

Chemical Analysis Report

SO-DIST-2022-08-04-03

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

Event Description: **2022 SMP: Buck Lake LVI**
Request ID: **RQ-2022-08-01-48**
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: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 26-AUG-2022 13:00

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Buck Lake @ Middle

Collection Date/Time: 08/03/2022 09:40

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346335	DEP SOP: NU-094-1	Color (true)	4.2	I	PCU	P417682	
	EPA 180.1 Rev. 2.0	Turbidity	0.40	I	NTU	P417670	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P418021	
		Sulfate	55		mg SO4/L	P418026	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P418046	
	SM 2540 C-2011	TDS	243		mg/L	P418183	
	SM 2540 D-2011	TSS	2	U	mg/L	P418227	
2346336	SM 4500-F- C-2011	Fluoride	0.081	I	mg F/L	P418050	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P417973	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.43		mg N/L	P418450	
	EPA 353.2 Rev. 2.0	NO2NO3-N	10		mg N/L	P417757	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P417922	
2346337	SM 5310 B-2011	Organic Carbon	3.4		mg C/L	P417814	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P417656	
2346339	EPA 8321B	2,4-D	0.0020	U	ug/L	P417722	
		Acesulfame K	0.10	U	ug/L	P417605	
		2,4,5-T	0.0040	U	ug/L	P417722	
		AMPA	0.10	U	ug/L	P417605	
		Acetaminophen	0.0080	U	ug/L	P417722	
		Acetamiprid	0.0020	U	ug/L	P417722	
		Endothall	0.25	U	ug/L	P417605	
		Glufosinate	0.10	U	ug/L	P417605	
		Glyphosate	0.10	U	ug/L	P417605	
		Afidopypropan	0.0020	U	ug/L	P417722	
		Bentazon	8.0E-04	U	ug/L	P417722	
		Sucralose	0.013	I	ug/L	P417605	
		Benzovindiflupyr	0.0020	U	ug/L	P417722	
		Carbamazepine	8.0E-04	U	ug/L	P417722	
		Clothianidin	0.024		ug/L	P417722	
		Dinotefuran	0.0020	U	ug/L	P417722	
		Diuron	0.027		ug/L	P417722	
		Fenuron	0.032	U	ug/L	P417722	
		Fluridone	8.0E-04	U	ug/L	P417722	
		Imazapyr	0.0040	U	ug/L	P417722	
		Hydrocodone	0.0020	U	ug/L	P417722	
		Ibuprofen	0.080	U	ug/L	P417722	
		Imidacloprid	0.053		ug/L	P417722	
		Linuron	0.0040	U	ug/L	P417722	
		Mandestrobin	0.0020	U	ug/L	P417722	
		MCP	0.0040	U	ug/L	P417722	
		Naproxen	0.0080	U	ug/L	P417722	
		Primidone	0.0040	U	ug/L	P417722	
		Pyraclostrobin	0.0020	U	ug/L	P417722	

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346339	EPA 8321B	Silvex	0.0040	U	ug/L	P417722	
		Thiamethoxam	0.025		ug/L	P417722	MS
		Tolfenpyrad	0.0020	U	ug/L	P417722	
		Triclopyr	0.0040	U	ug/L	P417722	
2346340	EPA 200.7 Rev. 4.4	Calcium	27.7		mg/L	P417687	
		Iron	30	U	ug/L	P417687	
		Magnesium	9.25		mg/L	P417687	
		Potassium	18.6		mg/L	P417687	
		Sodium	4.0		mg/L	P417687	
		Strontium	380		ug/L	P417687	
		Tin	3.0	U	ug/L	P417687	
		Titanium	0.75	U	ug/L	P417687	
		Vanadium	2.7	I	ug/L	P417687	
		Zinc	14	I	ug/L	P417687	
	EPA 200.8 Rev. 5.4	Aluminum	150		ug/L	P417687	
		Antimony	0.089	I	ug/L	P417687	
		Arsenic	0.22		ug/L	P417687	
		Barium	10.0		ug/L	P417687	
		Beryllium	0.010	U	ug/L	P417687	
		Boron	115		ug/L	P417687	
		Cadmium	0.092		ug/L	P417687	
		Chromium	0.40	U	ug/L	P417687	
		Cobalt	0.026	I	ug/L	P417687	
		Copper	1.92		ug/L	P417687	
		Lead	0.20	U	ug/L	P417687	
		Manganese	2.79		ug/L	P417687	
		Molybdenum	0.72		ug/L	P417687	
		Nickel	0.83	I	ug/L	P417687	
		Selenium	0.20	U	ug/L	P417687	
		Silver	0.010	U	ug/L	P417687	
		Thallium	0.10	U	ug/L	P417687	
		Hardness	107		mg/L	P417687	
2346341	SM 2340 B-2011	Oxybenzone**	9.7	U	ng/L	P418014	
	EPA 8270E	Acetochlor	0.24	U	ng/L	P418014	
		Octinoxate**	19	U	ng/L	P418014	
		Alachlor	0.24	U	ng/L	P418014	
		Avobenzone**	97	U	ng/L	P418014	
		Ametryn	0.58	U	ng/L	P418014	
		Atrazine	4.8		ng/L	P418014	
		PBDE-47**	3.9	U	ng/L	P418014	
		Atrazine Desethyl	6.5		ng/L	P418014	
		PBDE-99**	4.9	U	ng/L	P418014	
		Azinphos Methyl	1.9	U	ng/L	P418014	
		Tri-o-cresyl Phosphate**	5.8	U	ng/L	P418014	
		Azoxystrobin	0.64	I	ng/L	P418014	

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346341	EPA 8270E	Bromacil	7.8		ng/L	P418014	
		2-Ethylhexyl	12	U	ng/L	P418014	
		2,3,4,5-tetrabromobenzoate (EHTBB)**					
		Butylate	0.39	U	ng/L	P418014	
		Caffeine**	7.3	U	ng/L	P418014	
		Carbophenothion	0.19	U	ng/L	P418014	
		Carfentrazone Ethyl	0.097	U	ng/L	P418014	
		Chlorfenapyr	0.17	U	ng/L	P418014	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P418014	
		Chlorpyrifos Methyl	0.049	U	ng/L	P418014	
		Coumaphos	0.49	U	ng/L	P418014	
		Cyanazine	3.2	U	ng/L	P418014	
		Cyprodinil	0.097	U	ng/L	P418014	
		Demeton	1.5	U	ng/L	P418014	
		Diazinon	0.12	U	ng/L	P418014	
		Difenoconazole	0.58	U	ng/L	P418014	
		Dimethenamid	0.097	U	ng/L	P418014	
		Dimethomorph	0.17	U	ng/L	P418014	
		Disulfoton	0.49	U	ng/L	P418014	
		Dithiopyr	0.33	I	ng/L	P418014	MS, RPD
		EPTC	1.2	U	ng/L	P418014	
		Ethion	0.15	U	ng/L	P418014	
		Ethoprop	0.097	U	ng/L	P418014	
		Etridiazole	0.15	U	ng/L	P418014	
		Fenamiphos	0.49	U	ng/L	P418014	
		Fenbuconazole	0.85		ng/L	P418014	
		Fipronil	0.24	U	ng/L	P418014	
		Fipronil Desulfinyl**	0.12	U	ng/L	P418014	
		Fipronil Sulfide	0.15	U	ng/L	P418014	
		Fipronil Sulfone	0.15	U	ng/L	P418014	
		Fluazifop-P-butyl	0.097	U	ng/L	P418014	
		Fludioxonil	0.12	U	ng/L	P418014	
		Flumioxazin	1.7	U	ng/L	P418014	
		Flutolanil	0.097	U	ng/L	P418014	
		Fluxapyroxad	0.097	U	ng/L	P418014	
		Fonofos	0.19	U	ng/L	P418014	
		Hexazinone	0.49	U	ng/L	P418014	
		Imazalil	0.73	U	ng/L	P418014	
		Iprodione	0.58	U	ng/L	P418014	
		Loratadine**	0.097	U	ng/L	P418014	
		Malathion	0.34	U	ng/L	P418014	
		Metaxyl	6.9		ng/L	P418014	
		Metolachlor	0.88	I	ng/L	P418014	
		Metribuzin	2.4	U	ng/L	P418014	
		Mevinphos	1.0	U	ng/L	P418014	

