

Chemical Analysis Report

CEN-DIST-2022-04-29-01

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

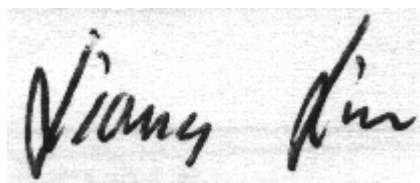
Event Description: **Boggy Creek Bio**
Request ID: **RQ-2022-04-25-17**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Liang Lin, Environmental Administrator

Date Certified: 23-MAY-2022 09:42

A handwritten signature in black ink, appearing to read "Liang Lin", on a light-colored 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: Tributary Just US of Boggy Confluence

Collection Date/Time: 04/28/2022 12:17

Field ID: G4CE0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2323149	DEP SOP: NU-094-1	Color (true)**	85		PCU	P413159	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P413162	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P413492	
		Sulfate	4.5		mg SO4/L	P413495	
	SM 2320 B-2011	Total Alkalinity	42		mg CaCO3/L	P413565	
	SM 2540 C-2011	TDS	116	A	mg/L	P413672	
	SM 2540 D-2011	TSS	2	IA	mg/L	P413515	
	SM 4500-F- C-2011	Fluoride	0.074	I	mg F/L	P413567	
2323150	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P413434	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.52		mg N/L	P413583	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.007	I	mg N/L	P413402	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P413408	
	SM 5310 B-2011	Organic Carbon	13		mg C/L	P413568	
2323151	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.010		mg P/L	P413165	
2323153	EPA 8321B	Acesulfame K	0.10	UJ	ug/L	P413045	LCS
		2,4-D	0.0020	U	ug/L	P413186	RPD
		AMPA	0.19	I	ug/L	P413045	
		2,4,5-T	0.0040	U	ug/L	P413186	RPD
		Acetaminophen	0.0080	U	ug/L	P413186	
		Endothall	0.25	U	ug/L	P413045	
		Acetamiprid	0.0020	U	ug/L	P413186	
		Glufosinate	0.10	U	ug/L	P413045	
		Glyphosate	0.10	U	ug/L	P413045	
		Afidopyropen	0.0020	U	ug/L	P413186	MS, RPD
		Sucralose	1.1		ug/L	P413045	
		Bentazon	0.0089		ug/L	P413186	MS
		Benzovindiflupyr	0.0020	U	ug/L	P413186	
		Carbamazepine	8.0E-04	U	ug/L	P413186	
		Clothianidin	0.0020	U	ug/L	P413186	
		Dinotefuran	0.0020	U	ug/L	P413186	
		Diuron	0.0020	U	ug/L	P413186	
		Fenuron	0.032	U	ug/L	P413186	
		Fluridone	0.012		ug/L	P413186	
		Imazapyr	0.47		ug/L	P413186	
		Hydrocodone	0.0020	U	ug/L	P413186	MS, RPD
		Ibuprofen	0.020	U	ug/L	P413186	
		Imidacloprid	0.0020	U	ug/L	P413186	
		Linuron	0.0040	U	ug/L	P413186	
		Mandestrobin	0.0020	U	ug/L	P413186	
		MCP	0.0040	U	ug/L	P413186	
		Naproxen	0.0080	U	ug/L	P413186	
		Primidone	0.0040	U	ug/L	P413186	
		Pyraclostrobin	0.0020	U	ug/L	P413186	

