.4	61.8	40.8		16.5
	Naled	58.5	74.7	68.6	63.1	24.3		8.25
	Norflurazon	95.3	89.3	93.4	95.1	6.42		1.83
	Oxadiazon	96.3	86.7	90.0	88.1	10.5		2.10
	Parathion Ethyl	98.5	102	101	103	3.86		2.25
	Parathion Methyl	93.1	114	99.8	107	20.0		7.24
	Pendimethalin	89.0	77.5	101	104	13.8		2.71
	Phorate	70.2	88.5	69.3	73.4	23.1		5.76
	Prodiamine	118	111	116	98.7	6.34		15.8
	Prometon	93.7	103	104	106	9.56		2.24
	Prometryn	96.5	107	108	113	10.0		4.29
	Pronamide	96.8	91.9	105	110	5.20		4.88
	Propiconazole	92.2	89.7	95.3	104	2.77		8.26
	Simazine	93.8	103	102	109	9.36		6.48
	Sulfentrazone	82.0	85.2			3.92		0.899
	Tebuconazole	67.6	21.7	74.2	75.9	103		2.18
	Terbufos	78.2	99.9	85.1	91.4	24.4		7.13
	Terbutylazine	99.3	99.2	103	106	0.103		2.48
EPA 8321B	2,4-D	106		133	110			18.4
	Acesulfame K	105		105	106			1.02
	Acetaminophen	79.6		80.3	79.4			1.20
	Acetamiprid	75.6		78.1	73.9			5.51
	Afidopyropen	56.3		56.5	51.4			9.43
	AMPA	90.4		90.1	85.3			4.73
	Bentazon	70.3						
	Benzovindiflupyr	65.8		68.9	63.8			7.75
	Carbamazepine	64.0		56.3	53.7			4.68
	Clothianidin	74.9		69.3	66.9			3.50
	Dinotefuran	84.9		91.7	85.6			6.95
	Diuron	55.6		46.1	49.2			6.54
	Endothall	94.0		119	125			4.71
	Fenuron	80.9		70.0	67.5			3.65
	Fluridone	70.6		75.9	68.4			9.74
	Glufosinate	90.9		77.8	79.7			2.45
	Glyphosate	79.7		57.3	62.6			7.18
	Hydrocodone	79.2		64.5	63.9			0.931
	Ibuprofen	86.4		69.0	63.8			7.80
	Imazapyr	77.3		92.4	88.4			4.49
	Imidacloprid	88.3		114	105			7.93
	Linuron	64.6		57.4	58.3			1.47
	Mandestrobin	73.6		71.4	66.1			7.62
	MCPP	104		117	97.7			18.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Naproxen	68.2	68.4	73.8		7.50
	Primidone	78.2	76.8	71.8		6.68
	Pyraclostrobin	60.4	71.3	62.7		12.8
	Sucralose	85.7	94.1	60.3		43.9
	Thiamethoxam	78.0	79.4	78.1		1.66
	Tolfenpyrad	43.7	42.2	43.1		2.17
	Triclopyr	95.8	101	92.0		9.32
SM 2120 B-2011	Color (true)	102			1.12	
	Color (true)	102			0.295	
SM 2320 B-2011	Total Alkalinity	100			3.11	
SM 2540 C-2011	TDS				0.858	
	TDS				0.398	
SM 2540 D-2011	TSS				4.08	
SM 4500 F-C-2011	Fluoride	101	100	101		0.454
SM 5310 B-2011	Organic Carbon	97.9	97.8	96.4		0.839

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2190188, 2190191, 2190194
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2190202
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2190202
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2190188, 2190191, 2190194
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2190188, 2190191, 2190194
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2190189, 2190192, 2190195
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2190189, 2190192, 2190195
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2190189, 2190192, 2190195
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2190189, 2190192, 2190195
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2190190, 2190193, 2190196
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2190203
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2190201
EPA 8321B	Water soluble organic compounds by HPLC/MS/MS	2190201
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2190188, 2190191, 2190194
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2190188, 2190191, 2190194
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2190202
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2190188, 2190191, 2190194
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2190188, 2190191, 2190194
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2190188, 2190191, 2190194
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2190189, 2190192, 2190195