Field ID: G4SD0158

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2346341	EPA 8270E	Molinate	0.29	U	ng/L	P418014	MS
		Myclobutanil	0.24	U	ng/L	P418014	
		Naled	1.5	U	ng/L	P418014	
		Napropamide	0.39	U	ng/L	P418014	
		Norflurazon	82		ng/L	P418014	
		Oxadiazon	0.29	U	ng/L	P418014	
		Oxyfluorfen	0.15	U	ng/L	P418014	
		Parathion Ethyl	0.24	U	ng/L	P418014	
		Parathion Methyl	0.54	U	ng/L	P418014	
		Pendimethalin	0.97	U	ng/L	P418014	
		Phenytol**	3.4	U	ng/L	P418014	MS
		Phorate	0.51	U	ng/L	P418014	
		Prodiamine	0.17	U	ng/L	P418014	
		Prometon	0.88	U	ng/L	P418014	
		Prometryn	0.19	U	ng/L	P418014	
		Pronamide	0.15	U	ng/L	P418014	
		Propanil	0.12	U	ng/L	P418014	
		Propargite	1.5	U	ng/L	P418014	
		Propiconazole	0.49	U	ng/L	P418014	
		Pyraflufen Ethyl	0.24	U	ng/L	P418014	MS, RPD
		Pyridaben	1.6	I	ng/L	P418014	
		Pyriproxyfen	0.12	U	ng/L	P418014	
		Simazine	0.49	U	ng/L	P418014	
		Stirophos	0.12	U	ng/L	P418014	
		Sulfentrazone	0.49	U	ng/L	P418014	
		Tebuconazole	0.49	U	ng/L	P418014	
		Terbufos	0.097	U	ng/L	P418014	
		Terbutylazine	0.41	U	ng/L	P418014	
		Thiobencarb	0.58	U	ng/L	P418014	
		Triadimefon	0.24	U	ng/L	P418014	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for potassium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: Batch matrix spike recoveries for boron are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 8270E: MS accuracy for multiple parameters 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: P417682

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

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: P417687

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: P418021

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: P418026

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417973

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418450

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417922

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417656

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

Reference Method: EPA 8270E
Batch ID: P418014

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: P418014

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	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P418014

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: P418014

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
Pronamide	0.15	U	ng/L
Pronamide	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: P418014

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

Reference Method: EPA 8321B

Batch ID: P417605

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: P417722

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: P418046

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: P418183

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P418227

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P417814

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: P417682

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	104		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	109		P	85 - 115
Magnesium	112		P	85 - 115
Potassium	107		P	85 - 115
Sodium	97.6		P	85 - 115
Strontium	106		P	85 - 115
Tin	102		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	104		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	94.6		P	80 - 120
Antimony	100		P	80 - 120
Arsenic	97.0		P	80 - 120
Barium	102		P	80 - 120
Beryllium	91.3		P	80 - 120
Boron	95.5		P	80 - 120
Cadmium	96.4		P	80 - 120
Chromium	96.3		P	80 - 120
Cobalt	94.7		P	80 - 120
Copper	92.2		P	80 - 120
Lead	93.3		P	80 - 120
Manganese	96.6		P	80 - 120
Molybdenum	94.3		P	80 - 120
Nickel	94.8		P	80 - 120
Selenium	95.0		P	80 - 120
Silver	97.0		P	80 - 120
Thallium	93.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418021

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417973

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418450

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417922

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: P417656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.5		P	90 - 110

Reference Method: EPA 8270E
Batch ID: P418014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	78.6		P	50 - 150
Acetochlor	98.8		P	70 - 121
Alachlor	90.2		P	68 - 119
Ametryn	101		P	64 - 139
Atrazine	84.4		P	76 - 120
Atrazine Desethyl	62.8		P	44 - 126
Avobenzone	76.8		P	76 - 212
Azinphos Methyl	147		P	43 - 192
Azoxystrobin	95.8		P	36 - 224
Bromacil	88.1		P	52 - 121
Butylate	46.2		P	28 - 91.0
Caffeine	73.6		P	50 - 134
Carbophenothion	60.6		P	56 - 129
Carfentrazone Ethyl	79.8		P	60 - 141
Chlorfenapyr	63.9		P	56 - 115
Chlorpyrifos Ethyl	81.7		P	60 - 118

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P418014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	84.2		P	68 - 119
Coumaphos	90.3		P	18 - 250
Cyanazine	148		P	61 - 250
Cyprodinil	96.6		P	55 - 145
Demeton	72.1		P	30 - 159
Diazinon	82.9		P	70 - 123
Difenoconazole	70.8		P	49 - 204
Dimethenamid	79.4		P	64 - 115
Dimethomorph	91.5		P	12 - 219
Disulfoton	70.0		P	44 - 125
Dithiopyr	67.3		P	64 - 115
EPTC	41.5		P	28 - 86.0
Ethion	76.9		P	33 - 125
Ethoprop	83.3		P	64 - 116
Etridiazole	54.6		P	34 - 91.0
Fenamiphos	102		P	12 - 127
Fenbuconazole	131		P	59 - 151
Fipronil	87.4		P	67 - 129
Fipronil Desulfinyl	66.9		P	65 - 127
Fipronil Sulfide	67.9		P	61 - 116
Fipronil Sulfone	87.5		P	55 - 117
Fluazifop-P-butyl	77.6		P	62 - 127
Fludioxonil	108		P	62 - 128
Flumioxazin	99.3		P	33 - 250
Flutolanil	112		P	56 - 127
Fluxapyroxad	106		P	45 - 128
Fonofos	71.0		P	62 - 111
Hexazinone	92.5		P	46 - 139
Imazalil	63.4		P	38 - 142
Iprodione	131		P	47 - 135
Loratadine	140		P	10 - 244
Malathion	93.3		P	61 - 139
Metaxyl	83.5		P	10 - 119
Metolachlor	96.1		P	65 - 118
Metribuzin	90.5		P	51 - 250
Mevinphos	78.8		P	53 - 121
Molinate	60.5		P	42 - 96.0
Myclobutanil	114		P	55 - 128
Naled	69.8		P	10 - 98.0
Napropamide	70.4		P	49 - 121
Norflurazon	80.8		P	61 - 126
Octinoxate	85.4		P	30 - 159
Oxadiazon	89.5		P	59 - 116
Oxybenzone	73.1		P	61 - 139
Oxyfluorfen	106		P	64 - 137
Parathion Ethyl	100		P	70 - 112
Parathion Methyl	96.3		P	76 - 133
PBDE-47	77.3		P	50 - 150
PBDE-99	80.9		P	50 - 150
Pendimethalin	113		P	52 - 117
Phenytoin	64.2		P	10 - 199
Phorate	89.1		P	48 - 121