Field ID: G4CE0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2323153	EPA 8321B	Silvex	0.0040	U	ug/L	P413186	RPD
		Thiamethoxam	0.0020	U	ug/L	P413186	
		Tolfenpyrad	0.0020	U	ug/L	P413186	
		Triclopyr	0.0040	U	ug/L	P413186	RPD
2323154	EPA 200.7 Rev. 4.4	Calcium	18.1		mg/L	P413179	
		Iron	120	I	ug/L	P413179	
		Magnesium	2.41		mg/L	P413179	
		Potassium	1.1	I	mg/L	P413179	
		Sodium	10.7		mg/L	P413179	
		Strontium	64.8		ug/L	P413179	
		Tin	3.0	U	ug/L	P413179	
		Titanium	0.75	U	ug/L	P413179	
		Vanadium	2.0	U	ug/L	P413179	
		Zinc	5.0	U	ug/L	P413179	
	EPA 200.8 Rev. 5.4	Aluminum	38		ug/L	P413179	
		Antimony	0.081	I	ug/L	P413179	
		Arsenic	0.34		ug/L	P413179	
		Barium	11.1		ug/L	P413179	
		Beryllium	0.010	U	ug/L	P413179	
		Boron**	29.7		ug/L	P413179	
		Cadmium	0.020	U	ug/L	P413179	
		Chromium	0.40	U	ug/L	P413179	
		Cobalt	0.037	I	ug/L	P413179	
		Copper	0.40	U	ug/L	P413179	
		Lead	0.20	U	ug/L	P413179	
		Manganese	1.42		ug/L	P413179	
		Molybdenum	0.62		ug/L	P413179	
		Nickel	0.50	U	ug/L	P413179	
		Selenium	0.20	U	ug/L	P413179	
		Silver	0.010	U	ug/L	P413179	
		Thallium	0.10	U	ug/L	P413179	
	SM 2340 B-2011	Hardness	55.1		mg/L	P413179	
2323156	EPA 8270E	Oxybenzone**	10	U	ng/L	P413289	
		Acetochlor	0.25	U	ng/L	P413289	
		Octinoxate**	140		ng/L	P413289	
		Alachlor	0.25	U	ng/L	P413289	
		Avobenzone**	100	U	ng/L	P413289	
		Ametryn	0.61	U	ng/L	P413289	
		Atrazine	16		ng/L	P413289	
		Atrazine Desethyl	5.6	I	ng/L	P413289	
		Azinphos Methyl	2.0	U	ng/L	P413289	
		Azoxystrobin**	0.51	U	ng/L	P413289	
		Bromacil	0.51	U	ng/L	P413289	
		Butylate	0.41	U	ng/L	P413289	
		Caffeine**	8.1	I	ng/L	P413289	

Field ID: G4CE0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2323156	EPA 8270E	Carbophenothion	0.20	U	ng/L	P413289	
		Carfentrazone Ethyl**	0.10	U	ng/L	P413289	
		Chlorfenapyr**	0.18	U	ng/L	P413289	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P413289	
		Chlorpyrifos Methyl	0.051	U	ng/L	P413289	
		Coumaphos**	0.51	U	ng/L	P413289	
		Cyanazine	3.3	U	ng/L	P413289	
		Cyprodinil**	0.10	U	ng/L	P413289	
		Demeton	1.5	U	ng/L	P413289	
		Diazinon	0.13	U	ng/L	P413289	
		Difenoconazole**	0.61	U	ng/L	P413289	
		Dimethenamid**	0.10	U	ng/L	P413289	
		Dimethomorph**	0.18	U	ng/L	P413289	
		Disulfoton	0.51	U	ng/L	P413289	
		Dithiopyr**	0.18	U	ng/L	P413289	
		EPTC	1.3	U	ng/L	P413289	
		Ethion	0.15	U	ng/L	P413289	
		Ethoprop	0.10	U	ng/L	P413289	
		Etridiazole**	0.15	U	ng/L	P413289	
		Fenamiphos	0.51	U	ng/L	P413289	
		Fenbuconazole**	0.13	U	ng/L	P413289	
		Fipronil	0.25	U	ng/L	P413289	
		Fipronil Desulfinyl**	0.57		ng/L	P413289	
		Fipronil Sulfide	0.21	I	ng/L	P413289	
		Fipronil Sulfone	0.37	I	ng/L	P413289	
		Fluazifop-P-butyl**	0.10	U	ng/L	P413289	
		Fludioxonil**	0.13	U	ng/L	P413289	
		Flumioxazin**	3.8	I	ng/L	P413289	
		Flutolanil**	0.10	U	ng/L	P413289	
		Fluxapyroxad**	0.10	U	ng/L	P413289	
		Fonofos	0.20	U	ng/L	P413289	
		Hexazinone	0.51	U	ng/L	P413289	
		Imazalil**	0.76	U	ng/L	P413289	
		Iprodione**	0.61	U	ng/L	P413289	
		Loratadine**	0.10	U	ng/L	P413289	
		Malathion	0.36	U	ng/L	P413289	
		Metalaxyl	0.76	U	ng/L	P413289	
		Metolachlor	0.36	U	ng/L	P413289	
		Metribuzin	2.5	U	ng/L	P413289	
		Mevinphos	1.1	U	ng/L	P413289	
		Molinate	0.31	U	ng/L	P413289	
		Myclobutanil**	0.25	U	ng/L	P413289	
		Naled**	1.5	U	ng/L	P413289	
		Napropamide**	0.41	U	ng/L	P413289	
		Norflurazon	0.51	U	ng/L	P413289	