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	08/13/2020			08/13/2020 14:55	Yen Ta	2190188, 2190191, 2190194
EPA 200.7 Rev. 4.4	08/13/2020	08/13/2020 16:35	Elliott D. Healy	08/14/2020 19:46	Betina Topolski	2190202
EPA 200.8 Rev. 5.4	08/13/2020	08/13/2020 16:35	Elliott D. Healy	08/21/2020 14:28	Alexander Thompson	2190202
	08/13/2020	08/13/2020 16:35	Elliott D. Healy	08/24/2020 16:40	Alexander Thompson	2190202
EPA 300.0 Rev. 2.1	08/13/2020			08/18/2020 11:46	Julia Storbeck	2190188
	08/13/2020			08/18/2020 12:22	Julia Storbeck	2190191
	08/13/2020			08/18/2020 12:34	Julia Storbeck	2190194
EPA 350.1 Rev. 2.0	08/13/2020			08/16/2020 15:10	Ping Hua	2190189
	08/13/2020			08/16/2020 15:17	Ping Hua	2190195
	08/13/2020			08/18/2020 16:07	Virginia P. Brown	2190192
EPA 351.2 Rev. 2.0	08/13/2020	08/20/2020 10:05	Sima Feizi	08/21/2020 11:38	Jhamieka S. Greenwood	2190189
	08/13/2020	08/20/2020 10:05	Sima Feizi	08/21/2020 11:40	Jhamieka S. Greenwood	2190192
	08/13/2020	08/20/2020 10:05	Sima Feizi	08/21/2020 11:48	Jhamieka S. Greenwood	2190195
EPA 353.2 Rev. 2.0	08/13/2020			08/14/2020 09:27	Beverly Y. Sanders	2190189
	08/13/2020			08/14/2020 09:29	Beverly Y. Sanders	2190192
	08/13/2020			08/14/2020 09:30	Beverly Y. Sanders	2190195
EPA 365.1 Rev. 2.0	08/13/2020	08/14/2020 12:15	Shengyu Wang	08/17/2020 10:43	Benjamin T. Nordmann	2190189
	08/13/2020	08/17/2020 11:03	Shengyu Wang	08/18/2020 13:24	Benjamin T. Nordmann	2190195
	08/13/2020	08/17/2020 11:03	Shengyu Wang	08/19/2020 07:45	Lipi Saha	2190192
EPA 365.1 Rev. 2.0 dissolved	08/13/2020			08/13/2020 16:06	Samantha Davila	2190190
	08/13/2020			08/13/2020 16:07	Samantha Davila	2190193
	08/13/2020			08/13/2020 16:43	Samantha Davila	2190196
EPA 8270E	08/13/2020	08/17/2020 08:00	Fe-Val Siddell	08/20/2020 19:30	Vandana T. Nagar	2190203
	08/13/2020	08/17/2020 08:00	Fe-Val Siddell	08/26/2020 19:18	Vandana T. Nagar	2190203
EPA 8321B	08/13/2020	08/14/2020 12:00	Rebecca Ware	08/14/2020 19:56	Rebecca Ware	2190201
	08/13/2020	08/14/2020 12:00	Rebecca Ware	08/17/2020 12:32	Rebecca Ware	2190201
	08/13/2020	08/14/2020 12:00	Rebecca Ware	08/24/2020 12:51	Rebecca Ware	2190201
	08/13/2020	08/17/2020 09:00	Hoor Shaik	08/18/2020 14:17	Juyoung Kim	2190201
SM 2120 B-2011	08/13/2020			08/13/2020 15:24	Madeline Gruver	2190188
	08/13/2020			08/13/2020 15:25	Madeline Gruver	2190191
	08/13/2020			08/13/2020 15:55	Madeline Gruver	2190194
SM 2320 B-2011	08/13/2020			08/15/2020 00:26	Dale L. Simmons	2190191
	08/13/2020			08/15/2020 00:40	Dale L. Simmons	2190188
	08/13/2020			08/15/2020 00:53	Dale L. Simmons	2190194
SM 2340B	08/13/2020			08/14/2020 19:46	Betina Topolski	2190202
SM 2540 C-2011	08/13/2020			08/14/2020 17:50	Madeline Gruver	2190188, 2190191, 2190194
SM 2540 D-2011	08/13/2020			08/14/2020 17:50	Madeline Gruver	2190188, 2190191, 2190194
SM 4500 F-C-2011	08/13/2020			08/15/2020 00:26	Dale L. Simmons	2190191
	08/13/2020			08/15/2020 00:40	Dale L. Simmons	2190188
	08/13/2020			08/15/2020 00:53	Dale L. Simmons	2190194

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	08/13/2020			08/19/2020 02:11	David Boose	2190189
	08/13/2020			08/19/2020 02:23	David Boose	2190192
	08/13/2020			08/19/2020 02:35	David Boose	2190195