

Chemical Analysis Report

SO-DIST-2022-08-10-01

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

Event Description: **2022 SMP : Highland Lakes**

Request ID: **RQ-2022-08-08-68**

Customer: **SO-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
Attn: William Mullen

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Certified by: Colin Wright, Program Administrator

Date Certified: 31-AUG-2022 10:47

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light gray rectangular background.

Case Narrative

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

Results for the following analytical groups are included in this report: 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: Lake Carrie at Center

Collection Date/Time: 08/09/2022 10:15

Field ID: G4SD0212

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2347762	DEP SOP: NU-094-1	Color (true)	100		PCU	P417919	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P417930	
	EPA 300.0 Rev. 2.1	Chloride	18		mg Cl/L	P418211	
		Sulfate	5.9		mg SO4/L	P418214	
	SM 2320 B-2011	Total Alkalinity	16	A	mg CaCO3/L	P418288	
	SM 2540 C-2011	TDS	85		mg/L	P418393	
	SM 2540 D-2011	TSS	3	I	mg/L	P418319	
	SM 4500-F- C-2011	Fluoride	0.044	I	mg F/L	P418593	
2347763	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P418161	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.94		mg N/L	P418138	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P418108	
	EPA 365.1 Rev. 2.0	Total-P	0.031		mg P/L	P417992	
	SM 5310 B-2011	Organic Carbon	17		mg C/L	P418225	
2347764	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417910	
2347767	EPA 8321B	2,4-D	0.024		ug/L	P417988	
		Acesulfame K	0.11	I	ug/L	P417915	
		2,4,5-T	0.0040	U	ug/L	P417988	
		AMPA	0.10	U	ug/L	P417915	
		Acetaminophen	0.0080	U	ug/L	P417988	
		Acetamiprid	0.0020	U	ug/L	P417988	
		Endothall	0.25	U	ug/L	P417915	
		Glufosinate	0.10	U	ug/L	P417915	
		Glyphosate	0.19	I	ug/L	P417915	
		Afidopyropen	0.0020	U	ug/L	P417988	
		Bentazon	0.035		ug/L	P417988	
		Sucralose	1.1		ug/L	P417915	
		Benzovindiflupyr	0.0020	U	ug/L	P417988	
		Carbamazepine	8.0E-04	U	ug/L	P417988	
		Clothianidin	0.0020	U	ug/L	P417988	
		Dinotefuran	0.0020	U	ug/L	P417988	
		Diuron	0.0073	I	ug/L	P417988	
		Fenuron	0.032	U	ug/L	P417988	
		Fluridone	0.0029	I	ug/L	P417988	
		Imazapyr	0.053		ug/L	P417988	
		Hydrocodone	0.0020	U	ug/L	P417988	
		Ibuprofen	0.080	U	ug/L	P417988	
		Imidacloprid	0.0020	U	ug/L	P417988	MS
		Linuron	0.0040	U	ug/L	P417988	
		Mandestrobin	0.0020	U	ug/L	P417988	
		MCPP	0.0040	U	ug/L	P417988	
		Naproxen	0.0080	U	ug/L	P417988	
		Primidone	0.0084	I	ug/L	P417988	
		Pyraclostrobin	0.0020	U	ug/L	P417988	

Field ID: G4SD0212

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2347767	EPA 8321B	Silvex	0.0040	U	ug/L	P417988	
		Thiamethoxam	0.0020	U	ug/L	P417988	MS
		Tolfenpyrad	0.0020	U	ug/L	P417988	
		Triclopyr	0.0040	U	ug/L	P417988	
2347768	EPA 200.7 Rev. 4.4	Calcium	10.4		mg/L	P417935	
		Iron	64	I	ug/L	P417935	
		Magnesium	1.59		mg/L	P417935	
		Potassium	1.2		mg/L	P417935	
		Sodium	10.6		mg/L	P417935	
		Strontium	48.0		ug/L	P417935	
		Tin	3.0	U	ug/L	P417935	
		Titanium	1.1	I	ug/L	P417935	
		Vanadium	2.0	U	ug/L	P417935	
		Zinc	5.0	U	ug/L	P417935	
	EPA 200.8 Rev. 5.4	Aluminum	122		ug/L	P417935	
		Antimony	0.059	I	ug/L	P417935	
		Arsenic	4.76		ug/L	P417935	
		Barium	3.67		ug/L	P417935	
		Beryllium	0.010	U	ug/L	P417935	
		Boron	30.0		ug/L	P417935	
		Cadmium	0.020	U	ug/L	P417935	
		Chromium	0.48	I	ug/L	P417935	
		Cobalt	0.023	I	ug/L	P417935	
		Copper	1.03		ug/L	P417935	
		Lead	0.20	U	ug/L	P417935	
		Manganese	4.05		ug/L	P417935	
		Molybdenum	0.17	I	ug/L	P417935	
		Nickel	0.50	U	ug/L	P417935	
		Selenium	0.20	U	ug/L	P417935	
		Silver	0.010	U	ug/L	P417935	
		Thallium	0.10	U	ug/L	P417935	
	SM 2340 B-2011	Hardness	32.6		mg/L	P417935	
2347769	EPA 8270E	Oxybenzone**	9.7	U	ng/L	P417895	
		Acetochlor	0.24	U	ng/L	P417895	
		Octinoxate**	19	U	ng/L	P417895	
		Alachlor	0.24	U	ng/L	P417895	
		Avobenzone**	97	U	ng/L	P417895	
		Ametryn	0.58	U	ng/L	P417895	
		Atrazine	11		ng/L	P417895	
		PBDE-47**	3.9	U	ng/L	P417895	
		Atrazine Desethyl	3.6	I	ng/L	P417895	
		PBDE-99**	4.8	U	ng/L	P417895	
		Azinphos Methyl	1.9	U	ng/L	P417895	
		Tri-o-cresyl Phosphate**	5.8	U	ng/L	P417895	
		Azoxystrobin	0.48	U	ng/L	P417895	

Field ID: G4SD0212

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2347769	EPA 8270E	Bromacil	0.48	U	ng/L	P417895	
		2-Ethylhexyl	12	U	ng/L	P417895	
		2,3,4,5-tetrabromobenzoate (EHTBB)**					
		Butylate	0.39	U	ng/L	P417895	
		Caffeine**	7.3	U	ng/L	P417895	
		Carbophenothion	0.19	U	ng/L	P417895	
		Carfentrazone Ethyl	0.097	U	ng/L	P417895	
		Chlorfenapyr	0.17	U	ng/L	P417895	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P417895	
		Chlorpyrifos Methyl	0.048	U	ng/L	P417895	
		Coumaphos	0.48	U	ng/L	P417895	
		Cyanazine	3.2	U	ng/L	P417895	
		Cyprodinil	0.097	U	ng/L	P417895	
		Demeton	1.5	U	ng/L	P417895	
		Diazinon	0.12	U	ng/L	P417895	
		Difenoconazole	0.58	U	ng/L	P417895	
		Dimethenamid	0.16	I	ng/L	P417895	
		Dimethomorph	0.17	U	ng/L	P417895	RPD
		Disulfoton	0.48	U	ng/L	P417895	
		Dithiopyr	3.5	V	ng/L	P417895	
		EPTC	1.2	U	ng/L	P417895	
		Ethion	0.15	U	ng/L	P417895	
		Ethoprop	0.097	U	ng/L	P417895	
		Etridiazole	0.15	U	ng/L	P417895	
		Fenamiphos	0.48	U	ng/L	P417895	
		Fenbuconazole	0.42	I	ng/L	P417895	
		Fipronil	0.24	U	ng/L	P417895	
		Fipronil Desulfanyl**	0.15	I	ng/L	P417895	
		Fipronil Sulfide	0.15	U	ng/L	P417895	
		Fipronil Sulfone	0.15	U	ng/L	P417895	
		Fluazifop-P-butyl	0.097	U	ng/L	P417895	
		Fludioxonil	0.12	U	ng/L	P417895	
		Flumioxazin	1.7	U	ng/L	P417895	
		Flutolanil	0.097	U	ng/L	P417895	
		Fluxapyroxad	0.13	I	ng/L	P417895	
		Fonofos	0.19	U	ng/L	P417895	
		Hexazinone	0.48	U	ng/L	P417895	
		Imazalil	0.73	U	ng/L	P417895	
		Iprodione	0.58	U	ng/L	P417895	
		Loratadine**	0.097	U	ng/L	P417895	MS
		Malathion	0.34	U	ng/L	P417895	
		Metalaxyl	0.73	U	ng/L	P417895	
		Metolachlor	4.0		ng/L	P417895	
		Metribuzin	2.4	U	ng/L	P417895	
		Mevinphos	1.0	U	ng/L	P417895	

