

Chemical Analysis Report

CEN-DIST-2021-06-29-01

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

Event Description: **SCI**
Request ID: **RQ-2021-07-05-42**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
3319 Maguire Blvd., Suite 232
Orlando, FL 32803-3767
Attn: Matt Bearden

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: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 21-JUL-2021 09:16



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: Bass Slough 10m N of Neptune Rd.

Collection Date/Time: 06/28/2021 10:45

Field ID: G4CE0219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257572	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P400354	
	EPA 300.0 Rev. 2.1	Chloride	22	A	mg Cl/L	P400626	
		Sulfate	5.0	A	mg SO4/L	P400627	
	SM 2120 B-2011	Color (true)	60		PCU	P400351	
	SM 2320 B-2011	Total Alkalinity	38		mg CaCO3/L	P400707	
	SM 2540 C-2011	TDS	110	A	mg/L	P400763	
	SM 2540 D-2011	TSS	9.8	IA	mg/L	P400671	
	SM 4500 F-C-2011	Fluoride	0.074	I	mg F/L	P400710	
2257573	EPA 350.1 Rev. 2.0	Ammonia-N	0.042		mg N/L	P400691	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P400521	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P400368	
	EPA 365.1 Rev. 2.0	Total-P	0.082		mg P/L	P400501	
	SM 5310 B-2011	Organic Carbon	12		mg C/L	P400567	
2257574	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P400348	
2257578	EPA 8321B	2,4-D	0.25		ug/L	P400315	
		Acesulfame K	0.10	U	ug/L	P400314	
		2,4,5-T	0.0040	U	ug/L	P400315	
		AMPA	0.80		ug/L	P400314	
		Acetaminophen	0.0080	U	ug/L	P400315	
		Acetamiprid	0.0020	U	ug/L	P400315	
		Endothall	0.25	U	ug/L	P400314	
		Glufosinate	0.10	U	ug/L	P400314	
		Glyphosate	1.5		ug/L	P400314	
		Afidopyropen	0.0020	U	ug/L	P400315	
		Bentazon	0.20		ug/L	P400315	
		Sucralose	0.16		ug/L	P400314	
		Benzovindiflupyr	0.0020	U	ug/L	P400315	
		Carbamazepine	8.0E-04	U	ug/L	P400315	
		Clothianidin	0.035		ug/L	P400315	
		Dinotefuran	0.0020	U	ug/L	P400315	
		Diuron	0.0086		ug/L	P400315	
		Fenuron	0.016	U	ug/L	P400315	
		Fluridone	0.018		ug/L	P400315	
		Imazapyr	0.56		ug/L	P400315	
		Hydrocodone	0.0020	U	ug/L	P400315	
		Ibuprofen	0.020	U	ug/L	P400315	
		Imidacloprid	0.0088		ug/L	P400315	
		Linuron	0.0040	U	ug/L	P400315	
		Mandestrobin	0.0020	U	ug/L	P400315	
		MCP	0.013		ug/L	P400315	
		Naproxen	0.0080	U	ug/L	P400315	
		Primidone	0.0040	U	ug/L	P400315	
		Pyraclostrobin	0.0020	U	ug/L	P400315	

MS

Field ID: G4CE0219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257578	EPA 8321B	Thiamethoxam	0.0054	I	ug/L	P400315	
		Tolfenpyrad	0.0020	U	ug/L	P400315	
		Triclopyr	0.0040	U	ug/L	P400315	
2257579	EPA 200.7 Rev. 4.4	Barium	14.0		ug/L	P400316	
		Calcium	15.8		mg/L	P400316	
		Iron	510		ug/L	P400316	
		Magnesium	2.81		mg/L	P400316	
		Manganese	9.8		ug/L	P400316	
		Potassium	1.8		mg/L	P400316	
		Sodium	13.6		mg/L	P400316	
		Zinc	5.0	U	ug/L	P400316	
	EPA 200.8 Rev. 5.4	Aluminum	201		ug/L	P400316	
		Antimony	0.17	I	ug/L	P400316	
		Arsenic	0.99		ug/L	P400316	
		Beryllium	0.012	I	ug/L	P400316	
		Boron**	32.2		ug/L	P400316	
		Cadmium	0.020	U	ug/L	P400316	
		Chromium	0.56	I	ug/L	P400316	
		Copper	4.14		ug/L	P400316	
		Lead	0.39	I	ug/L	P400316	
		Nickel	0.50	U	ug/L	P400316	
		Selenium	0.20	U	ug/L	P400316	
		Silver	0.010	U	ug/L	P400316	
		Thallium	0.10	U	ug/L	P400316	
	SM 2340B	Hardness	51.1		mg/L	P400316	
2257580	EPA 8270E	Acetochlor	0.25	U	ng/L	P400417	
		Alachlor	0.25	U	ng/L	P400417	
		Ametryn	0.59	U	ng/L	P400417	
		Atrazine	190		ng/L	P400417	
		Atrazine Desethyl	26		ng/L	P400417	
		Azinphos Methyl	2.0	U	ng/L	P400417	
		Azoxystrobin**	8.7		ng/L	P400417	
		Bromacil	1.4	I	ng/L	P400417	
		Butylate	0.39	U	ng/L	P400417	
		Caffeine**	22	I	ng/L	P400417	
		Carbophenothion	0.49	U	ng/L	P400417	
		Carfentrazone Ethyl**	0.099	U	ng/L	P400417	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P400417	
		Chlorpyrifos Methyl	0.049	U	ng/L	P400417	
		Cyanazine	3.2	U	ng/L	P400417	
		Demeton	1.5	U	ng/L	P400417	
		Diazinon	0.12	U	ng/L	P400417	
		Difenoconazole**	0.59	U	ng/L	P400417	
		Dimethenamid**	0.099	U	ng/L	P400417	
		Disulfoton	0.49	U	ng/L	P400417	