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P418014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prodiamine	65.0		P	26 - 142
Prometon	78.1		P	43 - 123
Prometryn	95.7		P	66 - 127
Pronamide	109		P	75 - 121
Propanil	97.3		P	45 - 150
Propargite	131		P	42 - 208
Propiconazole	89.8		P	60 - 125
Pyraflufen Ethyl	73.0		P	70 - 138
Pyridaben	129		P	35 - 245
Pyriproxyfen	146		P	30 - 149
Simazine	80.2		P	72 - 125
Stiophos	62.0		P	29 - 164
Sulfentrazone	77.7		P	21 - 139
Tebuconazole	108		P	10 - 115
Terbufos	91.5		P	60 - 123
Terbuthylazine	75.3		P	72 - 115
Thiobencarb	94.3		P	31 - 139
Tri-o-cresyl Phosphate	79.0		P	50 - 150
Triadimefon	83.8		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P417605

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	119		P	40 - 150
AMPA	146		P	40 - 150
Endothall	109		P	40 - 150
Glufosinate	146		P	40 - 150
Glyphosate	134		P	40 - 150
Sucralose	136		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417722

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	117		P	40 - 150
2,4,5-T	98.8		P	40 - 150
Acetaminophen	82.9		P	30 - 150
Acetamiprid	73.6		P	40 - 150
Afidopyropen	62.7		P	30 - 150
Bentazon	77.9		P	30 - 150
Benzovindiflupyr	92.5		P	40 - 150
Carbamazepine	97.6		P	40 - 150
Clothianidin	110		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	95.3		P	40 - 150
Fenuron	98.5		P	40 - 150
Fluridone	99.3		P	40 - 150
Hydrocodone	98.3		P	40 - 150
Ibuprofen	95.4		P	40 - 150
Imazapyr	114		P	40 - 150
Imidacloprid	98.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P417722

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	105		P	40 - 150
Mandestrobin	95.1		P	40 - 150
MCPPP	107		P	40 - 150
Naproxen	78.4		P	40 - 150
Primidone	109		P	40 - 150
Pyraclostrobin	89.6		P	40 - 150
Silvex	105		P	40 - 150
Thiamethoxam	103		P	40 - 150
Tolfenpyrad	64.6		P	30 - 150
Triclopyr	115		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P418046

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.2		P	94 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P417814

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346296	Calcium	103		P	80 - 120
2346296	Iron	109	107	P/P	80 - 120
2346296	Magnesium	110	105	P/P	80 - 120
2346296	Potassium	101	96.9	P/P	80 - 120
2346296	Sodium	98.1		P	80 - 120
2346296	Strontium	101	99.6	P/P	80 - 120
2346296	Tin	103	102	P/P	80 - 120
2346296	Titanium	106	103	P/P	80 - 120
2346296	Vanadium	105	102	P/P	80 - 120
2346296	Zinc	103	100	P/P	80 - 120
2346340	Calcium	103		P	80 - 120
2346340	Iron	109		P	80 - 120
2346340	Magnesium	107		P	80 - 120
2346340	Sodium	101		P	80 - 120
2346340	Strontium	100		P	80 - 120
2346340	Tin	102		P	80 - 120
2346340	Titanium	105		P	80 - 120
2346340	Vanadium	104		P	80 - 120
2346340	Zinc	99.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346296	Aluminum	95.7	95.3	P/P	80 - 120
2346296	Antimony	101	102	P/P	80 - 120
2346296	Arsenic	98.6	98.7	P/P	80 - 120
2346296	Barium	102	101	P/P	80 - 120
2346296	Beryllium	94.4	93.1	P/P	80 - 120
2346296	Boron	96.5	95.6	P/P	80 - 120
2346296	Cadmium	97.4	96.5	P/P	80 - 120
2346296	Chromium	97.5	98.2	P/P	80 - 120
2346296	Cobalt	94.7	94.8	P/P	80 - 120
2346296	Copper	94.3	95.3	P/P	80 - 120
2346296	Lead	93.7	93.2	P/P	80 - 120
2346296	Manganese	97.6	97.9	P/P	80 - 120
2346296	Molybdenum	95.1	94.2	P/P	80 - 120
2346296	Nickel	93.7	94.8	P/P	80 - 120
2346296	Selenium	95.4	95.1	P/P	80 - 120
2346296	Silver	95.2	95.2	P/P	80 - 120
2346296	Thallium	96.1	95.9	P/P	80 - 120
2346340	Aluminum	99.2		P	80 - 120
2346340	Antimony	104		P	80 - 120
2346340	Arsenic	100		P	80 - 120
2346340	Barium	103		P	80 - 120
2346340	Beryllium	91.2		P	80 - 120
2346340	Cadmium	99.9		P	80 - 120
2346340	Chromium	100		P	80 - 120
2346340	Cobalt	97.7		P	80 - 120
2346340	Copper	94.2		P	80 - 120
2346340	Lead	95.5		P	80 - 120
2346340	Manganese	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346340	Molybdenum	99.3		P	80 - 120
2346340	Nickel	95.5		P	80 - 120
2346340	Selenium	97.2		P	80 - 120
2346340	Silver	96.6		P	80 - 120
2346340	Thallium	97.5		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418021

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346156	Chloride	96.8		P	90 - 110
2346288	Chloride	96.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346156	Sulfate	91.9		P	90 - 110
2346288	Sulfate	93.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417973

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346336	Ammonia-N	98.8	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418450

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346051	Kjeldahl Nitrogen	101	98.5	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346289	NO2NO3-N	100	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417922

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346289	Total-P	104	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346126	O-Phosphate-P	98.7	97.8	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P418014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346648	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	88.0	86.4	P/P	50 - 150
2346648	Acetochlor	101	94.5	P/P	65 - 124
2346648	Alachlor	118	105	P/P	61 - 121
2346648	Ametryn	208	177	P/P	52 - 216
2346648	Atrazine Desethyl	91.6	81.9	P/P	15 - 160
2346648	Avobenzone	86.2	91.7	P/P	59 - 206
2346648	Azinphos Methyl	182	136	P/P	40 - 292
2346648	Azoxystrobin	111	122	P/P	12 - 242
2346648	Bromacil	126	135	P/P	54 - 167
2346648	Butylate	40.9	49.9	P/P	14 - 94.0
2346648	Caffeine	93.7	93.7	P/P	10 - 226
2346648	Carbophenothion	71.7	63.5	P/P	49 - 122
2346648	Carfentrazone Ethyl	102	79.2	P/P	53 - 138
2346648	Chlorfenapyr	60.7	64.0	P/P	50 - 150
2346648	Chlorpyrifos Ethyl	98.9	100	P/P	52 - 122
2346648	Chlorpyrifos Methyl	102	87.8	P/P	66 - 117
2346648	Coumaphos	105	90.8	P/P	50 - 220
2346648	Cyanazine	201	168	P/P	43 - 245
2346648	Cyprodinil	144	131	P/P	50 - 150
2346648	Demeton	111	102	P/P	43 - 188
2346648	Diazinon	127	99.7	P/P	69 - 131
2346648	Difenoconazole	145	158	P/P	34 - 231
2346648	Dimethenamid	109	102	P/P	55 - 118
2346648	Dimethomorph	143	122	P/P	50 - 150
2346648	Disulfoton	103	94.7	P/P	38 - 141
2346648	Dithiopyr	51.3	39.2	P/F	42 - 116
2346648	EPTC	41.6	52.8	P/P	18 - 85.0
2346648	Ethion	79.6	65.0	P/P	10 - 131
2346648	Ethoprop	93.0	89.6	P/P	65 - 129
2346648	Etridiazole	66.1	67.9	P/P	50 - 150
2346648	Fenamiphos	105	109	P/P	31 - 137
2346648	Fenbuconazole	159	147	P/P	57 - 160
2346648	Fipronil	83.4	77.7	P/P	62 - 132
2346648	Fipronil Desulfinyl	85.1	67.2	P/P	57 - 131
2346648	Fluazifop-P-butyl	81.5	78.0	P/P	54 - 133
2346648	Fludioxonil	123	109	P/P	58 - 127
2346648	Flumioxazin	156	141	P/P	33 - 300
2346648	Flutolanil	126	110	P/P	42 - 130
2346648	Fluxapyroxad	70.3	69.1	P/P	23 - 141
2346648	Fonofos	64.9	60.4	P/P	58 - 119
2346648	Hexazinone	113	107	P/P	68 - 172
2346648	Imazalil	59.1	71.2	P/P	48 - 283
2346648	Iprodione	83.4	81.4	P/P	38 - 140
2346648	Loratadine	134	140	P/P	50 - 150
2346648	Malathion	105	100	P/P	40 - 137
2346648	Metalaxyl	108	96.6	P/P	21 - 129
2346648	Metolachlor	118	114	P/P	55 - 122
2346648	Metribuzin	103	97.7	P/P	38 - 187
2346648	Mevinphos	69.8	75.0	P/P	54 - 134
2346648	Molinate	75.1	78.4	P/P	41 - 97.0
2346648	Myclobutanil	69.3	72.2	P/P	56 - 125
2346648	Naled	200	221	F/F	10 - 108