Field ID: G4SD0212

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2347769	EPA 8270E	Molinate	0.29	U	ng/L	P417895	
		Myclobutanil	0.24	U	ng/L	P417895	
		Naled	1.5	U	ng/L	P417895	
		Napropamide	0.39	U	ng/L	P417895	
		Norflurazon	0.65	I	ng/L	P417895	
		Oxadiazon	0.34	I	ng/L	P417895	
		Oxyfluorfen	0.15	U	ng/L	P417895	
		Parathion Ethyl	0.24	U	ng/L	P417895	
		Parathion Methyl	0.53	U	ng/L	P417895	
		Pendimethalin	0.97	U	ng/L	P417895	
		Phenytol**	3.4	U	ng/L	P417895	MS, RPD
		Phorate	0.51	U	ng/L	P417895	
		Prodiamine	0.17	U	ng/L	P417895	
		Prometon	0.87	U	ng/L	P417895	
		Prometryn	0.19	U	ng/L	P417895	
		Pronamide	0.15	U	ng/L	P417895	
		Propanil	0.12	U	ng/L	P417895	
		Propargite	1.5	U	ng/L	P417895	
		Propiconazole	1.9		ng/L	P417895	
		Pyraflufen Ethyl	0.24	U	ng/L	P417895	
		Pyridaben	1.0	I	ng/L	P417895	
		Pyriproxyfen	0.12	U	ng/L	P417895	
		Simazine	0.48	U	ng/L	P417895	
		Stirophos	0.12	U	ng/L	P417895	MS, RPD
		Sulfentrazone	1.7	I	ng/L	P417895	
		Tebuconazole	6.3		ng/L	P417895	
		Terbufos	0.097	U	ng/L	P417895	
		Terbutylazine	0.41	U	ng/L	P417895	
		Thiobencarb	0.58	U	ng/L	P417895	
		Triadimefon	0.24	U	ng/L	P417895	

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: V - Due to the presence of dithiopyr in both the Method Blanks and the sample. MS accuracy for atrazine and pyridaben not assessed due to high content of these parameters in the sample spiked.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P417919

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417930

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417935

Component	Result	Code	Units
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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417935

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	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
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	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: P418211

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418214

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418161

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418138

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418108

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417992

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417910

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

Reference Method: EPA 8270E
Batch ID: P417895

Component	Result	Code	Units
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
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
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417895

Component	Result	Code	Units
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	0.20	U	ng/L
Carbophenothion	0.20	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	2.8		ng/L
Dithiopyr	2.9		ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417895

Component	Result	Code	Units
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
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	2.5	U	ng/L
Metribuzin	2.5	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Octinoxate	20	U	ng/L
Octinoxate	20	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417895

Component	Result	Code	Units
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
PBDE-47	4.0	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-99	5.0	U	ng/L
PBDE-99	5.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytol	3.5	U	ng/L
Phenytol	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiatone	0.18	U	ng/L
Prodiatone	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
Pronatone	0.15	U	ng/L
Pronatone	0.15	U	ng/L
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L
Terbutylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P417895

Component	Result	Code	Units
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B

Batch ID: P417915

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: P417988

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P418288

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: P418393

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418319

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418593

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P418225

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P417919

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417930

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.4		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	107		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	106		P	85 - 115
Sodium	105		P	85 - 115
Strontium	106		P	85 - 115
Tin	105		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	106		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	101		P	85 - 115
Barium	106		P	85 - 115
Beryllium	96.1		P	85 - 115
Boron	101		P	85 - 115
Cadmium	98.2		P	85 - 115
Chromium	101		P	85 - 115
Cobalt	99.0		P	85 - 115
Copper	99.4		P	85 - 115
Lead	95.0		P	85 - 115
Manganese	101		P	85 - 115
Molybdenum	98.8		P	85 - 115
Nickel	101		P	85 - 115
Selenium	97.6		P	85 - 115
Silver	98.9		P	85 - 115
Thallium	99.3		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418211

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418214

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418161

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.8		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418138

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	97.0		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417992

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417910

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.3		P	90 - 110

Reference Method: EPA 8270E
Batch ID: P417895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	80.2		P	50 - 150
Acetochlor	87.9		P	70 - 121
Alachlor	80.3		P	68 - 119
Ametryn	109		P	64 - 139
Atrazine	78.7		P	76 - 120
Atrazine Desethyl	65.9		P	44 - 126
Avobenzone	97.2		P	59 - 206
Azinphos Methyl	166		P	43 - 192
Azoxystrobin	86.0		P	36 - 224
Bromacil	90.8		P	52 - 121
Butylate	39.8		P	28 - 91.0
Caffeine	97.1		P	50 - 134
Carbophenothion	70.9		P	56 - 129
Carfentrazone Ethyl	88.5		P	60 - 141
Chlorfenapyr	88.3		P	56 - 115
Chlorpyrifos Ethyl	97.4		P	60 - 118

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P417895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	90.5		P	68 - 119
Coumaphos	185		P	18 - 250
Cyanazine	96.3		P	61 - 250
Cyprodinil	97.1		P	55 - 145
Demeton	86.1		P	30 - 159
Diazinon	105		P	70 - 123
Difenoconazole	153		P	49 - 204
Dimethenamid	71.8		P	64 - 115
Dimethomorph	126		P	12 - 219
Disulfoton	92.2		P	44 - 125
Dithiopyr	112		P	64 - 115
EPTC	34.9		P	28 - 86.0
Ethion	82.4		P	33 - 125
Ethoprop	76.9		P	64 - 116
Etridiazole	45.5		P	34 - 91.0
Fenamiphos	116		P	12 - 127
Fenbuconazole	141		P	59 - 151
Fipronil	71.3		P	67 - 129
Fipronil Desulfinyl	86.8		P	65 - 127
Fipronil Sulfide	83.3		P	61 - 116
Fipronil Sulfone	88.8		P	55 - 117
Fluazifop-P-butyl	73.6		P	62 - 127
Fludioxonil	90.8		P	62 - 128
Flumioxazin	131		P	33 - 250
Flutolanil	98.1		P	56 - 127
Fluxapyroxad	114		P	45 - 128
Fonofos	78.4		P	62 - 111
Hexazinone	93.2		P	46 - 139
Imazalil	84.1		P	38 - 142
Iprodione	97.8		P	47 - 135
Loratadine	114		P	10 - 244
Malathion	133		P	61 - 139
Metaxyl	90.4		P	10 - 119
Metolachlor	106		P	65 - 118
Metribuzin	85.2		P	51 - 250
Mevinphos	67.6		P	53 - 121
Molinate	55.5		P	42 - 96.0
Myclobutanil	92.2		P	55 - 128
Naled	92.6		P	10 - 98.0
Napropamide	73.9		P	49 - 121
Norflurazon	98.5		P	61 - 126
Octinoxate	87.4		P	25 - 150
Oxadiazon	87.9		P	59 - 116
Oxybenzone	81.6		P	59 - 147
Oxyfluorfen	105		P	64 - 137
Parathion Ethyl	82.5		P	70 - 112
Parathion Methyl	97.4		P	76 - 133
PBDE-47	88.3		P	50 - 150
PBDE-99	84.1		P	50 - 150
Pendimethalin	79.5		P	52 - 117
Phenytoin	51.7		P	10 - 199
Phorate	77.8		P	48 - 121