Field ID: G4CE0219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2257580	EPA 8270E	Dithiopyr**	0.54	I	ng/L	P400417	RPD
		EPTC	1.2	U	ng/L	P400417	
		Ethion	0.15	UJ	ng/L	P400417	
		Ethoprop	0.099	U	ng/L	P400417	
		Fenamiphos	0.49	U	ng/L	P400417	
		Fenbuconazole**	0.12	U	ng/L	P400417	
		Fipronil	2.6		ng/L	P400417	
		Fipronil Desulfinyl**	2.3		ng/L	P400417	
		Fipronil Sulfide	0.71		ng/L	P400417	
		Fipronil Sulfone	1.9		ng/L	P400417	
		Fluazifop-P-butyl**	0.099	U	ng/L	P400417	
		Fludioxonil**	0.12	U	ng/L	P400417	
		Flumioxazin**	7.3		ng/L	P400417	
		Flutolanil**	0.099	U	ng/L	P400417	
		Fluxapyroxad**	4.5		ng/L	P400417	
		Fonofos	0.20	U	ng/L	P400417	
		Hexazinone	0.49	U	ng/L	P400417	
		Imazalil**	0.74	U	ng/L	P400417	
		Iprodione**	0.59	U	ng/L	P400417	
		Malathion	0.35	U	ng/L	P400417	
		Metalaxyl	0.74	U	ng/L	P400417	
		Metolachlor	1.1	I	ng/L	P400417	
		Metribuzin	3.2	U	ng/L	P400417	
		Mevinphos	1.0	U	ng/L	P400417	
		Molinate	0.30	U	ng/L	P400417	
		Myclobutanil**	0.25	U	ng/L	P400417	
		Naled**	1.5	U	ng/L	P400417	
		Norflurazon	0.49	U	ng/L	P400417	
		Oxadiazon	3.6		ng/L	P400417	
		Oxyfluorfen**	0.15	U	ng/L	P400417	
		Parathion Ethyl	0.25	U	ng/L	P400417	
		Parathion Methyl	0.54	U	ng/L	P400417	
		Pendimethalin	0.99	U	ng/L	P400417	
		Phorate	0.52	U	ng/L	P400417	
		Prodiamine**	0.17	UJ	ng/L	P400417	RPD
		Prometon	0.89	U	ng/L	P400417	
		Prometryn	0.20	U	ng/L	P400417	
		Pronamide**	0.15	U	ng/L	P400417	
		Propiconazole**	0.49	U	ng/L	P400417	
		Pyriproxyfen**	0.12	U	ng/L	P400417	
		Simazine	3.4		ng/L	P400417	
		Sulfentrazone**	33		ng/L	P400417	
		Tebuconazole**	0.49	U	ng/L	P400417	
		Terbufos	0.099	U	ng/L	P400417	
		Terbutylazine	0.42	U	ng/L	P400417	

Field ID: G4CE0219

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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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: MS accuracy for some parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab
Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P400354

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P400316

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: P400316

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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: P400626

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400627

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400691

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: P400521

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

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P400368

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: P400501

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P400348

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

Reference Method: EPA 8270E
 Batch ID: P400417

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
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E
Batch ID: P400417

Component	Result	Code	Units
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	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
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
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
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
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P400417

Component	Result	Code	Units
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
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
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
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	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
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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P400314

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: P400315

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
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: P400351

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-2011

Batch ID: P400707

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P400763

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P400671

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P400567

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: P400316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.9		P	85 - 115
Calcium	101		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Manganese	98.5		P	85 - 115
Potassium	104		P	85 - 115
Sodium	100		P	85 - 115
Zinc	97.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P400316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	110		P	85 - 115
Antimony	110		P	85 - 115
Arsenic	106		P	85 - 115
Beryllium	105		P	85 - 115
Boron	111		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	102		P	85 - 115
Copper	109		P	85 - 115
Lead	105		P	85 - 115
Nickel	108		P	85 - 115
Selenium	107		P	85 - 115
Silver	102		P	85 - 115
Thallium	109		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400626

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400627

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400521

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400368

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: P400501

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: P400348

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

Reference Method: EPA 8270E

Batch ID: P400417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	99.4	121	P/P	70 - 121
Alachlor	93.4	115	P/P	70 - 119
Ametryn	95.9	116	P/P	61 - 135
Atrazine	94.6	119	P/P	76 - 123
Atrazine Desethyl	53.4	71.9	P/P	35 - 140
Azinphos Methyl	116	125	P/P	57 - 163
Azoxystrobin	96.2	111	P/P	43 - 231
Bromacil	79.3	96.3	P/P	42 - 123
Butylate	49.7	61.3	P/P	34 - 92.0
Caffeine	91.0	101	P/P	70 - 130
Carbophenothion	104	103	P/P	61 - 121
Carfentrazone Ethyl	102	117	P/P	62 - 139
Chlorpyrifos Ethyl	92.1	101	P/P	67 - 121
Chlorpyrifos Methyl	95.3	103	P/P	67 - 120
Cyanazine	93.7	108	P/P	20 - 226
Demeton	40.2	47.4	P/P	35 - 125
Diazinon	98.4	121	P/P	70 - 122
Difenoconazole	150	146	P/P	56 - 186
Dimethenamid	80.5	84.5	P/P	67 - 119
Disulfoton	92.4	102	P/P	47 - 120
Dithiopyr	93.7	110	P/P	67 - 118
EPTC	50.1	60.0	P/P	33 - 90.0
Ethion	89.7	46.5	P/P	40 - 133
Ethoprop	87.0	101	P/P	61 - 121
Fenamiphos	96.6	93.1	P/P	31 - 139
Fenbuconazole	118	139	P/P	66 - 141
Fipronil	99.6	113	P/P	62 - 129
Fipronil Desulfinyl	108	121	P/P	59 - 126
Fipronil Sulfide	92.5	97.4	P/P	63 - 117
Fipronil Sulfone	92.0	88.8	P/P	57 - 117
Fluazifop-P-butyl	98.9	109	P/P	63 - 124
Fludioxonil	104	114	P/P	63 - 123
Flumioxazin	148	137	P/P	34 - 245
Flutolanil	98.2	98.9	P/P	56 - 131

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P400417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluxapyroxad	89.9	93.3	P/P	57 - 117
Fonofos	84.1	96.9	P/P	61 - 116
Hexazinone	95.2	103	P/P	55 - 138
Imazalil	99.9	109	P/P	33 - 143
Iprodione	91.2	99.5	P/P	59 - 118
Malathion	100	110	P/P	62 - 138
Metalaxyl	91.6	116	P/P	24 - 147
Metolachlor	94.1	117	P/P	68 - 118
Metribuzin	93.5	125	P/P	20 - 239
Mevinphos	80.6	95.8	P/P	46 - 124
Molinate	66.1	83.9	P/P	46 - 100
Myclobutanil	96.9	101	P/P	32 - 149
Naled	47.0	53.1	P/P	32 - 95.0
Norflurazon	96.2	109	P/P	57 - 127
Oxadiazon	88.5	99.7	P/P	63 - 118
Oxyfluorfen	108	97.8	P/P	69 - 137
Parathion Ethyl	95.7	98.8	P/P	70 - 113
Parathion Methyl	101	115	P/P	71 - 130
Pendimethalin	100	97.9	P/P	55 - 118
Phorate	82.4	94.0	P/P	46 - 125
Prodiamine	101	111	P/P	20 - 141
Prometon	88.0	105	P/P	54 - 122
Prometryn	92.2	105	P/P	66 - 124
Pronamide	96.2	122	P/P	79 - 122
Propiconazole	93.2	100	P/P	61 - 126
Pyriproxyfen	86.3	71.0	P/P	52 - 131
Simazine	90.5	115	P/P	75 - 128
Sulfentrazone	70.6	87.1	P/P	20 - 132
Tebuconazole	76.0	59.2	P/P	20 - 116
Terbufos	105	114	P/P	61 - 117
Terbuthylazine	94.2	113	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P400314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	89.8		P	40 - 150
AMPA	97.0		P	40 - 150
Endothall	97.7		P	40 - 150
Glufosinate	93.3		P	40 - 150
Glyphosate	96.5		P	40 - 150
Sucralose	85.2		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	120		P	30 - 160
2,4,5-T	128		P	30 - 160
Acetaminophen	83.0		P	30 - 160
Acetamiprid	90.6		P	30 - 160
Afidopyropen	73.6		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P400315