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P418014

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346648	Napropamide	89.6	66.4	P/P	50 - 150
2346648	Norflurazon	73.0	68.0	P/P	32 - 122
2346648	Octinoxate	86.2	84.3	P/P	25 - 150
2346648	Oxybenzone	67.4	63.0	P/P	59 - 147
2346648	Oxyfluorfen	137	109	P/P	61 - 153
2346648	Parathion Ethyl	102	107	P/P	59 - 130
2346648	Parathion Methyl	124	113	P/P	65 - 155
2346648	PBDE-47	79.1	77.4	P/P	50 - 150
2346648	PBDE-99	78.4	76.3	P/P	50 - 150
2346648	Pendimethalin	103	102	P/P	49 - 138
2346648	Phenytoin	75.4	82.1	P/P	50 - 200
2346648	Phorate	92.0	98.6	P/P	54 - 161
2346648	Prodiamine	120	85.3	P/P	33 - 161
2346648	Prometon	131	103	P/P	48 - 140
2346648	Prometryn	161	127	F/P	55 - 134
2346648	Pronamide	131	122	P/P	66 - 137
2346648	Propanil	118	127	P/P	50 - 150
2346648	Propargite	166	136	P/P	50 - 200
2346648	Propiconazole	119	81.1	P/P	36 - 150
2346648	Pyraflufen Ethyl	69.3	63.7	P/P	50 - 150
2346648	Pyridaben	188	162	P/P	50 - 200
2346648	Pyriproxyfen	160	143	P/P	10 - 165
2346648	Simazine	97.0	84.4	P/P	57 - 145
2346648	Stirophos	49.1	22.5	F/F	50 - 150
2346648	Tebuconazole	44.1	43.7	P/P	10 - 127
2346648	Terbufos	106	100	P/P	59 - 138
2346648	Terbuthylazine	96.1	78.2	P/P	68 - 119
2346648	Thiobencarb	114	105	P/P	50 - 150
2346648	Tri-o-cresyl Phosphate	75.3	73.2	P/P	50 - 150
2346648	Triadimefon	98.4	95.6	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P417605

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2345974	Acesulfame K	96.6	93.3	P/P	40 - 150
2345974	AMPA	111	110	P/P	40 - 150
2345974	Endothall	94.2	110	P/P	40 - 150
2345974	Glufosinate	90.8	88.8	P/P	40 - 150
2345974	Glyphosate	93.8	92.3	P/P	40 - 150
2345974	Sucralose	111	110	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P417722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346036	2,4-D	89.6	99.1	P/P	40 - 150
2346036	2,4,5-T	59.3	71.4	P/P	40 - 150
2346036	Acetaminophen	70.5	75.1	P/P	30 - 150
2346036	Acetamiprid	57.8	50.4	P/P	40 - 150
2346036	Afidopyropen	67.8	75.3	P/P	30 - 150
2346036	Bentazon	42.1	49.5	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P417722

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346036	Benzovindiflupyr	94.0	100	P/P	40 - 150
2346036	Carbamazepine	91.1	95.1	P/P	40 - 150
2346036	Clothianidin	116	110	P/P	40 - 150
2346036	Dinotefuran	135	139	P/P	40 - 150
2346036	Diuron	66.5	68.6	P/P	40 - 150
2346036	Fenuron	79.6	85.5	P/P	40 - 150
2346036	Fluridone	82.7	93.2	P/P	40 - 150
2346036	Hydrocodone	98.3	107	P/P	40 - 150
2346036	Ibuprofen	75.2	85.6	P/P	40 - 150
2346036	Imazapyr	56.9	73.4	P/P	40 - 150
2346036	Imidacloprid	123	133	P/P	40 - 150
2346036	Linuron	89.8	84.6	P/P	40 - 150
2346036	Mandestrobin	83.3	86.3	P/P	40 - 150
2346036	MCP	77.0	83.9	P/P	40 - 150
2346036	Naproxen	65.1	64.0	P/P	40 - 150
2346036	Primidone	118	105	P/P	40 - 150
2346036	Pyraclostrobin	81.3	91.8	P/P	40 - 150
2346036	Silvex	86.6	79.4	P/P	40 - 150
2346036	Thiamethoxam	143	155	P/F	40 - 150
2346036	Tolfenpyrad	50.9	60.2	P/P	30 - 150
2346036	Triclopyr	88.5	98.9	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P418050

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346364	Fluoride	101	99.6	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P417814

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2346159	Organic Carbon	94.6	94.2	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P417682

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346288	Color (true)	0.187	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P417670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346247	Turbidity	2.20	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P417687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346296	Calcium	3.17	Spike	P	0 - 20
2346296	Iron	1.74	Spike	P	0 - 20
2346296	Magnesium	2.86	Spike	P	0 - 20
2346296	Potassium	2.56	Spike	P	0 - 20
2346296	Sodium	3.36	Spike	P	0 - 20
2346296	Strontium	1.87	Spike	P	0 - 20
2346296	Tin	1.45	Spike	P	0 - 20
2346296	Titanium	2.43	Spike	P	0 - 20
2346296	Vanadium	2.71	Spike	P	0 - 20
2346296	Zinc	2.57	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P417687

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346296	Aluminum	0.438	Spike	P	0 - 20
2346296	Antimony	1.14	Spike	P	0 - 20
2346296	Arsenic	0.0924	Spike	P	0 - 20
2346296	Barium	0.332	Spike	P	0 - 20
2346296	Beryllium	1.29	Spike	P	0 - 20
2346296	Boron	0.652	Spike	P	0 - 20
2346296	Cadmium	0.950	Spike	P	0 - 20
2346296	Chromium	0.642	Spike	P	0 - 20
2346296	Cobalt	0.0197	Spike	P	0 - 20
2346296	Copper	1.11	Spike	P	0 - 20
2346296	Lead	0.480	Spike	P	0 - 20
2346296	Manganese	0.299	Spike	P	0 - 20
2346296	Molybdenum	0.928	Spike	P	0 - 20
2346296	Nickel	1.13	Spike	P	0 - 20
2346296	Selenium	0.282	Spike	P	0 - 20
2346296	Silver	0.0216	Spike	P	0 - 20
2346296	Thallium	0.275	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418021