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P417895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prodiamine	60.7		P	26 - 142
Prometon	73.6		P	43 - 123
Prometryn	111		P	66 - 127
Pronamide	117		P	75 - 121
Propanil	103		P	45 - 150
Propargite	138		P	42 - 208
Propiconazole	103		P	60 - 125
Pyraflufen Ethyl	93.1		P	70 - 138
Pyridaben	148		P	35 - 245
Pyriproxyfen	131		P	30 - 149
Simazine	79.3		P	72 - 125
Stirophos	76.0		P	29 - 164
Sulfentrazone	77.1		P	21 - 139
Tebuconazole	110		P	10 - 115
Terbufos	95.6		P	60 - 123
Terbuthylazine	74.8		P	72 - 115
Thiobencarb	84.1		P	31 - 139
Tri-o-cresyl Phosphate	89.4		P	50 - 150
Triadimefon	77.2		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P417915

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	107		P	40 - 150
AMPA	94.7		P	40 - 150
Endothall	112		P	40 - 150
Glufosinate	105		P	40 - 150
Glyphosate	99.8		P	40 - 150
Sucralose	104		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	87.5		P	40 - 150
2,4,5-T	82.5		P	40 - 150
Acetaminophen	94.0		P	30 - 150
Acetamiprid	92.1		P	40 - 150
Afidopyropen	86.6		P	30 - 150
Bentazon	104		P	30 - 150
Benzovindiflupyr	94.9		P	40 - 150
Carbamazepine	105		P	40 - 150
Clothianidin	114		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	102		P	40 - 150
Fenuron	122		P	40 - 150
Fluridone	115		P	40 - 150
Hydrocodone	106		P	40 - 150
Ibuprofen	72.8		P	40 - 150
Imazapyr	104		P	40 - 150
Imidacloprid	86.8		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P417988

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	101		P	40 - 150
Mandestrobin	113		P	40 - 150
MCPPP	95.7		P	40 - 150
Naproxen	104		P	40 - 150
Primidone	79.8		P	40 - 150
Pyraclostrobin	90.1		P	40 - 150
Silvex	76.4		P	40 - 150
Thiamethoxam	101		P	40 - 150
Tolfenpyrad	42.2		P	30 - 150
Triclopyr	79.6		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P418288

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.6		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P418593

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.7		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P418225

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347436	Calcium	104		P	80 - 120
2347436	Iron	107	107	P/P	80 - 120
2347436	Magnesium	107	106	P/P	80 - 120
2347436	Potassium	105	107	P/P	80 - 120
2347436	Sodium	103	105	P/P	80 - 120
2347436	Strontium	103	105	P/P	80 - 120
2347436	Tin	101	102	P/P	80 - 120
2347436	Titanium	105	105	P/P	80 - 120
2347436	Vanadium	103	104	P/P	80 - 120
2347436	Zinc	101	103	P/P	80 - 120
2347500	Calcium	106		P	80 - 120
2347500	Iron	106		P	80 - 120
2347500	Magnesium	106		P	80 - 120
2347500	Potassium	110		P	80 - 120
2347500	Sodium	103		P	80 - 120
2347500	Strontium	105		P	80 - 120
2347500	Tin	104		P	80 - 120
2347500	Titanium	105		P	80 - 120
2347500	Vanadium	104		P	80 - 120
2347500	Zinc	105		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347436	Aluminum	101	101	P/P	80 - 120
2347436	Antimony	103	104	P/P	80 - 120
2347436	Arsenic	99.5	101	P/P	80 - 120
2347436	Barium	104	105	P/P	80 - 120
2347436	Beryllium	98.2	94.3	P/P	80 - 120
2347436	Boron	100	102	P/P	80 - 120
2347436	Cadmium	96.8	99.4	P/P	80 - 120
2347436	Chromium	101	102	P/P	80 - 120
2347436	Cobalt	98.6	99.3	P/P	80 - 120
2347436	Copper	99.4	101	P/P	80 - 120
2347436	Lead	95.7	95.6	P/P	80 - 120
2347436	Manganese	102	103	P/P	80 - 120
2347436	Molybdenum	95.4	101	P/P	80 - 120
2347436	Nickel	100	99.5	P/P	80 - 120
2347436	Selenium	97.9	97.2	P/P	80 - 120
2347436	Silver	98.1	98.5	P/P	80 - 120
2347436	Thallium	102	102	P/P	80 - 120
2347500	Aluminum	104		P	80 - 120
2347500	Antimony	103		P	80 - 120
2347500	Arsenic	99.6		P	80 - 120
2347500	Barium	105		P	80 - 120
2347500	Beryllium	93.0		P	80 - 120
2347500	Boron	106		P	80 - 120
2347500	Cadmium	100		P	80 - 120
2347500	Chromium	100		P	80 - 120
2347500	Cobalt	97.3		P	80 - 120
2347500	Copper	97.8		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347500	Lead	96.3		P	80 - 120
2347500	Manganese	103		P	80 - 120
2347500	Molybdenum	99.1		P	80 - 120
2347500	Nickel	97.7		P	80 - 120
2347500	Selenium	94.6		P	80 - 120
2347500	Silver	99.9		P	80 - 120
2347500	Thallium	102		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347680	Chloride	98.3		P	90 - 110
2347714	Chloride	98.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P418214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347680	Sulfate	99.2		P	90 - 110
2347714	Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P418161

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347716	Ammonia-N	94.2	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P418138