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	92.3		P	30 - 160
Benzovindiflupyr	92.8		P	30 - 160
Carbamazepine	92.0		P	30 - 160
Clothianidin	92.2		P	30 - 160
Dinotefuran	88.1		P	30 - 160
Diuron	73.7		P	30 - 160
Fenuron	99.7		P	30 - 160
Fluridone	87.6		P	30 - 160
Hydrocodone	94.6		P	30 - 160
Ibuprofen	86.0		P	30 - 160
Imazapyr	101		P	30 - 160
Imidacloprid	92.6		P	30 - 160
Linuron	73.3		P	30 - 160
Mandestrobin	94.1		P	30 - 160
MCPP	125		P	30 - 160
Naproxen	82.1		P	30 - 160
Primidone	93.3		P	30 - 160
Pyraclostrobin	81.1		P	30 - 160
Thiamethoxam	91.7		P	30 - 160
Tolfenpyrad	47.4		P	30 - 160
Triclopyr	122		P	30 - 160

Reference Method: SM 2120 B-2011
Batch ID: P400351

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.3		P	85 - 115

Reference Method: SM 2320 B-2011
Batch ID: P400707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	94 - 106

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.9		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P400567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257559	Barium	101		P	80 - 120
2257559	Calcium	117		P	80 - 120
2257559	Iron	108		P	80 - 120
2257559	Magnesium	113		P	80 - 120
2257559	Manganese	98.6		P	80 - 120
2257559	Potassium	104		P	80 - 120
2257559	Sodium	102		P	80 - 120
2257559	Zinc	98.7		P	80 - 120
2257627	Barium	101	102	P/P	80 - 120
2257627	Calcium	102		P	80 - 120
2257627	Iron	106	108	P/P	80 - 120
2257627	Magnesium	107	110	P/P	80 - 120
2257627	Manganese	99.2	101	P/P	80 - 120
2257627	Potassium	103	106	P/P	80 - 120
2257627	Sodium	102		P	80 - 120
2257627	Zinc	100	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257559	Aluminum	106		P	80 - 120
2257559	Antimony	107		P	80 - 120
2257559	Arsenic	102		P	80 - 120
2257559	Beryllium	103		P	80 - 120
2257559	Boron	113		P	80 - 120
2257559	Cadmium	102		P	80 - 120
2257559	Chromium	99.5		P	80 - 120
2257559	Copper	101		P	80 - 120
2257559	Lead	102		P	80 - 120
2257559	Nickel	102		P	80 - 120
2257559	Selenium	102		P	80 - 120
2257559	Silver	99.6		P	80 - 120
2257559	Thallium	107		P	80 - 120
2257627	Aluminum	108	110	P/P	80 - 120
2257627	Antimony	109	111	P/P	80 - 120
2257627	Arsenic	103	105	P/P	80 - 120
2257627	Beryllium	102	106	P/P	80 - 120
2257627	Boron	111	112	P/P	80 - 120
2257627	Cadmium	101	106	P/P	80 - 120
2257627	Chromium	101	102	P/P	80 - 120
2257627	Copper	103	106	P/P	80 - 120
2257627	Lead	102	104	P/P	80 - 120
2257627	Nickel	104	106	P/P	80 - 120
2257627	Selenium	103	104	P/P	80 - 120
2257627	Silver	101	101	P/P	80 - 120
2257627	Thallium	108	109	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400626

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257434	Chloride	101		P	90 - 110
2257572	Chloride	100		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P400627

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257434	Sulfate	101		P	90 - 110
2257572	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P400691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257540	Ammonia-N	98.6	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P400521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257442	Kjeldahl Nitrogen	104	90.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P400368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257512	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P400501

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257570	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P400348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257574	O-Phosphate-P	96.6	97.2	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P400417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257580	Acetochlor	95.1	103	P/P	66 - 122
2257580	Alachlor	92.9	96.6	P/P	65 - 122
2257580	Ametryn	132	143	P/P	45 - 173
2257580	Azinphos Methyl	114	98.6	P/P	44 - 174
2257580	Bromacil	73.7	77.4	P/P	31 - 145
2257580	Butylate	48.8	48.1	P/P	15 - 97.0
2257580	Caffeine	104	125	P/P	70 - 130
2257580	Carbophenothion	81.7	88.8	P/P	42 - 129

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P400417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257580	Carfentrazone Ethyl	86.3	94.4	P/P	62 - 145
2257580	Chlorpyrifos Ethyl	83.5	89.5	P/P	60 - 124
2257580	Chlorpyrifos Methyl	83.8	89.6	P/P	66 - 119
2257580	Cyanazine	92.2	99.7	P/P	17 - 225
2257580	Demeton	43.5	44.5	P/P	36 - 142
2257580	Diazinon	100	103	P/P	70 - 128
2257580	Difenoconazole	137	151	P/P	33 - 222
2257580	Dimethenamid	74.2	78.6	P/P	54 - 125
2257580	Disulfoton	87.3	88.6	P/P	49 - 133
2257580	Dithiopyr	87.3	92.1	P/P	55 - 123
2257580	EPTC	47.7	48.3	P/P	19 - 91.0
2257580	Ethion	49.6	58.7	P/P	13 - 143
2257580	Ethoprop	87.2	88.4	P/P	49 - 144
2257580	Fenamiphos	97.0	88.6	P/P	32 - 136
2257580	Fenbuconazole	110	116	P/P	73 - 148
2257580	Fipronil	93.6	94.0	P/P	57 - 129
2257580	Fipronil Desulfinyl	98.3	104	P/P	49 - 127
2257580	Fipronil Sulfide	74.9	78.1	P/P	44 - 127
2257580	Fipronil Sulfone	81.1	71.5	P/P	35 - 126
2257580	Fluazifop-P-butyl	86.1	95.1	P/P	67 - 129
2257580	Fludioxonil	90.8	94.2	P/P	61 - 126
2257580	Flumioxazin	147	162	P/P	38 - 279
2257580	Flutolanil	79.5	90.2	P/P	55 - 136
2257580	Fonofos	82.1	84.1	P/P	58 - 125
2257580	Hexazinone	91.9	96.4	P/P	57 - 148
2257580	Imazalil	134	128	P/P	10 - 221
2257580	Iprodione	79.9	83.8	P/P	32 - 140
2257580	Malathion	97.8	102	P/P	52 - 138
2257580	Metalaxyl	90.9	95.8	P/P	46 - 134
2257580	Metolachlor	88.1	95.1	P/P	58 - 122
2257580	Metribuzin	116	107	P/P	16 - 272
2257580	Mevinphos	81.1	79.5	P/P	45 - 140
2257580	Molinate	67.0	65.9	P/P	41 - 103
2257580	Myclobutanil	86.2	103	P/P	60 - 134
2257580	Naled	40.8	37.2	P/P	20 - 113
2257580	Norflurazon	88.3	88.2	P/P	51 - 123
2257580	Oxadiazon	80.4	91.8	P/P	44 - 125
2257580	Oxyfluorfen	96.9	100	P/P	66 - 176
2257580	Parathion Ethyl	87.0	91.7	P/P	57 - 132
2257580	Parathion Methyl	99.8	99.8	P/P	59 - 156
2257580	Pendimethalin	96.4	104	P/P	59 - 129
2257580	Phorate	80.3	82.6	P/P	47 - 136
2257580	Prodiamine	85.3	121	P/P	10 - 159
2257580	Prometon	85.5	94.4	P/P	59 - 127
2257580	Prometryn	87.8	95.3	P/P	59 - 129
2257580	Pronamide	95.1	108	P/P	65 - 145
2257580	Propiconazole	84.4	92.7	P/P	28 - 165
2257580	Pyriproxyfen	60.4	68.8	P/P	21 - 180
2257580	Simazine	99.1	102	P/P	63 - 147
2257580	Tebuconazole	53.9	63.4	P/P	10 - 117
2257580	Terbufos	107	111	P/P	61 - 131
2257580	Terbutylazine	98.0	93.8	P/P	62 - 126