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	Chloride	0.269	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P418026

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	Sulfate	0.0297	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P417973

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346336	Ammonia-N	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P418450

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346051	Kjeldahl Nitrogen	1.30	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P417757

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346289	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P417922

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346289	Total-P	1.07	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P417656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346126	O-Phosphate-P	0.916	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P418014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346648	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	1.89	Spike	P	0 - 30
2346648	Acetochlor	6.77	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P418014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346648	Alachlor	11.8	Spike	P	0 - 27
2346648	Ametryn	16.2	Spike	P	0 - 34
2346648	Atrazine	1.14	Spike	P	0 - 41
2346648	Atrazine Desethyl	11.1	Spike	P	0 - 38
2346648	Avobenzone	6.18	Spike	P	0 - 30
2346648	Azinphos Methyl	28.8	Spike	P	0 - 62
2346648	Azoxystrobin	8.99	Spike	P	0 - 32
2346648	Bromacil	6.64	Spike	P	0 - 30
2346648	Butylate	19.9	Spike	P	0 - 59
2346648	Caffeine	0.0523	Spike	P	0 - 60
2346648	Carbophenothion	12.2	Spike	P	0 - 25
2346648	Carfentrazone Ethyl	25.5	Spike	P	0 - 26
2346648	Chlorfenapyr	5.30	Spike	P	0 - 30
2346648	Chlorpyrifos Ethyl	1.11	Spike	P	0 - 27
2346648	Chlorpyrifos Methyl	14.6	Spike	P	0 - 26
2346648	Coumaphos	14.8	Spike	P	0 - 30
2346648	Cyanazine	18.1	Spike	P	0 - 58
2346648	Cyprodinil	10.0	Spike	P	0 - 30
2346648	Demeton	8.81	Spike	P	0 - 25
2346648	Diazinon	24.0	Spike	P	0 - 29
2346648	Difenoconazole	8.45	Spike	P	0 - 25
2346648	Dimethenamid	5.11	Spike	P	0 - 30
2346648	Dimethomorph	15.7	Spike	P	0 - 30
2346648	Disulfoton	8.02	Spike	P	0 - 33
2346648	Dithiopyr	23.3	Spike	F	0 - 22
2346648	EPTC	23.8	Spike	P	0 - 38
2346648	Ethion	20.1	Spike	P	0 - 79
2346648	Ethoprop	3.65	Spike	P	0 - 23
2346648	Etridiazole	2.73	Spike	P	0 - 30
2346648	Fenamiphos	3.82	Spike	P	0 - 58
2346648	Fenbuconazole	8.17	Spike	P	0 - 37
2346648	Fipronil	5.95	Spike	P	0 - 33
2346648	Fipronil Desulfinyl	13.9	Spike	P	0 - 26
2346648	Fipronil Sulfide	13.0	Spike	P	0 - 37
2346648	Fipronil Sulfone	31.0	Spike	P	0 - 50
2346648	Fluazifop-P-butyl	4.38	Spike	P	0 - 24
2346648	Fludioxonil	11.7	Spike	P	0 - 26
2346648	Flumioxazin	10.1	Spike	P	0 - 37
2346648	Flutolanil	12.9	Spike	P	0 - 26
2346648	Fluxapyroxad	1.14	Spike	P	0 - 34
2346648	Fonofos	7.22	Spike	P	0 - 27
2346648	Hexazinone	5.04	Spike	P	0 - 36
2346648	Imazalil	18.6	Spike	P	0 - 65
2346648	Iprodione	2.38	Spike	P	0 - 33
2346648	Loratadine	4.52	Spike	P	0 - 30
2346648	Malathion	4.81	Spike	P	0 - 44
2346648	Metalaxyl	11.0	Spike	P	0 - 38
2346648	Metolachlor	3.15	Spike	P	0 - 36
2346648	Metribuzin	5.05	Spike	P	0 - 63
2346648	Mevinphos	7.22	Spike	P	0 - 26
2346648	Molinate	4.30	Spike	P	0 - 40

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P418014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346648	Myclobutanil	2.74	Spike	P	0 - 21
2346648	Naled	10.1	Spike	P	0 - 26
2346648	Napropamide	29.7	Spike	P	0 - 30
2346648	Norflurazon	7.10	Spike	P	0 - 24
2346648	Octinoxate	2.26	Spike	P	0 - 30
2346648	Oxadiazon	1.30	Spike	P	0 - 27
2346648	Oxybenzone	6.78	Spike	P	0 - 30
2346648	Oxyfluorfen	22.6	Spike	P	0 - 24
2346648	Parathion Ethyl	4.21	Spike	P	0 - 28
2346648	Parathion Methyl	9.19	Spike	P	0 - 27
2346648	PBDE-47	2.11	Spike	P	0 - 30
2346648	PBDE-99	2.71	Spike	P	0 - 30
2346648	Pendimethalin	0.656	Spike	P	0 - 31
2346648	Phenytoin	8.57	Spike	P	0 - 30
2346648	Phorate	6.90	Spike	P	0 - 27
2346648	Prodiamine	31.4	Spike	P	0 - 52
2346648	Prometon	21.6	Spike	P	0 - 31
2346648	Prometryn	24.0	Spike	P	0 - 28
2346648	Pronamide	7.30	Spike	P	0 - 26
2346648	Propanil	7.33	Spike	P	0 - 30
2346648	Propargite	19.9	Spike	P	0 - 30
2346648	Propiconazole	24.8	Spike	P	0 - 31
2346648	Pyraflufen Ethyl	8.35	Spike	P	0 - 30
2346648	Pyridaben	14.6	Spike	P	0 - 30
2346648	Pyriproxyfen	11.4	Spike	P	0 - 50
2346648	Simazine	13.9	Spike	P	0 - 29
2346648	Stirophos	74.5	Spike	F	0 - 30
2346648	Sulfentrazone	3.58	Spike	P	0 - 33
2346648	Tebuconazole	0.743	Spike	P	0 - 44
2346648	Terbufos	5.66	Spike	P	0 - 29
2346648	Terbutylazine	20.5	Spike	P	0 - 27
2346648	Thiobencarb	7.61	Spike	P	0 - 30
2346648	Tri-o-cresyl Phosphate	2.85	Spike	P	0 - 30
2346648	Triadimefon	2.45	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P417605

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2345974	Acesulfame K	3.46	Spike	P	0 - 30
2345974	AMPA	1.26	Spike	P	0 - 30
2345974	Endothall	15.4	Spike	P	0 - 30
2345974	Glufosinate	2.31	Spike	P	0 - 30
2345974	Glyphosate	1.53	Spike	P	0 - 30
2345974	Sucralose	0.576	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P417722