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345343	Kjeldahl Nitrogen	101	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P418108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347716	NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P417992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347716	Total-P	108	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P417910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347664	O-Phosphate-P	97.9	99.5	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P417895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347265	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	79.0	94.0	P/P	50 - 150
2347265	Acetochlor	101	93.2	P/P	65 - 124
2347265	Alachlor	91.0	86.7	P/P	61 - 121
2347265	Ametryn	107	79.2	P/P	52 - 216
2347265	Atrazine Desethyl	56.6	41.3	P/P	15 - 160
2347265	Avobenzone	77.5	90.5	P/P	59 - 206
2347265	Azinphos Methyl	99.5	152	P/P	40 - 292
2347265	Azoxystrobin	95.4	96.6	P/P	12 - 242
2347265	Bromacil	98.7	97.7	P/P	54 - 167
2347265	Butylate	40.4	55.4	P/P	14 - 94.0
2347265	Caffeine	91.2	94.9	P/P	10 - 226
2347265	Carbophenothion	64.8	74.1	P/P	49 - 122
2347265	Carfentrazone Ethyl	74.2	81.2	P/P	53 - 138
2347265	Chlorfenapyr	74.0	79.1	P/P	50 - 150
2347265	Chlorpyrifos Ethyl	92.1	104	P/P	52 - 122
2347265	Chlorpyrifos Methyl	89.6	88.4	P/P	66 - 117
2347265	Coumaphos	136	168	P/P	50 - 220
2347265	Cyanazine	112	104	P/P	43 - 245
2347265	Cyprodinil	107	95.6	P/P	50 - 150
2347265	Demeton	83.6	72.4	P/P	43 - 188
2347265	Diazinon	114	109	P/P	69 - 131
2347265	Difenoconazole	208	221	P/P	34 - 231
2347265	Dimethenamid	80.8	79.0	P/P	55 - 118
2347265	Dimethomorph	144	94.0	P/P	50 - 150
2347265	Disulfoton	95.8	92.2	P/P	38 - 141
2347265	Dithiopyr	46.1	68.9	P/P	42 - 116
2347265	EPTC	47.9	45.1	P/P	18 - 85.0
2347265	Ethion	57.9	79.5	P/P	10 - 131
2347265	Ethoprop	95.8	80.7	P/P	65 - 129
2347265	Etridiazole	62.8	51.4	P/P	50 - 150
2347265	Fenamiphos	94.7	99.4	P/P	31 - 137
2347265	Fenbuconazole	149	156	P/P	57 - 160
2347265	Fipronil	80.5	85.5	P/P	62 - 132
2347265	Fipronil Desulfinyl	83.0	79.4	P/P	57 - 131
2347265	Fipronil Sulfide	81.1	74.4	P/P	15 - 138
2347265	Fipronil Sulfone	50.9	77.1	P/P	21 - 134
2347265	Fluazifop-P-butyl	61.9	73.2	P/P	54 - 133
2347265	Fludioxonil	97.8	103	P/P	58 - 127
2347265	Flumioxazin	161	140	P/P	33 - 300
2347265	Flutolanil	103	105	P/P	42 - 130
2347265	Fluxapyroxad	115	125	P/P	23 - 141
2347265	Fonofos	88.5	79.2	P/P	58 - 119
2347265	Hexazinone	95.2	95.2	P/P	68 - 172
2347265	Imazalil	93.1	105	P/P	48 - 283
2347265	Iprodione	90.8	96.0	P/P	38 - 140
2347265	Loratadine	161	162	F/F	50 - 150
2347265	Malathion	114	129	P/P	40 - 137
2347265	Metalaxyl	94.2	91.0	P/P	21 - 129
2347265	Metolachlor	105	104	P/P	55 - 122
2347265	Metribuzin	84.0	102	P/P	38 - 187
2347265	Mevinphos	88.4	75.0	P/P	54 - 134
2347265	Molinate	69.3	62.0	P/P	41 - 97.0

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P417895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347265	Myclobutanil	111	102	P/P	56 - 125
2347265	Naled	84.8	84.2	P/P	10 - 108
2347265	Napropamide	58.3	78.4	P/P	50 - 150
2347265	Norflurazon	103	112	P/P	32 - 122
2347265	Octinoxate	93.0	90.3	P/P	25 - 150
2347265	Oxadiazon	95.2	86.0	P/P	40 - 119
2347265	Oxybenzone	87.5	85.7	P/P	59 - 147
2347265	Oxyfluorfen	110	115	P/P	61 - 153
2347265	Parathion Ethyl	79.3	78.7	P/P	59 - 130
2347265	Parathion Methyl	105	85.6	P/P	65 - 155
2347265	PBDE-47	77.5	86.4	P/P	50 - 150
2347265	PBDE-99	69.7	82.7	P/P	50 - 150
2347265	Pendimethalin	81.4	76.0	P/P	49 - 138
2347265	Phenytoin	36.9	71.2	F/P	50 - 200
2347265	Phorate	87.4	71.1	P/P	54 - 161
2347265	Prodiamine	60.5	63.3	P/P	33 - 161
2347265	Prometon	92.8	99.1	P/P	48 - 140
2347265	Prometryn	129	114	P/P	55 - 134
2347265	Pronamide	133	109	P/P	66 - 137
2347265	Propanil	112	113	P/P	50 - 150
2347265	Propargite	122	145	P/P	50 - 200
2347265	Propiconazole	115	95.7	P/P	36 - 150
2347265	Pyraflufen Ethyl	97.2	100	P/P	50 - 150
2347265	Pyriproxyfen	76.5	76.0	P/P	10 - 165
2347265	Simazine	96.1	86.1	P/P	57 - 145
2347265	Stirophos	42.6	69.1	F/P	50 - 150
2347265	Sulfentrazone	105	92.5	P/P	34 - 140
2347265	Tebuconazole	104	125	P/P	10 - 127
2347265	Terbufos	110	98.9	P/P	59 - 138
2347265	Terbuthylazine	78.9	70.7	P/P	68 - 119
2347265	Thiobencarb	84.2	87.8	P/P	50 - 150
2347265	Tri-o-cresyl Phosphate	86.5	87.9	P/P	50 - 150
2347265	Triadimefon	74.2	85.7	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P417915

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347977	Acesulfame K	94.2	91.1	P/P	40 - 150
2347977	AMPA	95.3	93.9	P/P	40 - 150
2347977	Endothall	112	112	P/P	40 - 150
2347977	Glufosinate	105	101	P/P	40 - 150
2347977	Glyphosate	92.8	90.4	P/P	40 - 150
2347977	Sucralose	106	102	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347749	2,4-D	96.2	89.7	P/P	40 - 150
2347749	2,4,5-T	72.7	66.5	P/P	40 - 150
2347749	Acetaminophen	83.8	82.1	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P417988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347749	Acetamiprid	109	94.7	P/P	40 - 150
2347749	Afidopyropen	98.2	79.5	P/P	30 - 150
2347749	Bentazon	67.5	75.3	P/P	30 - 150
2347749	Benzovindiflupyr	81.3	87.7	P/P	40 - 150
2347749	Carbamazepine	116	98.7	P/P	40 - 150
2347749	Clothianidin	100	97.8	P/P	40 - 150
2347749	Dinotefuran	114	115	P/P	40 - 150
2347749	Diuron	81.2	72.5	P/P	40 - 150
2347749	Fenuron	98.5	101	P/P	40 - 150
2347749	Fluridone	98.2	79.3	P/P	40 - 150
2347749	Hydrocodone	105	102	P/P	40 - 150
2347749	Ibuprofen	94.6	94.8	P/P	40 - 150
2347749	Imazapyr	114	114	P/P	40 - 150
2347749	Imidacloprid	143	152	P/F	40 - 150
2347749	Linuron	108	96.9	P/P	40 - 150
2347749	Mandestrobin	83.6	85.0	P/P	40 - 150
2347749	MCPP	89.6	85.0	P/P	40 - 150
2347749	Naproxen	74.7	62.9	P/P	40 - 150
2347749	Primidone	81.5	106	P/P	40 - 150
2347749	Pyraclostrobin	81.1	80.9	P/P	40 - 150
2347749	Silvex	82.1	82.5	P/P	40 - 150
2347749	Thiamethoxam	162	162	F/F	40 - 150
2347749	Tolfenpyrad	41.9	40.2	P/P	30 - 150
2347749	Triclopyr	86.1	78.4	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P418593

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347762	Fluoride	97.2	98.3	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P418225

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2347731	Organic Carbon	96.2	96.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417919

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347713	Color (true)	0.457	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417930