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P400314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257607	Acesulfame K	78.8	87.6	P/P	40 - 150
2257607	AMPA	85.0	82.9	P/P	40 - 150
2257607	Endothall	93.9	93.7	P/P	40 - 150
2257607	Glufosinate	86.9	89.2	P/P	40 - 150
2257607	Glyphosate	91.4	82.6	P/P	40 - 150
2257607	Sucralose	80.9	85.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P400315

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2256868	2,4-D	122	124	P/P	30 - 160
2256868	2,4,5-T	113	116	P/P	30 - 160
2256868	Acetaminophen	112	112	P/P	30 - 160
2256868	Acetamiprid	82.4	74.6	P/P	30 - 160
2256868	Afidopyropen	71.1	57.7	P/P	30 - 160
2256868	Bentazon	79.5	74.5	P/P	30 - 160
2256868	Benzovindiflupyr	84.5	91.2	P/P	30 - 160
2256868	Carbamazepine	85.2	87.3	P/P	30 - 160
2256868	Clothianidin	114	107	P/P	30 - 160
2256868	Dinotefuran	125	123	P/P	30 - 160
2256868	Diuron	75.7	68.5	P/P	30 - 160
2256868	Fenuron	83.1	79.1	P/P	30 - 160
2256868	Fluridone	79.7	81.1	P/P	30 - 160
2256868	Hydrocodone	108	107	P/P	30 - 160
2256868	Ibuprofen	84.8	67.3	P/P	30 - 160
2256868	Imazapyr	168	159	F/P	30 - 160
2256868	Imidacloprid	148	155	P/P	30 - 160
2256868	Linuron	70.6	70.0	P/P	30 - 160
2256868	Mandestrobin	94.0	90.3	P/P	30 - 160
2256868	MCPP	113	112	P/P	30 - 160
2256868	Naproxen	97.4	75.5	P/P	30 - 160
2256868	Primidone	122	111	P/P	30 - 160
2256868	Pyraclostrobin	88.6	80.2	P/P	30 - 160
2256868	Thiamethoxam	145	148	P/P	30 - 160
2256868	Tolfenpyrad	53.7	55.9	P/P	30 - 160
2256868	Triclopyr	121	113	P/P	30 - 160

Reference Method: SM 4500 F-C-2011
Batch ID: P400710

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257941	Fluoride	95.0	97.3	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P400567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2257543	Organic Carbon	95.9	96.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P400354

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257511	Turbidity	6.76	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P400316

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257627	Barium	1.65	Spike	P	0 - 20
2257627	Calcium	1.28	Spike	P	0 - 20
2257627	Iron	1.31	Spike	P	0 - 20
2257627	Magnesium	1.34	Spike	P	0 - 20
2257627	Manganese	1.64	Spike	P	0 - 20
2257627	Potassium	1.59	Spike	P	0 - 20
2257627	Sodium	1.64	Spike	P	0 - 20
2257627	Zinc	1.02	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P400316

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257627	Aluminum	2.11	Spike	P	0 - 20
2257627	Antimony	1.45	Spike	P	0 - 20
2257627	Arsenic	1.92	Spike	P	0 - 20
2257627	Beryllium	3.93	Spike	P	0 - 20
2257627	Boron	0.922	Spike	P	0 - 20
2257627	Cadmium	4.27	Spike	P	0 - 20
2257627	Chromium	0.833	Spike	P	0 - 20
2257627	Copper	2.73	Spike	P	0 - 20
2257627	Lead	1.90	Spike	P	0 - 20
2257627	Nickel	2.64	Spike	P	0 - 20
2257627	Selenium	0.910	Spike	P	0 - 20
2257627	Silver	0.120	Spike	P	0 - 20
2257627	Thallium	0.271	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400626

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257572	Chloride	0.510	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P400627

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257572	Sulfate	0.616	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P400691

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257540	Ammonia-N	0.859	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P400521

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257442	Kjeldahl Nitrogen	7.73	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P400368

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257512	NO2NO3-N	0.980	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P400501

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257570	Total-P	1.21	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P400348

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257574	O-Phosphate-P	0.500	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P400417