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346036	2,4-D	8.89	Spike	P	0 - 30
2346036	2,4,5-T	18.6	Spike	P	0 - 30
2346036	Acetaminophen	6.26	Spike	P	0 - 30
2346036	Acetamiprid	13.6	Spike	P	0 - 30
2346036	Afidopyropen	10.5	Spike	P	0 - 30
2346036	Bentazon	16.2	Spike	P	0 - 30
2346036	Benzovindiflupyr	6.54	Spike	P	0 - 30
2346036	Carbamazepine	4.28	Spike	P	0 - 30
2346036	Clothianidin	4.88	Spike	P	0 - 30
2346036	Dinotefuran	3.01	Spike	P	0 - 30
2346036	Diuron	3.11	Spike	P	0 - 30
2346036	Fenuron	7.11	Spike	P	0 - 30
2346036	Fluridone	11.9	Spike	P	0 - 30
2346036	Hydrocodone	8.68	Spike	P	0 - 30
2346036	Ibuprofen	12.9	Spike	P	0 - 30
2346036	Imazapyr	18.8	Spike	P	0 - 30
2346036	Imidacloprid	7.63	Spike	P	0 - 30
2346036	Linuron	6.01	Spike	P	0 - 30
2346036	Mandestrobin	3.54	Spike	P	0 - 30
2346036	MCPP	8.58	Spike	P	0 - 30
2346036	Naproxen	1.80	Spike	P	0 - 30
2346036	Primidone	11.7	Spike	P	0 - 30
2346036	Pyraclostrobin	12.1	Spike	P	0 - 30
2346036	Silvex	8.60	Spike	P	0 - 30
2346036	Thiamethoxam	7.99	Spike	P	0 - 30
2346036	Tolfenpyrad	16.7	Spike	P	0 - 30
2346036	Triclopyr	11.1	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P418046

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346364	Total Alkalinity	1.24	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P418183

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	TDS	4.15	Sample	P	0 - 10

Reference Method: SM 2540 D-2011

Batch ID: P418227

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346156	TSS	7.41	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P418050

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346364	Fluoride	0.953	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P417814

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2346159	Organic Carbon	0.207	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2346339
Field Sample ID: G4SD0158

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	119	P	30 - 160
EPA 8321B	Acetaminophen-d4	79.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	105	P	30 - 160
EPA 8321B	Diuron-d6	86.2	P	30 - 160
EPA 8321B	Endothall-d6	89.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.7	P	30 - 160
EPA 8321B	Ibuprofen-d3	71.3	P	30 - 160
EPA 8321B	Primidone-d5	109	P	30 - 160
EPA 8321B	Sucralose-d6	109	P	30 - 160

Lab Sample ID: 2346341
Field Sample ID: G4SD0158

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	78.9	P	20 - 200
EPA 8270E	Simazine-d10	81.3	P	71 - 140
EPA 8270E	Terbufos-d10	80.7	P	62 - 131
EPA 8270E	Terphenyl-d14	103	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A113910

Included Lab Sample IDs: 2346337

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	96.7	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113916

Included Lab Sample IDs: 2346335

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

Reference Method: DEP SOP: NU-094-1

Run ID: A113919

Included Lab Sample IDs: 2346335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A113942

Included Lab Sample IDs: 2346340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	104	P/P	90 - 110
Iron	103	105	P/P	90 - 110
Magnesium	104	106	P/P	90 - 110
Potassium	100	104	P/P	90 - 110
Sodium	98.5	100	P/P	90 - 110
Strontium	97.5	98.0	P/P	90 - 110
Tin	99.0	100	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Vanadium	100	101	P/P	90 - 110
Zinc	97.8	98.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113947

Included Lab Sample IDs: 2346339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	96.9	94.9	P/P	60 - 160
Sucralose	113	112	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113950

Included Lab Sample IDs: 2346339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	125	126	P/P	60 - 160
Endothall	102	98.4	P/P	60 - 160
Glufosinate	107	103	P/P	60 - 160
Glyphosate	119	118	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A113955

Included Lab Sample IDs: 2346336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113980

Included Lab Sample IDs: 2346336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.2	97.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114030

Included Lab Sample IDs: 2346336

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114036

Included Lab Sample IDs: 2346336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114048

Included Lab Sample IDs: 2346335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	102	P/P	90 - 110
Sulfate	102	99.5	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A114059

Included Lab Sample IDs: 2346335

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.7	97.5	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A114059

Included Lab Sample IDs: 2346335

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

Reference Method: EPA 8321B

Run ID: A114103

Included Lab Sample IDs: 2346339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.2	96.9	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A114103
Included Lab Sample IDs: 2346339

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	87.7	102	P/P	50 - 150
Acetaminophen	105	99.6	P/P	60 - 160
Acetamiprid	91.6	91.5	P/P	50 - 150
Afidopyropen	90.5	113	P/P	50 - 150
Bentazon	82.2	69.4	P/P	50 - 160
Benzovindiflupyr	89.7	95.5	P/P	50 - 150
Carbamazepine	87.5	90.3	P/P	60 - 150
Clothianidin	97.0	109	P/P	60 - 150
Dinotefuran	106	103	P/P	50 - 150
Diuron	90.7	79.0	P/P	60 - 160
Fenuron	96.5	103	P/P	60 - 150
Fluridone	108	102	P/P	60 - 160
Hydrocodone	104	109	P/P	60 - 150
Ibuprofen	107	120	P/P	50 - 160
Imazapyr	96.0	108	P/P	50 - 150
Imidacloprid	97.2	85.6	P/P	60 - 150
Linuron	116	109	P/P	60 - 150
Mandestrobin	102	100	P/P	50 - 150
MCPP	102	108	P/P	50 - 150
Naproxen	104	71.2	P/P	50 - 160
Primidone	106	90.2	P/P	60 - 150
Pyraclostrobin	101	98.7	P/P	60 - 150
Silvex	90.5	98.0	P/P	50 - 150
Thiamethoxam	98.1	98.0	P/P	50 - 150
Tolfenpyrad	103	98.3	P/P	60 - 150
Triclopyr	90.8	93.1	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A114134
Included Lab Sample IDs: 2346340

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.6	100	P/P	90 - 110
Antimony	100	99.7	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Barium	99.5	99.4	P/P	90 - 110
Beryllium	97.6	94.0	P/P	90 - 110
Boron	96.1	101	P/P	90 - 110
Cadmium	101	102	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Cobalt	98.0	98.3	P/P	90 - 110
Copper	97.7	97.9	P/P	90 - 110
Lead	93.0	94.1	P/P	90 - 110
Manganese	101	101	P/P	90 - 110
Molybdenum	96.6	97.0	P/P	90 - 110
Nickel	98.7	97.3	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	97.0	97.7	P/P	90 - 110
Thallium	97.9	98.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A114136
Included Lab Sample IDs: 2346341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	95.1		P	80 - 120
Avobenzone	101		P	80 - 120
Octinoxate	94.4		P	80 - 120
Oxybenzone	95.3		P	80 - 120
PBDE-47	94.7		P	80 - 120
PBDE-99	95.5		P	80 - 120
Tri-o-cresyl Phosphate	98.2		P	80 - 120