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347715	Turbidity	5.87	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347436	Calcium	0.527	Spike	P	0 - 20
2347436	Iron	0.288	Spike	P	0 - 20
2347436	Magnesium	0.764	Spike	P	0 - 20
2347436	Potassium	1.21	Spike	P	0 - 20
2347436	Sodium	0.856	Spike	P	0 - 20
2347436	Strontium	1.25	Spike	P	0 - 20
2347436	Tin	1.30	Spike	P	0 - 20
2347436	Titanium	0.227	Spike	P	0 - 20
2347436	Vanadium	0.508	Spike	P	0 - 20
2347436	Zinc	1.78	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347436	Aluminum	0.0245	Spike	P	0 - 20
2347436	Antimony	0.933	Spike	P	0 - 20
2347436	Arsenic	1.56	Spike	P	0 - 20
2347436	Barium	1.42	Spike	P	0 - 20
2347436	Beryllium	4.06	Spike	P	0 - 20
2347436	Boron	1.24	Spike	P	0 - 20
2347436	Cadmium	2.65	Spike	P	0 - 20
2347436	Chromium	1.34	Spike	P	0 - 20
2347436	Cobalt	0.778	Spike	P	0 - 20
2347436	Copper	1.26	Spike	P	0 - 20
2347436	Lead	0.0303	Spike	P	0 - 20
2347436	Manganese	1.40	Spike	P	0 - 20
2347436	Molybdenum	2.12	Spike	P	0 - 20
2347436	Nickel	0.445	Spike	P	0 - 20
2347436	Selenium	0.657	Spike	P	0 - 20
2347436	Silver	0.460	Spike	P	0 - 20
2347436	Thallium	0.419	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418211

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347680	Chloride	1.76	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347680	Sulfate	1.62	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P418161

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347716	Ammonia-N	0.957	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418138

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345343	Kjeldahl Nitrogen	1.12	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P418108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347716	NO2NO3-N	0.512	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347716	Total-P	2.08	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347664	O-Phosphate-P	1.62	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P417895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347265	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	17.4	Spike	P	0 - 30
2347265	Acetochlor	8.13	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P417895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347265	Alachlor	4.89	Spike	P	0 - 27
2347265	Ametryn	20.2	Spike	P	0 - 34
2347265	Atrazine	7.82	Spike	P	0 - 41
2347265	Atrazine Desethyl	19.6	Spike	P	0 - 38
2347265	Avobenzone	15.5	Spike	P	0 - 30
2347265	Azinphos Methyl	42.0	Spike	P	0 - 62
2347265	Azoxystrobin	1.25	Spike	P	0 - 32
2347265	Bromacil	1.04	Spike	P	0 - 30
2347265	Butylate	31.1	Spike	P	0 - 59
2347265	Caffeine	3.91	Spike	P	0 - 60
2347265	Carbophenothion	13.4	Spike	P	0 - 25
2347265	Carfentrazone Ethyl	9.09	Spike	P	0 - 26
2347265	Chlorfenapyr	6.73	Spike	P	0 - 30
2347265	Chlorpyrifos Ethyl	11.8	Spike	P	0 - 27
2347265	Chlorpyrifos Methyl	1.39	Spike	P	0 - 26
2347265	Coumaphos	20.8	Spike	P	0 - 30
2347265	Cyanazine	7.57	Spike	P	0 - 58
2347265	Cyprodinil	11.4	Spike	P	0 - 30
2347265	Demeton	12.6	Spike	P	0 - 25
2347265	Diazinon	4.70	Spike	P	0 - 29
2347265	Difenoconazole	5.96	Spike	P	0 - 25
2347265	Dimethenamid	2.25	Spike	P	0 - 30
2347265	Dimethomorph	41.9	Spike	F	0 - 30
2347265	Disulfoton	3.83	Spike	P	0 - 33
2347265	Dithiopyr	19.7	Spike	P	0 - 22
2347265	EPTC	5.96	Spike	P	0 - 38
2347265	Ethion	31.5	Spike	P	0 - 79
2347265	Ethoprop	17.1	Spike	P	0 - 23
2347265	Etridiazole	20.0	Spike	P	0 - 30
2347265	Fenamiphos	4.86	Spike	P	0 - 58
2347265	Fenbuconazole	4.60	Spike	P	0 - 37
2347265	Fipronil	6.05	Spike	P	0 - 33
2347265	Fipronil Desulfinyl	3.01	Spike	P	0 - 26
2347265	Fipronil Sulfide	6.01	Spike	P	0 - 37
2347265	Fipronil Sulfone	19.9	Spike	P	0 - 50
2347265	Fluazifop-P-butyl	16.8	Spike	P	0 - 24
2347265	Fludioxonil	5.38	Spike	P	0 - 26
2347265	Flumioxazin	13.7	Spike	P	0 - 37
2347265	Flutolanil	2.57	Spike	P	0 - 26
2347265	Fluxapyroxad	7.55	Spike	P	0 - 34
2347265	Fonofos	11.0	Spike	P	0 - 27
2347265	Hexazinone	0.0696	Spike	P	0 - 36
2347265	Imazalil	11.9	Spike	P	0 - 65
2347265	Iprodione	5.50	Spike	P	0 - 33
2347265	Loratadine	0.586	Spike	P	0 - 30
2347265	Malathion	12.4	Spike	P	0 - 44
2347265	Metalaxyl	3.46	Spike	P	0 - 38
2347265	Metolachlor	1.24	Spike	P	0 - 36
2347265	Metribuzin	19.0	Spike	P	0 - 63
2347265	Mevinphos	16.4	Spike	P	0 - 26
2347265	Molinate	11.2	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P417895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347265	Myclobutanil	7.61	Spike	P	0 - 21
2347265	Naled	0.739	Spike	P	0 - 26
2347265	Napropamide	29.4	Spike	P	0 - 30
2347265	Norflurazon	7.73	Spike	P	0 - 24
2347265	Octinoxate	2.91	Spike	P	0 - 30
2347265	Oxadiazon	8.89	Spike	P	0 - 27
2347265	Oxybenzone	2.13	Spike	P	0 - 30
2347265	Oxyfluorfen	4.39	Spike	P	0 - 24
2347265	Parathion Ethyl	0.747	Spike	P	0 - 28
2347265	Parathion Methyl	20.8	Spike	P	0 - 27
2347265	PBDE-47	10.8	Spike	P	0 - 30
2347265	PBDE-99	17.0	Spike	P	0 - 30
2347265	Pendimethalin	6.94	Spike	P	0 - 31
2347265	Phenytoin	63.5	Spike	F	0 - 30
2347265	Phorate	20.7	Spike	P	0 - 27
2347265	Prodiamine	4.53	Spike	P	0 - 52
2347265	Prometon	6.56	Spike	P	0 - 31
2347265	Prometryn	12.5	Spike	P	0 - 28
2347265	Pronamide	19.9	Spike	P	0 - 26
2347265	Propanil	0.770	Spike	P	0 - 30
2347265	Propargite	17.6	Spike	P	0 - 30
2347265	Propiconazole	9.61	Spike	P	0 - 31
2347265	Pyraflufen Ethyl	3.17	Spike	P	0 - 30
2347265	Pyridaben	22.3	Spike	P	0 - 30
2347265	Pyriproxyfen	0.697	Spike	P	0 - 50
2347265	Simazine	11.0	Spike	P	0 - 29
2347265	Stirophos	47.4	Spike	F	0 - 30
2347265	Sulfentrazone	11.7	Spike	P	0 - 33
2347265	Tebuconazole	13.4	Spike	P	0 - 44
2347265	Terbufos	10.8	Spike	P	0 - 29
2347265	Terbuthylazine	10.9	Spike	P	0 - 27
2347265	Thiobencarb	4.16	Spike	P	0 - 30
2347265	Tri-o-cresyl Phosphate	1.62	Spike	P	0 - 30
2347265	Triadimefon	14.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417915