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257580	Acetochlor	8.28	Spike	P	0 - 30
2257580	Alachlor	3.95	Spike	P	0 - 30
2257580	Ametryn	7.73	Spike	P	0 - 30
2257580	Atrazine	2.59	Spike	P	0 - 30
2257580	Atrazine Desethyl	0.879	Spike	P	0 - 30
2257580	Azinphos Methyl	14.7	Spike	P	0 - 30
2257580	Azoxystrobin	2.62	Spike	P	0 - 30
2257580	Bromacil	3.96	Spike	P	0 - 30
2257580	Butylate	1.31	Spike	P	0 - 30
2257580	Caffeine	12.3	Spike	P	0 - 30
2257580	Carbophenothion	8.33	Spike	P	0 - 30
2257580	Carfentrazone Ethyl	8.89	Spike	P	0 - 30
2257580	Chlorpyrifos Ethyl	6.95	Spike	P	0 - 30
2257580	Chlorpyrifos Methyl	6.68	Spike	P	0 - 30
2257580	Cyanazine	7.91	Spike	P	0 - 30
2257580	Demeton	2.26	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257580	Diazinon	2.61	Spike	P	0 - 30
2257580	Difenoconazole	10.1	Spike	P	0 - 30
2257580	Dimethenamid	5.80	Spike	P	0 - 30
2257580	Disulfoton	1.55	Spike	P	0 - 30
2257580	Dithiopyr	4.67	Spike	P	0 - 30
2257580	EPTC	1.07	Spike	P	0 - 30
2257580	Ethion	16.8	Spike	P	0 - 30
2257580	Ethoprop	1.38	Spike	P	0 - 30
2257580	Fenamiphos	9.08	Spike	P	0 - 30
2257580	Fenbuconazole	5.55	Spike	P	0 - 30
2257580	Fipronil	0.244	Spike	P	0 - 30
2257580	Fipronil Desulfinyl	3.87	Spike	P	0 - 30
2257580	Fipronil Sulfide	2.81	Spike	P	0 - 30
2257580	Fipronil Sulfone	5.50	Spike	P	0 - 30
2257580	Fluazifop-P-butyl	9.86	Spike	P	0 - 30
2257580	Fludioxonil	3.70	Spike	P	0 - 30
2257580	Flumioxazin	6.88	Spike	P	0 - 30
2257580	Flutolanil	12.7	Spike	P	0 - 30
2257580	Fluxapyroxad	5.28	Spike	P	0 - 30
2257580	Fonofos	2.48	Spike	P	0 - 30
2257580	Hexazinone	4.75	Spike	P	0 - 30
2257580	Imazalil	4.03	Spike	P	0 - 30
2257580	Iprodione	4.73	Spike	P	0 - 30
2257580	Malathion	4.14	Spike	P	0 - 30
2257580	Metalaxyl	5.24	Spike	P	0 - 30
2257580	Metolachlor	6.91	Spike	P	0 - 30
2257580	Metribuzin	8.46	Spike	P	0 - 30
2257580	Mevinphos	2.02	Spike	P	0 - 30
2257580	Molinate	1.63	Spike	P	0 - 30
2257580	Myclobutanil	17.6	Spike	P	0 - 30
2257580	Naled	9.23	Spike	P	0 - 30
2257580	Norflurazon	0.0864	Spike	P	0 - 30
2257580	Oxadiazon	6.42	Spike	P	0 - 30
2257580	Oxyfluorfen	3.42	Spike	P	0 - 30
2257580	Parathion Ethyl	5.30	Spike	P	0 - 30
2257580	Parathion Methyl	0.0395	Spike	P	0 - 30
2257580	Pendimethalin	7.25	Spike	P	0 - 30
2257580	Phorate	2.80	Spike	P	0 - 30
2257580	Prodiamine	34.3	Spike	F	0 - 30
2257580	Prometon	9.87	Spike	P	0 - 30
2257580	Prometryn	8.15	Spike	P	0 - 30
2257580	Pronamide	12.6	Spike	P	0 - 30
2257580	Propiconazole	9.40	Spike	P	0 - 30
2257580	Pyriproxyfen	12.9	Spike	P	0 - 30
2257580	Simazine	1.32	Spike	P	0 - 30
2257580	Sulfentrazone	9.44	Spike	P	0 - 30
2257580	Tebuconazole	16.3	Spike	P	0 - 30
2257580	Terbufos	3.19	Spike	P	0 - 30
2257580	Terbuthylazine	4.38	Spike	P	0 - 30
LFB	Acetochlor	19.3	LCS	P	0 - 30
LFB	Alachlor	20.3	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	18.9	LCS	P	0 - 30
LFB	Atrazine	23.1	LCS	P	0 - 30
LFB	Atrazine Desethyl	29.6	LCS	P	0 - 30
LFB	Azinphos Methyl	6.79	LCS	P	0 - 30
LFB	Azoxystrobin	14.4	LCS	P	0 - 30
LFB	Bromacil	19.3	LCS	P	0 - 30
LFB	Butylate	20.9	LCS	P	0 - 30
LFB	Caffeine	10.3	LCS	P	0 - 30
LFB	Carbophenothion	0.925	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	13.6	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	9.14	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.42	LCS	P	0 - 30
LFB	Cyanazine	13.8	LCS	P	0 - 30
LFB	Demeton	16.4	LCS	P	0 - 30
LFB	Diazinon	20.9	LCS	P	0 - 30
LFB	Difenoconazole	2.72	LCS	P	0 - 30
LFB	Dimethenamid	4.74	LCS	P	0 - 30
LFB	Disulfoton	10.3	LCS	P	0 - 30
LFB	Dithiopyr	16.2	LCS	P	0 - 30
LFB	EPTC	18.1	LCS	P	0 - 30
LFB	Ethion	63.4	LCS	F	0 - 30
LFB	Ethoprop	14.9	LCS	P	0 - 30
LFB	Fenamiphos	3.68	LCS	P	0 - 30
LFB	Fenbuconazole	15.9	LCS	P	0 - 30
LFB	Fipronil	13.0	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	11.4	LCS	P	0 - 30
LFB	Fipronil Sulfide	5.20	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.57	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	10.1	LCS	P	0 - 30
LFB	Fludioxonil	9.07	LCS	P	0 - 30
LFB	Flumioxazin	7.76	LCS	P	0 - 30
LFB	Flutolanil	0.635	LCS	P	0 - 30
LFB	Fluxapyroxad	3.77	LCS	P	0 - 30
LFB	Fonofos	14.2	LCS	P	0 - 30
LFB	Hexazinone	8.34	LCS	P	0 - 30
LFB	Imazalil	8.97	LCS	P	0 - 30
LFB	Iprodione	8.75	LCS	P	0 - 30
LFB	Malathion	9.18	LCS	P	0 - 30
LFB	Metalaxyl	23.3	LCS	P	0 - 30
LFB	Metolachlor	21.4	LCS	P	0 - 30
LFB	Metribuzin	28.6	LCS	P	0 - 30
LFB	Mevinphos	17.3	LCS	P	0 - 30
LFB	Molinate	23.8	LCS	P	0 - 30
LFB	Myclobutanil	4.32	LCS	P	0 - 30
LFB	Naled	12.2	LCS	P	0 - 30
LFB	Norflurazon	12.3	LCS	P	0 - 30
LFB	Oxadiazon	11.9	LCS	P	0 - 30
LFB	Oxyfluorfen	10.1	LCS	P	0 - 30
LFB	Parathion Ethyl	3.14	LCS	P	0 - 30
LFB	Parathion Methyl	12.7	LCS	P	0 - 30
LFB	Pendimethalin	2.21	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P400417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	13.2	LCS	P	0 - 30
LFB	Prodiamine	9.34	LCS	P	0 - 30
LFB	Prometon	18.0	LCS	P	0 - 30
LFB	Prometryn	13.4	LCS	P	0 - 30
LFB	Pronamide	23.4	LCS	P	0 - 30
LFB	Propiconazole	7.25	LCS	P	0 - 30
LFB	Pyriproxyfen	19.4	LCS	P	0 - 30
LFB	Simazine	23.8	LCS	P	0 - 30
LFB	Sulfentrazone	20.9	LCS	P	0 - 30
LFB	Tebuconazole	24.9	LCS	P	0 - 30
LFB	Terbufos	8.39	LCS	P	0 - 30
LFB	Terbuthylazine	18.0	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257607	Acesulfame K	9.91	Spike	P	0 - 30
2257607	AMPA	2.21	Spike	P	0 - 30
2257607	Endothall	0.197	Spike	P	0 - 30
2257607	Glufosinate	2.64	Spike	P	0 - 30
2257607	Glyphosate	9.03	Spike	P	0 - 30
2257607	Sucralose	5.32	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P400315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	2,4-D	1.26	Spike	P	0 - 30
2256868	2,4,5-T	3.02	Spike	P	0 - 30
2256868	Acetaminophen	0.0414	Spike	P	0 - 30
2256868	Acetamiprid	10.0	Spike	P	0 - 30
2256868	Afidopyropen	20.9	Spike	P	0 - 30
2256868	Bentazon	4.42	Spike	P	0 - 30
2256868	Benzovindiflupyr	7.62	Spike	P	0 - 30
2256868	Carbamazepine	2.49	Spike	P	0 - 30
2256868	Clothianidin	6.72	Spike	P	0 - 30
2256868	Dinotefuran	1.79	Spike	P	0 - 30
2256868	Diuron	9.87	Spike	P	0 - 30
2256868	Fenuron	4.91	Spike	P	0 - 30
2256868	Fluridone	1.73	Spike	P	0 - 30
2256868	Hydrocodone	1.10	Spike	P	0 - 30
2256868	Ibuprofen	23.0	Spike	P	0 - 30
2256868	Imazapyr	5.53	Spike	P	0 - 30
2256868	Imidacloprid	3.73	Spike	P	0 - 30
2256868	Linuron	0.884	Spike	P	0 - 30
2256868	Mandestrobin	4.05	Spike	P	0 - 30
2256868	MCP	0.487	Spike	P	0 - 30
2256868	Naproxen	25.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P400315