Reference Method: EPA 8270E
Run ID: A114149
Included Lab Sample IDs: 2346341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	109		P	80 - 120
Alachlor	107		P	80 - 120
Ametryn	94.3		P	80 - 120
Atrazine	98.6		P	80 - 120
Atrazine Desethyl	101		P	80 - 120
Azinphos Methyl	105		P	80 - 120
Azoxystrobin	98.8		P	80 - 120
Bromacil	96.1		P	80 - 120
Butylate	103		P	80 - 120
Caffeine	98.0		P	80 - 120
Carbophenothion	93.6		P	80 - 120
Carfentrazone Ethyl	94.7		P	80 - 120
Chlorfenapyr	106		P	80 - 120
Chlorpyrifos Ethyl	107		P	80 - 120
Chlorpyrifos Methyl	111		P	80 - 120
Coumaphos	92.6		P	80 - 120
Cyanazine	104		P	80 - 120
Cyprodinil	111		P	80 - 120
Demeton	99.4		P	80 - 120
Diazinon	89.7		P	80 - 120
Difenoconazole	101		P	80 - 120
Dimethenamid	108		P	80 - 120
Dimethomorph	102		P	80 - 120
Disulfoton	104		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	86.4		P	80 - 120
Ethion	98.5		P	80 - 120
Ethoprop	99.1		P	80 - 120
Etridiazole	104		P	80 - 120
Fenamiphos	107		P	80 - 120
Fenbuconazole	110		P	80 - 120
Fipronil	116		P	80 - 120
Fipronil Desulfinyl	99.7		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	96.3		P	80 - 120
Fluazifop-P-butyl	110		P	80 - 120
Fludioxonil	110		P	80 - 120
Flumioxazin	101		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A114149
Included Lab Sample IDs: 2346341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Flutolanil	105		P	80 - 120
Fluxapyroxad	95.9		P	80 - 120
Fonofos	96.4		P	80 - 120
Hexazinone	96.1		P	80 - 120
Imazalil	108		P	80 - 120
Iprodione	98.5		P	80 - 120
Loratadine	96.1		P	80 - 120
Malathion	96.1		P	80 - 120
Metaxyl	105		P	80 - 120
Metolachlor	107		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	96.2		P	80 - 120
Molinate	99.8		P	80 - 120
Myclobutanil	116		P	80 - 120
Naled	96.9		P	80 - 120
Napropamide	108		P	80 - 120
Oxadiazon	103		P	80 - 120
Oxyfluorfen	113		P	80 - 120
Parathion Ethyl	91.9		P	80 - 120
Parathion Methyl	91.5		P	80 - 120
Pendimethalin	104		P	80 - 120
Phenytoin	103		P	80 - 120
Phorate	99.4		P	80 - 120
Prodiamine	96.6		P	80 - 120
Prometon	94.9		P	80 - 120
Prometryn	108		P	80 - 120
Pronamide	94.3		P	80 - 120
Propanil	111		P	80 - 120
Propargite	102		P	80 - 120
Propiconazole	98.8		P	80 - 120
Pyraflufen Ethyl	94.3		P	80 - 120
Pyridaben	107		P	80 - 120
Pyriproxyfen	111		P	80 - 120
Simazine	102		P	80 - 120
Stiropfos	114		P	80 - 120
Sulfentrazone	95.7		P	80 - 120
Tebuconazole	98.9		P	80 - 120
Terbufos	99.2		P	80 - 120
Terbuthylazine	102		P	80 - 120
Thiobencarb	105		P	80 - 120
Triadimefon	103		P	80 - 120

Reference Method: EPA 8270E
Run ID: A114172
Included Lab Sample IDs: 2346341

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Norflurazon	96.2		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114298

Included Lab Sample IDs: 2346336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.8	94.5	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
DEP SOP: NU-094-1	Color (true)	104					0.187	
EPA 180.1 Rev. 2.0	Turbidity	96.5					2.20	
EPA 200.7 Rev. 4.4	Calcium	104	103	103				3.17
	Iron	109	109	107	109			1.74
	Magnesium	112	110	105	107			2.86
	Potassium	107	101	96.9				2.56
	Sodium	97.6	98.1	101				3.36
	Strontium	106	101	99.6	100			1.87
	Tin	102	103	102	102			1.45
	Titanium	106	106	103	105			2.43
	Vanadium	104	105	102	104			2.71
	Zinc	101	103	100	99.9			2.57
EPA 200.8 Rev. 5.4	Aluminum	94.6	95.7	95.3	99.2			0.438
	Antimony	100	101	102	104			1.14
	Arsenic	97.0	98.6	98.7	100			0.0924
	Barium	102	102	101	103			0.332
	Beryllium	91.3	94.4	93.1	91.2			1.29
	Boron	95.5	96.5	95.6				0.652
	Cadmium	96.4	97.4	96.5	99.9			0.950
	Chromium	96.3	97.5	98.2	100			0.642
	Cobalt	94.7	94.7	94.8	97.7			0.0197
	Copper	92.2	94.3	95.3	94.2			1.11
	Lead	93.3	93.7	93.2	95.5			0.480
	Manganese	96.6	97.6	97.9	100			0.299
	Molybdenum	94.3	95.1	94.2	99.3			0.928
	Nickel	94.8	93.7	94.8	95.5			1.13
	Selenium	95.0	95.4	95.1	97.2			0.282
	Silver	97.0	95.2	95.2	96.6			0.0216
	Thallium	93.5	97.5	96.1	95.9			0.275
EPA 300.0 Rev. 2.1	Chloride	102	96.8	96.8			0.269	
	Sulfate	98.8	91.9	93.7			0.0297	
EPA 350.1 Rev. 2.0	Ammonia-N	95.4	98.8	100				1.08
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	101	98.5				1.30
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	103	104	103				1.07
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.5	98.7	97.8				0.916
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	78.6	88.0	86.4				1.89
	Acetochlor	98.8	101	94.5				6.77
	Alachlor	90.2	118	105				11.8
	Ametryn	101	208	177				16.2
	Atrazine	84.4						1.14
	Atrazine Desethyl	62.8	91.6	81.9				11.1
	Avobenzone	76.8	86.2	91.7				6.18
	Azinphos Methyl	147	182	136				28.8
	Azoxystrobin	95.8	111	122				8.99
	Bromacil	88.1	126	135				6.64
	Butylate	46.2	40.9	49.9				19.9
	Caffeine	73.6	93.7	93.7				0.0523
	Carbophenothion	60.6	71.7	63.5				12.2
	Carfentrazone Ethyl	79.8	102	79.2				25.5
	Chlorfenapyr	63.9	60.7	64.0				5.30
	Chlorpyrifos Ethyl	81.7	98.9	100				1.11

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Chlorpyrifos Methyl	84.2	102	87.8			14.6
	Coumaphos	90.3	105	90.8			14.8
	Cyanazine	148	201	168			18.1
	Cyprodinil	96.6	144	131			10.0
	Demeton	72.1	111	102			8.81
	Diazinon	82.9	127	99.7			24.0
	Difenoconazole	70.8	145	158			8.45
	Dimethenamid	79.4	109	102			5.11
	Dimethomorph	91.5	143	122			15.7
	Disulfoton	70.0	103	94.7			8.02
	Dithiopyr	67.3	51.3	39.2			23.3
	EPTC	41.5	41.6	52.8			23.8
	Ethion	76.9	79.6	65.0			20.1
	Ethoprop	83.3	93.0	89.6			3.65
	Etridiazole	54.6	66.1	67.9			2.73
	Fenamiphos	102	105	109			3.82
	Fenbuconazole	131	159	147			8.17
	Fipronil	87.4	83.4	77.7			5.95
	Fipronil Desulfinyl	66.9	85.1	67.2			13.9
	Fipronil Sulfide	67.9					13.0
	Fipronil Sulfone	87.5					31.0
	Fluazifop-P-butyl	77.6	81.5	78.0			4.38
	Fludioxonil	108	123	109			11.7
	Flumioxazin	99.3	156	141			10.1
	Flutolanil	112	126	110			12.9
	Fluxapyroxad	106	70.3	69.1			1.14
	Fonofos	71.0	64.9	60.4			7.22
	Hexazinone	92.5	113	107			5.04
	Imazalil	63.4	59.1	71.2			18.6
	Iprodione	131	83.4	81.4			2.38
	Loratadine	140	134	140			4.52
	Malathion	93.3	105	100			4.81
	Metalaxyl	83.5	108	96.6			11.0
	Metolachlor	96.1	118	114			3.15
	Metribuzin	90.5	103	97.7			5.05
	Mevinphos	78.8	69.8	75.0			7.22
	Molinate	60.5	75.1	78.4			4.30
	Myclobutanil	114	69.3	72.2			2.74
	Naled	69.8	200	221			10.1
	Napropamide	70.4	89.6	66.4			29.7
	Norflurazon	80.8	73.0	68.0			7.10
	Octinoxate	85.4	86.2	84.3			2.26
	Oxadiazon	89.5					1.30
	Oxybenzone	73.1	67.4	63.0			6.78
	Oxyfluorfen	106	137	109			22.6
	Parathion Ethyl	100	102	107			4.21
	Parathion Methyl	96.3	124	113			9.19
	PBDE-47	77.3	79.1	77.4			2.11
	PBDE-99	80.9	78.4	76.3			2.71
	Pendimethalin	113	103	102			0.656
	Phenytoin	64.2	75.4	82.1			8.57
	Phorate	89.1	92.0	98.6			6.90
	Prodiamine	65.0	120	85.3			31.4
	Prometon	78.1	131	103			21.6