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347977	Acesulfame K	3.35	Spike	P	0 - 30
2347977	AMPA	1.51	Spike	P	0 - 30
2347977	Endothall	0.539	Spike	P	0 - 30
2347977	Glufosinate	3.71	Spike	P	0 - 30
2347977	Glyphosate	2.63	Spike	P	0 - 30
2347977	Sucralose	4.19	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P417988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347749	2,4-D	6.57	Spike	P	0 - 30
2347749	2,4,5-T	8.88	Spike	P	0 - 30
2347749	Acetaminophen	2.11	Spike	P	0 - 30
2347749	Acetamiprid	14.4	Spike	P	0 - 30
2347749	Afidopyropen	21.0	Spike	P	0 - 30
2347749	Bentazon	6.99	Spike	P	0 - 30
2347749	Benzovindiflupyr	7.65	Spike	P	0 - 30
2347749	Carbamazepine	15.8	Spike	P	0 - 30
2347749	Clothianidin	2.31	Spike	P	0 - 30
2347749	Dinotefuran	1.17	Spike	P	0 - 30
2347749	Diuron	11.3	Spike	P	0 - 30
2347749	Fenuron	2.93	Spike	P	0 - 30
2347749	Fluridone	19.2	Spike	P	0 - 30
2347749	Hydrocodone	2.35	Spike	P	0 - 30
2347749	Ibuprofen	0.155	Spike	P	0 - 30
2347749	Imazapyr	0.130	Spike	P	0 - 30
2347749	Imidacloprid	6.00	Spike	P	0 - 30
2347749	Linuron	10.9	Spike	P	0 - 30
2347749	Mandestrobin	1.69	Spike	P	0 - 30
2347749	MCP	5.22	Spike	P	0 - 30
2347749	Naproxen	17.2	Spike	P	0 - 30
2347749	Primidone	26.3	Spike	P	0 - 30
2347749	Pyraclostrobin	0.257	Spike	P	0 - 30
2347749	Silvex	0.482	Spike	P	0 - 30
2347749	Thiamethoxam	0.135	Spike	P	0 - 30
2347749	Tolfenpyrad	4.01	Spike	P	0 - 30
2347749	Triclopyr	9.33	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P418288

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347762	Total Alkalinity	0.143	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P418393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347321	TDS	4.03	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P418593

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347762	Fluoride	1.01	Spike	P	0 - 1.6

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P418225

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2347731	Organic Carbon	0.570	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2347767
Field Sample ID: G4SD0212

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	90.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	59.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.1	P	30 - 160
EPA 8321B	Diuron-d6	68.7	P	30 - 160
EPA 8321B	Endothall-d6	77.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	70.6	P	30 - 160
EPA 8321B	Primidone-d5	86.5	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Lab Sample ID: 2347769
Field Sample ID: G4SD0212

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	54.4	P	20 - 200
EPA 8270E	Simazine-d10	89.2	P	71 - 140
EPA 8270E	Terbufos-d10	81.7	P	62 - 131
EPA 8270E	Terphenyl-d14	75.2	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A114010

Included Lab Sample IDs: 2347764

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.9	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A114011

Included Lab Sample IDs: 2347762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114012

Included Lab Sample IDs: 2347762

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114047

Included Lab Sample IDs: 2347768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	98.9	103	P/P	90 - 110
Arsenic	101	103	P/P	90 - 110
Barium	100	102	P/P	90 - 110
Beryllium	99.9	98.3	P/P	90 - 110
Boron	101	99.7	P/P	90 - 110
Cadmium	101	105	P/P	90 - 110
Chromium	102	104	P/P	90 - 110
Cobalt	99.9	102	P/P	90 - 110
Copper	101	101	P/P	90 - 110
Lead	93.8	94.6	P/P	90 - 110
Manganese	104	106	P/P	90 - 110
Molybdenum	98.3	101	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Selenium	102	104	P/P	90 - 110
Silver	97.9	100	P/P	90 - 110
Thallium	106	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114090

Included Lab Sample IDs: 2347763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	96.5	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114095

Included Lab Sample IDs: 2347767

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

Reference Method: EPA 8321B
Run ID: A114095
Included Lab Sample IDs: 2347767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.7	96.3	P/P	60 - 160
Endothall	92.8	93.8	P/P	60 - 160
Glufosinate	95.2	89.9	P/P	60 - 160
Glyphosate	96.4	96.5	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A114098
Included Lab Sample IDs: 2347768

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.9	102	P/P	90 - 110
Iron	100	104	P/P	90 - 110
Magnesium	100	103	P/P	90 - 110
Potassium	102	102	P/P	90 - 110
Sodium	100	102	P/P	90 - 110
Strontium	102	101	P/P	90 - 110
Tin	102	99.7	P/P	90 - 110
Titanium	101	99.5	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	102	101	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A114106
Included Lab Sample IDs: 2347769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	89.8		P	80 - 120
Avobenzone	94.1		P	80 - 120
Octinoxate	89.7		P	80 - 120
Oxybenzone	95.1		P	80 - 120
PBDE-47	93.4		P	80 - 120
PBDE-99	92.1		P	80 - 120
Tri-o-cresyl Phosphate	93.6		P	80 - 120

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A114109
Included Lab Sample IDs: 2347763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	98.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A114126
Included Lab Sample IDs: 2347763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.4	98.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114138
Included Lab Sample IDs: 2347767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	97.3	P/P	60 - 160
Sucralose	99.1	99.2	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A114142
Included Lab Sample IDs: 2347762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.7	102	P/P	90 - 110
Sulfate	99.5	103	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A114150
Included Lab Sample IDs: 2347769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.2		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	97.6		P	80 - 120
Atrazine Desethyl	106		P	80 - 120
Azinphos Methyl	111		P	80 - 120
Azoxystrobin	94.2		P	80 - 120
Bromacil	104		P	80 - 120
Butylate	98.9		P	80 - 120
Caffeine	95.0		P	80 - 120
Carbophenothion	100		P	80 - 120
Carfentrazone Ethyl	98.2		P	80 - 120
Chlorfenapyr	103		P	80 - 120
Chlorpyrifos Ethyl	98.1		P	80 - 120
Chlorpyrifos Methyl	98.4		P	80 - 120
Coumaphos	116		P	80 - 120
Cyanazine	100		P	80 - 120
Cyprodinil	102		P	80 - 120
Demeton	94.7		P	80 - 120
Diazinon	103		P	80 - 120
Difenoconazole	98.6		P	80 - 120
Dimethenamid	101		P	80 - 120
Dimethomorph	101		P	80 - 120
Disulfoton	106		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	101		P	80 - 120
Ethion	91.9		P	80 - 120
Ethoprop	97.4		P	80 - 120
Etridiazole	102		P	80 - 120
Fenamiphos	96.0		P	80 - 120
Fenbuconazole	108		P	80 - 120
Fipronil	103		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	108		P	80 - 120
Fipronil Sulfone	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A114150
Included Lab Sample IDs: 2347769