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2256868	Primidone	9.27	Spike	P	0 - 30
2256868	Pyraclostrobin	9.94	Spike	P	0 - 30
2256868	Thiamethoxam	2.44	Spike	P	0 - 30
2256868	Tolfenpyrad	4.05	Spike	P	0 - 30
2256868	Triclopyr	6.44	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P400351

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257542	Color (true)	0.107	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P400707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257941	Total Alkalinity	0.884	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P400763

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257572	TDS	8.22	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P400710

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257941	Fluoride	0.457	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P400567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2257543	Organic Carbon	0.252	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2257578
Field Sample ID: G4CE0219

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	81.0	P	30 - 160
EPA 8321B	Diuron-d6	55.9	P	30 - 160
EPA 8321B	Endothall-d6	87.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	96.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	73.5	P	30 - 160
EPA 8321B	Primidone-d5	108	P	30 - 160
EPA 8321B	Sucralose-d6	83.4	P	30 - 160

Lab Sample ID: 2257580
Field Sample ID: G4CE0219

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	61.2	P	20 - 200
EPA 8270E	Simazine-d10	99.5	P	73 - 135
EPA 8270E	Terbufos-d10	99.7	P	58 - 130

Quality Assurance Report

Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A106351

Included Lab Sample IDs: 2257574

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.6	99.4	P/P	90 - 110

Reference Method: SM 2120 B-2011

Run ID: A106352

Included Lab Sample IDs: 2257572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	101	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A106353

Included Lab Sample IDs: 2257572

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A106362

Included Lab Sample IDs: 2257573

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

Reference Method: EPA 8321B

Run ID: A106390

Included Lab Sample IDs: 2257578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.1	94.7	P/P	50 - 150
2,4,5-T	96.6	104	P/P	50 - 150
Acetaminophen	102	111	P/P	60 - 160
Acetamiprid	103	104	P/P	50 - 150
Afidopyropen	112	97.1	P/P	50 - 150
Bentazon	101	102	P/P	50 - 160
Benzovindiflupyr	113	113	P/P	50 - 160
Carbamazepine	105	111	P/P	60 - 150
Clothianidin	127	116	P/P	60 - 150
Dinotefuran	97.9	109	P/P	50 - 150
Diuron	113	105	P/P	60 - 160
Fenuron	101	99.6	P/P	60 - 150
Fluridone	97.5	101	P/P	60 - 160
Hydrocodone	107	109	P/P	60 - 150
Ibuprofen	96.7	96.7	P/P	50 - 160
Imazapyr	96.9	108	P/P	50 - 160
Imidacloprid	95.5	94.3	P/P	60 - 150
Linuron	104	114	P/P	60 - 150
Mandestrobin	113	107	P/P	50 - 150
MCPP	107	105	P/P	50 - 150
Naproxen	89.8	91.9	P/P	50 - 160
Primidone	113	101	P/P	60 - 150
Pyraclostrobin	105	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A106390
Included Lab Sample IDs: 2257578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	97.2	106	P/P	50 - 150
Tolfenpyrad	101	107	P/P	60 - 150
Triclopyr	109	103	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A106404
Included Lab Sample IDs: 2257578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	99.8	98.9	P/P	60 - 160
Glufosinate	97.3	97.0	P/P	60 - 160
Glyphosate	97.2	99.9	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A106408
Included Lab Sample IDs: 2257579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	105	104	P/P	90 - 110
Antimony	105	106	P/P	90 - 110
Arsenic	99.7	99.8	P/P	90 - 110
Beryllium	94.9	95.8	P/P	90 - 110
Boron	104	104	P/P	90 - 110
Cadmium	99.8	100	P/P	90 - 110
Chromium	97.4	97.9	P/P	90 - 110
Copper	101	99.5	P/P	90 - 110
Lead	97.2	98.1	P/P	90 - 110
Nickel	101	99.7	P/P	90 - 110
Selenium	99.4	100	P/P	90 - 110
Silver	97.2	97.4	P/P	90 - 110
Thallium	97.8	98.6	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A106418
Included Lab Sample IDs: 2257579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.8	100	P/P	90 - 110
Iron	99.4	101	P/P	90 - 110
Magnesium	98.8	100	P/P	90 - 110
Potassium	101	102	P/P	90 - 110
Sodium	99.0	101	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A106441
Included Lab Sample IDs: 2257579

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	90 - 110
Manganese	104	102	P/P	90 - 110
Zinc	100	103	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A106449

Included Lab Sample IDs: 2257573

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

Reference Method: SM 5310 B-2011

Run ID: A106454

Included Lab Sample IDs: 2257573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.3	97.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A106461

Included Lab Sample IDs: 2257578

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	85.4	82.8	P/P	60 - 160
Endothall	105	80.2	P/P	60 - 160
Sucralose	95.9	77.4	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A106466

Included Lab Sample IDs: 2257573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.9	98.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A106481

Included Lab Sample IDs: 2257572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Sulfate	99.8	99.5	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A106499