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Prometryn	95.7	161	127			24.0
	Pronamide	109	131	122			7.30
	Propanil	97.3	118	127			7.33
	Propargite	131	166	136			19.9
	Propiconazole	89.8	119	81.1			24.8
	Pyraflufen Ethyl	73.0	69.3	63.7			8.35
	Pyridaben	129	188	162			14.6
	Pyriproxyfen	146	160	143			11.4
	Simazine	80.2	97.0	84.4			13.9
	Stirophos	62.0	49.1	22.5			74.5
	Sulfentrazone	77.7					3.58
	Tebuconazole	108	44.1	43.7			0.743
	Terbufos	91.5	106	100			5.66
	Terbuthylazine	75.3	96.1	78.2			20.5
	Thiobencarb	94.3	114	105			7.61
	Tri-o-cresyl Phosphate	79.0	75.3	73.2			2.85
	Triadimefon	83.8	98.4	95.6			2.45
EPA 8321B	2,4-D	117	89.6	99.1			8.89
	2,4,5-T	98.8	59.3	71.4			18.6
	Acesulfame K	119	96.6	93.3			3.46
	Acetaminophen	82.9	70.5	75.1			6.26
	Acetamiprid	73.6	57.8	50.4			13.6
	Afidopyropen	62.7	67.8	75.3			10.5
	AMPA	146	111	110			1.26
	Bentazon	77.9	42.1	49.5			16.2
	Benzovindiflupyr	92.5	94.0	100			6.54
	Carbamazepine	97.6	91.1	95.1			4.28
	Clothianidin	110	116	110			4.88
	Dinotefuran	108	135	139			3.01
	Diuron	95.3	66.5	68.6			3.11
	Endothall	109	94.2	110			15.4
	Fenuron	98.5	79.6	85.5			7.11
	Fluridone	99.3	82.7	93.2			11.9
	Glufosinate	146	90.8	88.8			2.31
	Glyphosate	134	93.8	92.3			1.53
	Hydrocodone	98.3	98.3	107			8.68
	Ibuprofen	95.4	75.2	85.6			12.9
	Imazapyr	114	56.9	73.4			18.8
	Imidacloprid	98.0	123	133			7.63
	Linuron	105	89.8	84.6			6.01
	Mandestrobin	95.1	83.3	86.3			3.54
	MCPP	107	77.0	83.9			8.58
	Naproxen	78.4	65.1	64.0			1.80
	Primidone	109	118	105			11.7
	Pyraclostrobin	89.6	81.3	91.8			12.1
	Silvex	105	86.6	79.4			8.60
	Sucralose	136	111	110			0.576
	Thiamethoxam	103	143	155			7.99
	Tolfenpyrad	64.6	50.9	60.2			16.7
	Triclopyr	115	88.5	98.9			11.1
SM 2320 B-2011	Total Alkalinity	99.2				1.24	
SM 2540 C-2011	TDS					4.15	
SM 2540 D-2011	TSS					7.41	
SM 4500-F- C-2011	Fluoride	100	101	99.6			0.953

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
			LCS		SMP	MS
SM 5310 B-2011	Organic Carbon	99.0	94.6	94.2		0.207

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2346335
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2346335
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2346340
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2346340
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2346335
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2346335
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2346336
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2346336
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2346336
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2346336
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2346337
EPA 8270E	Analysis of Sunscreen Compounds and Flame Retardants in Water by GC/MS-SIM	2346341
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2346341
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2346339
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2346335
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2346340
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2346335
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2346335
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2346335
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2346336

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	08/04/2022			08/04/2022 15:49	Blanca Fach	2346335
EPA 180.1 Rev. 2.0	08/04/2022			08/04/2022 14:28	Anna M. Plaviak	2346335
EPA 200.7 Rev. 4.4	08/04/2022	08/05/2022 09:45	Mackenzie Hunt	08/05/2022 22:42	McKinley C Carter	2346340
EPA 200.8 Rev. 5.4	08/04/2022	08/05/2022 09:45	Mackenzie Hunt	08/16/2022 16:36	Emily M Philpot	2346340
EPA 300.0 Rev. 2.1	08/04/2022			08/11/2022 22:42	Anna M. Plaviak	2346335
EPA 350.1 Rev. 2.0	08/04/2022			08/11/2022 11:24	Ping Hua	2346336
EPA 351.2 Rev. 2.0	08/04/2022	08/23/2022 16:31	Samantha L Bates	08/24/2022 11:49	Samantha L Bates	2346336
EPA 353.2 Rev. 2.0	08/04/2022			08/08/2022 11:18	Beverly Y. Sanders	2346336
EPA 365.1 Rev. 2.0	08/04/2022	08/10/2022 16:53	Adam P Silver	08/11/2022 13:03	Simonne.V. Calhoun	2346336
EPA 365.1 Rev. 2.0 dissolved	08/04/2022			08/04/2022 14:22	Chandler E Cox	2346337
EPA 8270E	08/04/2022	08/10/2022 08:30	Rasheda Ghaffari	08/15/2022 19:21	Lipi Saha	2346341
	08/04/2022	08/10/2022 08:30	Rasheda Ghaffari	08/15/2022 23:57	Michael Poppell	2346341
	08/04/2022	08/10/2022 08:30	Rasheda Ghaffari	08/17/2022 16:24	Michael Poppell	2346341
EPA 8321B	08/04/2022	08/05/2022 13:00	Umesh Chiluwal	08/05/2022 18:47	Umesh Chiluwal	2346339
	08/04/2022	08/05/2022 13:00	Umesh Chiluwal	08/06/2022 11:17	Umesh Chiluwal	2346339
	08/04/2022	08/10/2022 09:00	Hoor Shaik	08/12/2022 23:49	Juyoung Kim	2346339
SM 2320 B-2011	08/04/2022			08/12/2022 04:41	Dale L. Simmons	2346335
SM 2340 B-2011	08/04/2022			08/05/2022 22:42	McKinley C Carter	2346340
SM 2540 C-2011	08/04/2022			08/09/2022 15:22	Yijie Li	2346335
SM 2540 D-2011	08/04/2022			08/09/2022 15:22	Yijie Li	2346335
SM 4500-F- C-2011	08/04/2022			08/12/2022 04:41	Dale L. Simmons	2346335
SM 5310 B-2011	08/04/2022			08/09/2022 04:16	Khloe J Berg	2346336