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluazifop-P-butyl	104		P	80 - 120
Fludioxonil	107		P	80 - 120
Flumioxazin	86.5		P	80 - 120
Flutolanil	98.1		P	80 - 120
Fluxapyroxad	103		P	80 - 120
Fonofos	104		P	80 - 120
Hexazinone	102		P	80 - 120
Imazalil	104		P	80 - 120
Iprodione	111		P	80 - 120
Loratadine	88.5		P	80 - 120
Malathion	103		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	103		P	80 - 120
Metribuzin	93.9		P	80 - 120
Mevinphos	98.1		P	80 - 120
Molinate	106		P	80 - 120
Myclobutanil	106		P	80 - 120
Naled	104		P	80 - 120
Napropamide	102		P	80 - 120
Norflurazon	96.5		P	80 - 120
Oxadiazon	106		P	80 - 120
Oxyfluorfen	102		P	80 - 120
Parathion Ethyl	98.1		P	80 - 120
Parathion Methyl	95.8		P	80 - 120
Pendimethalin	106		P	80 - 120
Phenytoin	106		P	80 - 120
Phorate	102		P	80 - 120
Prodiamine	110		P	80 - 120
Prometon	99.1		P	80 - 120
Prometryn	101		P	80 - 120
Pronamide	99.5		P	80 - 120
Propanil	107		P	80 - 120
Propargite	99.9		P	80 - 120
Propiconazole	96.8		P	80 - 120
Pyraflufen Ethyl	106		P	80 - 120
Pyridaben	98.9		P	80 - 120
Pyriproxyfen	106		P	80 - 120
Simazine	98.3		P	80 - 120
Stirophos	101		P	80 - 120
Sulfentrazone	108		P	80 - 120
Tebuconazole	108		P	80 - 120
Terbufos	96.9		P	80 - 120
Terbuthylazine	105		P	80 - 120
Thiobencarb	99.4		P	80 - 120
Triadimefon	109		P	80 - 120

Reference Method: SM 5310 B-2011
Run ID: A114152
Included Lab Sample IDs: 2347763

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

Reference Method: SM 5310 B-2011
Run ID: A114152
Included Lab Sample IDs: 2347763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	97.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A114161
Included Lab Sample IDs: 2347763

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	100	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A114177
Included Lab Sample IDs: 2347762

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	98.2	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A114295
Included Lab Sample IDs: 2347762

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

Reference Method: EPA 8321B
Run ID: A114372
Included Lab Sample IDs: 2347767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	112	P/P	50 - 150
2,4,5-T	106	119	P/P	50 - 150
Acetaminophen	74.0	60.2	P/P	60 - 160
Acetamiprid	117	113	P/P	50 - 150
Afidopyropen	90.9	120	P/P	50 - 150
Bentazon	109	128	P/P	50 - 160
Benzovindiflupyr	108	106	P/P	50 - 150
Carbamazepine	112	118	P/P	60 - 150
Clothianidin	115	120	P/P	60 - 150
Dinotefuran	75.1	68.9	P/P	50 - 150
Diuron	89.2	104	P/P	60 - 160
Fenuron	101	106	P/P	60 - 150
Fluridone	119	109	P/P	60 - 160
Hydrocodone	80.5	72.0	P/P	60 - 150
Ibuprofen	95.9	134	P/P	50 - 160
Imazapyr	102	88.7	P/P	50 - 150
Imidacloprid	106	101	P/P	60 - 150
Linuron	127	101	P/P	60 - 150
Mandestrobin	102	106	P/P	50 - 150
MCPP	117	121	P/P	50 - 150
Naproxen	108	140	P/P	50 - 160
Primidone	90.9	95.9	P/P	60 - 150
Pyraclostrobin	103	105	P/P	60 - 150

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8321B
Run ID: A114372
Included Lab Sample IDs: 2347767

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silvex	126	127	P/P	50 - 150
Thiamethoxam	102	89.9	P/P	50 - 150
Tolfenpyrad	105	109	P/P	60 - 150
Triclopyr	119	114	P/P	50 - 150

* 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
DEP SOP: NU-094-1	Color (true)	101					0.457	
EPA 180.1 Rev. 2.0	Turbidity	96.4					5.87	
EPA 200.7 Rev. 4.4	Calcium	101	104	106				0.527
	Iron	107	107	107	106			0.288
	Magnesium	107	107	106	106			0.764
	Potassium	106	105	107	110			1.21
	Sodium	105	103	105	103			0.856
	Strontium	106	103	105	105			1.25
	Tin	105	101	102	104			1.30
	Titanium	107	105	105	105			0.227
	Vanadium	106	103	104	104			0.508
	Zinc	106	101	103	105			1.78
EPA 200.8 Rev. 5.4	Aluminum	102	101	101	104			0.0245
	Antimony	102	103	104	103			0.933
	Arsenic	101	99.5	101	99.6			1.56
	Barium	106	104	105	105			1.42
	Beryllium	96.1	98.2	94.3	93.0			4.06
	Boron	101	100	102	106			1.24
	Cadmium	98.2	96.8	99.4	100			2.65
	Chromium	101	101	102	100			1.34
	Cobalt	99.0	98.6	99.3	97.3			0.778
	Copper	99.4	99.4	101	97.8			1.26
	Lead	95.0	95.7	95.6	96.3			0.0303
	Manganese	101	102	103	103			1.40
	Molybdenum	98.8	95.4	101	99.1			2.12
	Nickel	101	100	99.5	97.7			0.445
	Selenium	97.6	97.9	97.2	94.6			0.657
	Silver	98.9	98.1	98.5	99.9			0.460
	Thallium	99.3	102	102	102			0.419
EPA 300.0 Rev. 2.1	Chloride	100	98.3	98.2			1.76	
	Sulfate	100	99.2	99.7			1.62	
EPA 350.1 Rev. 2.0	Ammonia-N	97.8	94.2	95.4				0.957
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	106	101	103				1.12
EPA 353.2 Rev. 2.0	NO2NO3-N	97.0	98.0	97.5				0.512
EPA 365.1 Rev. 2.0	Total-P	105	108	105				2.08
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.3	97.9	99.5				1.62
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	80.2	79.0	94.0				17.4
	Acetochlor	87.9	93.2	101				8.13
	Alachlor	80.3	86.7	91.0				4.89
	Ametryn	109	79.2	107				20.2
	Atrazine	78.7						7.82
	Atrazine Desethyl	65.9	41.3	56.6				19.6
	Avobenzone	97.2	77.5	90.5				15.5
	Azinphos Methyl	166	152	99.5				42.0
	Azoxystrobin	86.0	96.6	95.4				1.25
	Bromacil	90.8	97.7	98.7				1.04
	Butylate	39.8	55.4	40.4				31.1
	Caffeine	97.1	94.9	91.2				3.91
	Carbophenothion	70.9	74.1	64.8				13.4
	Carfentrazone Ethyl	88.5	81.2	74.2				9.09
	Chlorfenapyr	88.3	79.1	74.0				6.73
	Chlorpyrifos Ethyl	97.4	104	92.1				11.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Chlorpyrifos Methyl	90.5	88.4	89.6		1.39
	Coumaphos	185	168	136		20.8
	Cyanazine	96.3	112	104		7.57
	Cyprodinil	97.1	107	95.6		11.4
	Demeton	86.1	83.6	72.4		12.6
	Diazinon	105	114	109		4.70
	Difenoconazole	153	208	221		5.96
	Dimethenamid	71.8	80.8	79.0		2.25
	Dimethomorph	126	144	94.0		41.9
	Disulfoton	92.2	95.8	92.2		3.83
	Dithiopyr	112	46.1	68.9		19.7
	EPTC	34.9	47.9	45.1		5.96
	Ethion	82.4	57.9	79.5		31.5
	Ethoprop	76.9	95.8	80.7		17.1
	Etridiazole	45.5	62.8	51.4		20.0
	Fenamiphos	116	94.7	99.4		4.86
	Fenbuconazole	141	149	156		4.60
	Fipronil	71.3	80.5	85.5		6.05
	Fipronil Desulfinyl	86.8	83.0	79.4		3.01
	Fipronil Sulfide	83.3	81.1	74.4		6.01
	Fipronil Sulfone	88.8	50.9	77.1		19.9
	Fluazifop-P-butyl	73.6	61.9	73.2		16.8
	Fludioxonil	90.8	97.8	103		5.38
	Flumioxazin	131	161	140		13.7
	Flutolanil	98.1	103	105		2.57
	Fluxapyroxad	114	115	125		7.55
	Fonofos	78.4	88.5	79.2		11.0
	Hexazinone	93.2	95.2	95.2		0.0696
	Imazalil	84.1	93.1	105		11.9
	Iprodione	97.8	90.8	96.0		5.50
	Loratadine	114	161	162		0.586
	Malathion	133	114	129		12.4
	Metalaxyl	90.4	94.2	91.0		3.46
	Metolachlor	106	105	104		1.24
	Metribuzin	85.2	84.0	102		19.0
	Mevinphos	67.6	88.4	75.0		16.4
	Molinate	55.5	69.3	62.0		11.2
	Myclobutanil	92.2	111	102		7.61
	Naled	92.6	84.8	84.2		0.739
	Napropamide	73.9	58.3	78.4		29.4
	Norflurazon	98.5	103	112		7.73
	Octinoxate	87.4	93.0	90.3		2.91
	Oxadiazon	87.9	95.2	86.0		8.89
	Oxybenzone	81.6	87.5	85.7		2.13
	Oxyfluorfen	105	110	115		4.39
	Parathion Ethyl	82.5	79.3	78.7		0.747
	Parathion Methyl	97.4	105	85.6		20.8
	PBDE-47	88.3	77.5	86.4		10.8
	PBDE-99	84.1	69.7	82.7		17.0
	Pendimethalin	79.5	81.4	76.0		6.94
	Phenytol	51.7	36.9	71.2		63.5
	Phorate	77.8	87.4	71.1		20.7
	Prodiamine	60.7	60.5	63.3		4.53
	Prometon	73.6	92.8	99.1		6.56