Included Lab Sample IDs: 2257580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine Desethyl	106		P	80 - 120
Azinphos Methyl	107		P	80 - 120
Azoxystrobin	97.6		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	93.0		P	80 - 120
Caffeine	95.1		P	80 - 120
Carbophenothion	97.2		P	80 - 120
Carfentrazone Ethyl	102		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E
 Run ID: A106499
 Included Lab Sample IDs: 2257580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cyanazine	109		P	80 - 120
Demeton	98.2		P	80 - 120
Diazinon	97.3		P	80 - 120
Difenoconazole	92.2		P	80 - 120
Dimethenamid	101		P	80 - 120
Disulfoton	98.2		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	100		P	80 - 120
Ethion	101		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	101		P	80 - 120
Fenbuconazole	102		P	80 - 120
Fipronil	102		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	99.0		P	80 - 120
Fipronil Sulfone	98.3		P	80 - 120
Fluazifop-P-butyl	98.7		P	80 - 120
Fludioxonil	104		P	80 - 120
Flumioxazin	96.1		P	80 - 120
Flutolanil	100		P	80 - 120
Fluxapyroxad	97.0		P	80 - 120
Fonofos	99.8		P	80 - 120
Hexazinone	102		P	80 - 120
Imazalil	99.7		P	80 - 120
Iprodione	103		P	80 - 120
Malathion	99.2		P	80 - 120
Metalaxyl	106		P	80 - 120
Metolachlor	100		P	80 - 120
Metribuzin	93.7		P	80 - 120
Mevinphos	100		P	80 - 120
Molinate	98.9		P	80 - 120
Myclobutanil	101		P	80 - 120
Naled	103		P	80 - 120
Norflurazon	104		P	80 - 120
Oxadiazon	99.3		P	80 - 120
Oxyfluorfen	95.5		P	80 - 120
Parathion Ethyl	97.7		P	80 - 120
Parathion Methyl	96.1		P	80 - 120
Pendimethalin	96.5		P	80 - 120
Phorate	98.6		P	80 - 120
Prodiamine	101		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	102		P	80 - 120
Pronamide	94.8		P	80 - 120
Propiconazole	98.3		P	80 - 120
Pyriproxyfen	102		P	80 - 120
Simazine	108		P	80 - 120
Sulfentrazone	95.7		P	80 - 120
Tebuconazole	103		P	80 - 120
Terbufos	98.1		P	80 - 120
Terbutylazine	98.8		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A106506

Included Lab Sample IDs: 2257573

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	98.4	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A106511

Included Lab Sample IDs: 2257580

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	102		P	80 - 120

Reference Method: SM 2320 B-2011

Run ID: A106513

Included Lab Sample IDs: 2257572

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	103	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A106513

Included Lab Sample IDs: 2257572

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

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							6.76	
EPA 200.7 Rev. 4.4	Barium	99.9		101	101	102			1.65
	Calcium	101		117	102				1.28
	Iron	106		108	106	108			1.31
	Magnesium	108		113	107	110			1.34
	Manganese	98.5		98.6	99.2	101			1.64
	Potassium	104		104	103	106			1.59
	Sodium	100		102	102				1.64
	Zinc	97.0		98.7	100	101			1.02
EPA 200.8 Rev. 5.4	Aluminum	110		108	110	106			2.11
	Antimony	110		109	111	107			1.45
	Arsenic	106		103	105	102			1.92
	Beryllium	105		102	106	103			3.93
	Boron	111		111	112	113			0.922
	Cadmium	104		101	106	102			4.27
	Chromium	102		101	102	99.5			0.833
	Copper	109		103	106	101			2.73
	Lead	105		102	104	102			1.90
	Nickel	108		104	106	102			2.64
	Selenium	107		103	104	102			0.910
	Silver	102		101	101	99.6			0.120
	Thallium	109		108	109	107			0.271
EPA 300.0 Rev. 2.1	Chloride	101		100	101			0.510	
	Sulfate	101		98.9	101			0.616	
EPA 350.1 Rev. 2.0	Ammonia-N	99.8		98.6	100				0.859
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101		104	90.8				7.73
EPA 353.2 Rev. 2.0	NO2NO3-N	102		102	102				0.980
EPA 365.1 Rev. 2.0	Total-P	103		103	102				1.21
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103		96.6	97.2				0.500
EPA 8270E	Acetochlor	99.4	121	95.1	103		19.3		8.28
	Alachlor	93.4	115	92.9	96.6		20.3		3.95
	Ametryn	95.9	116	132	143		18.9		7.73
	Atrazine	94.6	119				23.1		2.59
	Atrazine Desethyl	53.4	71.9				29.6		0.879
	Azinphos Methyl	116	125	114	98.6		6.79		14.7
	Azoxystrobin	96.2	111				14.4		2.62
	Bromacil	79.3	96.3	73.7	77.4		19.3		3.96
	Butylate	49.7	61.3	48.8	48.1		20.9		1.31
	Caffeine	91.0	101	104	125		10.3		12.3
	Carbophenothion	104	103	81.7	88.8		0.925		8.33
	Carfentrazone Ethyl	102	117	86.3	94.4		13.6		8.89
	Chlorpyrifos Ethyl	92.1	101	83.5	89.5		9.14		6.95
	Chlorpyrifos Methyl	95.3	103	83.8	89.6		7.42		6.68
	Cyanazine	93.7	108	92.2	99.7		13.8		7.91
	Demeton	40.2	47.4	43.5	44.5		16.4		2.26
	Diazinon	98.4	121	100	103		20.9		2.61
	Difenoconazole	150	146	137	151		2.72		10.1
	Dimethenamid	80.5	84.5	74.2	78.6		4.74		5.80
	Disulfoton	92.4	102	87.3	88.6		10.3		1.55
	Dithiopyr	93.7	110	87.3	92.1		16.2		4.67
	EPTC	50.1	60.0	47.7	48.3		18.1		1.07
	Ethion	89.7	46.5	49.6	58.7		63.4		16.8
	Ethoprop	87.0	101	87.2	88.4		14.9		1.38
	Fenamiphos	96.6	93.1	97.0	88.6		3.68		9.08

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision SMP	MS
EPA 8270E	Fenbuconazole	118	139	110	116	15.9		5.55
	Fipronil	99.6	113	93.6	94.0	13.0		0.244
	Fipronil Desulfinyl	108	121	98.3	104	11.4		3.87
	Fipronil Sulfide	92.5	97.4	74.9	78.1	5.20		2.81
	Fipronil Sulfone	92.0	88.8	81.1	71.5	3.57		5.50
	Fluazifop-P-butyl	98.9	109	86.1	95.1	10.1		9.86
	Fludioxonil	104	114	90.8	94.2	9.07		3.70
	Flumioxazin	148	137	147	162	7.76		6.88
	Flutolanil	98.2	98.9	79.5	90.2	0.635		12.7
	Fluxapyroxad	89.9	93.3			3.77		5.28
	Fonofos	84.1	96.9	82.1	84.1	14.2		2.48
	Hexazinone	95.2	103	91.9	96.4	8.34		4.75
	Imazalil	99.9	109	134	128	8.97		4.03
	Iprodione	91.2	99.5	79.9	83.8	8.75		4.73
	Malathion	100	110	97.8	102	9.18		4.14
	Metalaxyl	91.6	116	90.9	95.8	23.3		5.24
	Metolachlor	94.1	117	88.1	95.1	21.4		6.91
	Metribuzin	93.5	125	116	107	28.6		8.46
	Mevinphos	80.6	95.8	81.1	79.5	17.3		2.02
	Molinate	66.1	83.9	67.0	65.9	23.8		1.63
	Myclobutanil	96.9	101	86.2	103	4.32		17.6
	Naled	47.0	53.1	40.8	37.2	12.2		9.23
	Norflurazon	96.2	109	88.3	88.2	12.3		0.0864
	Oxadiazon	88.5	99.7	80.4	91.8	11.9		6.42
	Oxyfluorfen	108	97.8	96.9	100	10.1		3.42
	Parathion Ethyl	95.7	98.8	87.0	91.7	3.14		5.30
	Parathion Methyl	101	115	99.8	99.8	12.7		0.0395
	Pendimethalin	100	97.9	96.4	104	2.21		7.25
	Phorate	82.4	94.0	80.3	82.6	13.2		2.80
	Prodiamine	101	111	85.3	121	9.34		34.3
	Prometon	88.0	105	85.5	94.4	18.0		9.87
	Prometryn	92.2	105	87.8	95.3	13.4		8.15
	Pronamide	96.2	122	95.1	108	23.4		12.6
	Propiconazole	93.2	100	84.4	92.7	7.25		9.40
	Pyriproxyfen	86.3	71.0	60.4	68.8	19.4		12.9
	Simazine	90.5	115	99.1	102	23.8		1.32
	Sulfentrazone	70.6	87.1			20.9		9.44
	Tebuconazole	76.0	59.2	53.9	63.4	24.9		16.3
	Terbufos	105	114	107	111	8.39		3.19
	Terbuthylazine	94.2	113	98.0	93.8	18.0		4.38
EPA 8321B	2,4-D	120		122	124			1.26
	2,4,5-T	128		113	116			3.02
	Acesulfame K	89.8		78.8	87.6			9.91
	Acetaminophen	83.0		112	112			0.0414
	Acetamiprid	90.6		82.4	74.6			10.0
	Afidopyropen	73.6		71.1	57.7			20.9
	AMPA	97.0		85.0	82.9			2.21
	Bentazon	92.3		79.5	74.5			4.42
	Benzovindiflupyr	92.8		84.5	91.2			7.62
	Carbamazepine	92.0		85.2	87.3			2.49
	Clothianidin	92.2		114	107			6.72
	Dinotefuran	88.1		125	123			1.79
	Diuron	73.7		75.7	68.5			9.87
	Endothall	97.7		93.9	93.7			0.197

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Fenuron	99.7	83.1	79.1			4.91
	Fluridone	87.6	79.7	81.1			1.73
	Glufosinate	93.3	86.9	89.2			2.64
	Glyphosate	96.5	91.4	82.6			9.03
	Hydrocodone	94.6	108	107			1.10
	Ibuprofen	86.0	84.8	67.3			23.0
	Imazapyr	101	168	159			5.53
	Imidacloprid	92.6	148	155			3.73
	Linuron	73.3	70.6	70.0			0.884
	Mandestrobin	94.1	94.0	90.3			4.05
	MCPP	125	113	112			0.487
	Naproxen	82.1	97.4	75.5			25.3
	Primidone	93.3	122	111			9.27
	Pyraclostrobin	81.1	88.6	80.2			9.94
	Sucralose	85.2	80.9	85.6			5.32
	Thiamethoxam	91.7	145	148			2.44
	Tolfenpyrad	47.4	53.7	55.9			4.05
	Triclopyr	122	121	113			6.44
SM 2120 B-2011	Color (true)	99.3				0.107	
SM 2320 B-2011	Total Alkalinity	103				0.884	
SM 2540 C-2011	TDS					8.22	
SM 4500 F-C-2011	Fluoride	99.9	95.0	97.3			0.457
SM 5310 B-2011	Organic Carbon	95.3	95.9	96.2			0.252

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2257572
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2257579
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2257579
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2257572
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2257572
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2257573
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2257573
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2257573
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2257573
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2257574
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2257580
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2257578
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2257572
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2257572
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2257579
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2257572
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2257572
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2257572
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2257573

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/29/2021			06/29/2021 15:42	Sarah A Nixon	2257572
EPA 200.7 Rev. 4.4	06/29/2021	06/29/2021 13:30	Elliott D. Healy	07/01/2021 18:40	Josef B Mick	2257579
	06/29/2021	06/29/2021 13:30	Elliott D. Healy	07/02/2021 14:56	Betina Topolski	2257579
EPA 200.8 Rev. 5.4	06/29/2021	06/29/2021 13:30	Elliott D. Healy	07/01/2021 16:46	Alexander Thompson	2257579
EPA 300.0 Rev. 2.1	06/29/2021			07/07/2021 05:46	Lipi Saha	2257572
EPA 350.1 Rev. 2.0	06/29/2021			07/08/2021 11:59	Roberta Tatti	2257573
EPA 351.2 Rev. 2.0	06/29/2021	07/02/2021 12:58	Benjamin T. Nordmann	07/06/2021 14:56	Letuzia M De Oliveira	2257573
EPA 353.2 Rev. 2.0	06/29/2021			06/30/2021 09:43	Beverly Y. Sanders	2257573
EPA 365.1 Rev. 2.0	06/29/2021	07/02/2021 14:09	Madeline Gruver	07/06/2021 08:27	Shengyu Ding	2257573
EPA 365.1 Rev. 2.0 dissolved	06/29/2021			06/29/2021 15:08	Ping Hua	2257574
EPA 8270E	06/29/2021	07/02/2021 08:00	Fe-Val Siddell	07/03/2021 18:44	Michael Poppell	2257580
	06/29/2021	07/02/2021 08:00	Fe-Val Siddell	07/08/2021 14:47	Michael Poppell	2257580
EPA 8321B	06/29/2021	06/30/2021 09:00	Hoor Shaik	07/01/2021 00:31	Juyoung Kim	2257578
	06/29/2021	06/30/2021 09:00	Hoor Shaik	07/01/2021 10:20	Juyoung Kim	2257578
	06/29/2021	07/01/2021 11:30	Pramila Ghimire	07/01/2021 16:17	Juyoung Kim	2257578
	06/29/2021	07/01/2021 11:30	Pramila Ghimire	07/02/2021 09:58	Pramila Ghimire	2257578
SM 2120 B-2011	06/29/2021			06/29/2021 16:30	Sarah A Nixon	2257572
SM 2320 B-2011	06/29/2021			07/08/2021 22:14	Dale L. Simmons	2257572
SM 2340B	06/29/2021			07/01/2021 18:40	Josef B Mick	2257579
SM 2540 C-2011	06/29/2021			07/01/2021 15:22	Yijie Li	2257572
SM 2540 D-2011	06/29/2021			07/01/2021 15:22	Yijie Li	2257572
SM 4500 F-C-2011	06/29/2021			07/08/2021 22:14	Dale L. Simmons	2257572
SM 5310 B-2011	06/29/2021			07/03/2021 00:17	Madeline Gruver	2257573