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Prometryn	111	129	114			12.5
	Pronamide	117	133	109			19.9
	Propanil	103	112	113			0.770
	Propargite	138	122	145			17.6
	Propiconazole	103	115	95.7			9.61
	Pyraflufen Ethyl	93.1	97.2	100			3.17
	Pyridaben	148					22.3
	Pyriproxyfen	131	76.5	76.0			0.697
	Simazine	79.3	96.1	86.1			11.0
	Stirophos	76.0	42.6	69.1			47.4
	Sulfentrazone	77.1	105	92.5			11.7
	Tebuconazole	110	104	125			13.4
	Terbufos	95.6	110	98.9			10.8
	Terbuthylazine	74.8	78.9	70.7			10.9
	Thiobencarb	84.1	84.2	87.8			4.16
	Tri-o-cresyl Phosphate	89.4	86.5	87.9			1.62
	Triadimefon	77.2	74.2	85.7			14.4
EPA 8321B	2,4-D	87.5	96.2	89.7			6.57
	2,4,5-T	82.5	72.7	66.5			8.88
	Acesulfame K	107	94.2	91.1			3.35
	Acetaminophen	94.0	83.8	82.1			2.11
	Acetamiprid	92.1	109	94.7			14.4
	Afidopyropen	86.6	98.2	79.5			21.0
	AMPA	94.7	95.3	93.9			1.51
	Bentazon	104	67.5	75.3			6.99
	Benzovindiflupyr	94.9	81.3	87.7			7.65
	Carbamazepine	105	116	98.7			15.8
	Clothianidin	114	100	97.8			2.31
	Dinotefuran	108	114	115			1.17
	Diuron	102	81.2	72.5			11.3
	Endothall	112	112	112			0.539
	Fenuron	122	98.5	101			2.93
	Fluridone	115	98.2	79.3			19.2
	Glufosinate	105	105	101			3.71
	Glyphosate	99.8	92.8	90.4			2.63
	Hydrocodone	106	105	102			2.35
	Ibuprofen	72.8	94.6	94.8			0.155
	Imazapyr	104	114	114			0.130
	Imidacloprid	86.8	143	152			6.00
	Linuron	101	108	96.9			10.9
	Mandestrobin	113	83.6	85.0			1.69
	MCPP	95.7	89.6	85.0			5.22
	Naproxen	104	74.7	62.9			17.2
	Primidone	79.8	81.5	106			26.3
	Pyraclostrobin	90.1	81.1	80.9			0.257
	Silvex	76.4	82.1	82.5			0.482
	Sucralose	104	106	102			4.19
	Thiamethoxam	101	162	162			0.135
	Tolfenpyrad	42.2	41.9	40.2			4.01
	Triclopyr	79.6	86.1	78.4			9.33
SM 2320 B-2011	Total Alkalinity	99.6				0.143	
SM 2540 C-2011	TDS					4.03	
SM 4500-F- C-2011	Fluoride	99.7	97.2	98.3			1.01
SM 5310 B-2011	Organic Carbon	95.2	96.2	96.9			0.570

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2347762
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2347762
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2347768
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2347768
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2347762
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2347762
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2347763
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2347763
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2347763
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2347763
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2347764
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2347769
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2347769
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2347767
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2347762
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2347768
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2347762
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2347762
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2347762
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2347763

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	08/10/2022			08/10/2022 15:15	Samantha L Bates	2347762
EPA 180.1 Rev. 2.0	08/10/2022			08/10/2022 14:46	Khloe J Berg	2347762
EPA 200.7 Rev. 4.4	08/10/2022	08/11/2022 09:36	Mackenzie Hunt	08/11/2022 20:10	McKinley C Carter	2347768
EPA 200.8 Rev. 5.4	08/10/2022	08/11/2022 09:36	Mackenzie Hunt	08/11/2022 17:08	Alexander Thompson	2347768
EPA 300.0 Rev. 2.1	08/10/2022			08/17/2022 04:01	Anna M. Plaviak	2347762
EPA 350.1 Rev. 2.0	08/10/2022			08/16/2022 12:24	Judith K. Clark	2347763
EPA 351.2 Rev. 2.0	08/10/2022	08/16/2022 13:41	Samantha L Bates	08/17/2022 11:35	Alexandra J Mattheus	2347763
EPA 353.2 Rev. 2.0	08/10/2022			08/15/2022 10:11	Beverly Y. Sanders	2347763
EPA 365.1 Rev. 2.0	08/10/2022	08/12/2022 15:00	Simonne.V. Calhoun	08/15/2022 15:55	James L Waggeberby	2347763
EPA 365.1 Rev. 2.0 dissolved	08/10/2022			08/10/2022 14:31	Elise M. Gillis	2347764
EPA 8270E	08/10/2022	08/11/2022 08:00	Fe-Val Siddell	08/12/2022 18:14	Lipi Saha	2347769
	08/10/2022	08/11/2022 08:00	Fe-Val Siddell	08/12/2022 19:31	Michael Poppell	2347769
EPA 8321B	08/10/2022	08/12/2022 09:00	Umesh Chiluwal	08/12/2022 16:59	Umesh Chiluwal	2347767
	08/10/2022	08/12/2022 09:00	Umesh Chiluwal	08/13/2022 11:45	Umesh Chiluwal	2347767
	08/10/2022	08/16/2022 09:00	June Rhew	08/17/2022 03:42	Juyoung Kim	2347767
SM 2320 B-2011	08/10/2022			08/17/2022 01:33	Adam P Silver	2347762
SM 2340 B-2011	08/10/2022			08/11/2022 20:10	McKinley C Carter	2347768
SM 2540 C-2011	08/10/2022			08/12/2022 15:21	Yijie Li	2347762
SM 2540 D-2011	08/10/2022			08/12/2022 15:21	Yijie Li	2347762
SM 4500-F- C-2011	08/10/2022			08/23/2022 23:47	Dale L. Simmons	2347762
SM 5310 B-2011	08/10/2022			08/16/2022 05:11	Khloe J Berg	2347763