Field ID: G4CE0230

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2323156	EPA 8270E	Oxadiazon	0.83	I	ng/L	P413289	
		Oxyfluorfen**	0.15	U	ng/L	P413289	
		Parathion Ethyl	0.25	U	ng/L	P413289	
		Parathion Methyl	0.56	U	ng/L	P413289	
		Pendimethalin	1.0	U	ng/L	P413289	
		Phenytol**	3.6	U	ng/L	P413289	RPD
		Phorate	0.53	U	ng/L	P413289	
		Prodiatone**	0.18	U	ng/L	P413289	
		Prometon	0.92	U	ng/L	P413289	
		Prometryn	0.20	U	ng/L	P413289	
		Pronamide**	0.15	U	ng/L	P413289	
		Propanil**	0.13	U	ng/L	P413289	
		Propargite**	1.5	U	ng/L	P413289	
		Propiconazole**	0.51	U	ng/L	P413289	
		Pyraflufen Ethyl**	0.25	U	ng/L	P413289	
		Pyridaben**	0.46	U	ng/L	P413289	
		Pyriproxyfen**	0.13	U	ng/L	P413289	
		Simazine	0.51	U	ng/L	P413289	
		Stirophos**	0.13	U	ng/L	P413289	
		Sulfentrazone**	4.9		ng/L	P413289	
		Tebuconazole**	0.51	U	ng/L	P413289	
		Terbufos	0.10	U	ng/L	P413289	
		Terbutylazine	0.43	U	ng/L	P413289	
		Thiobencarb**	0.61	U	ng/L	P413289	
		Triadimefon**	0.25	U	ng/L	P413289	

Ref. Method and Comment:

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

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

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P413159

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413162

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413179

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: P413179

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: P413492

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: P413495

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413434

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413583

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413402

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P413165

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

Reference Method: EPA 8270E
Batch ID: P413289

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P413289

Component	Result	Code	Units
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
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P413289

Component	Result	Code	Units
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
Metalaxyl	0.75	U	ng/L
Metalaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	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
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P413289

Component	Result	Code	Units
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytol	3.5	U	ng/L
Phenytol	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
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
Triadimefon	0.25	U	ng/L
Triadimefon	0.25	U	ng/L

Reference Method: EPA 8321B

Batch ID: P413045

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P413045

Component	Result	Code	Units
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: P413186

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	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
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: P413565

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

Reference Method: SM 2540 C-2011

Batch ID: P413672

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P413515

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P413567

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P413568

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: P413159

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.3		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413162

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.1		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	108		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	101		P	85 - 115
Sodium	112		P	85 - 115
Strontium	113		P	85 - 115
Tin	98.3		P	85 - 115
Titanium	97.0		P	85 - 115
Vanadium	91.1		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413179

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.5		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	99.7		P	85 - 115
Barium	105		P	85 - 115
Beryllium	98.1		P	85 - 115
Boron	101		P	85 - 115
Cadmium	98.8		P	85 - 115
Chromium	97.7		P	85 - 115
Cobalt	98.5		P	85 - 115
Copper	97.7		P	85 - 115
Lead	99.3		P	85 - 115
Manganese	98.4		P	85 - 115
Molybdenum	99.5		P	85 - 115
Nickel	99.1		P	85 - 115
Selenium	97.7		P	85 - 115
Silver	97.2		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413492

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413495

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413434

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413583

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413402

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: P413408

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P413165

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

Reference Method: EPA 8270E
Batch ID: P413289

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	106		P	70 - 121
Alachlor	103		P	68 - 119
Ametryn	108		P	64 - 139
Atrazine	102		P	76 - 120
Atrazine Desethyl	61.2		P	44 - 126
Avobenzone	93.2		P	76 - 212
Azinphos Methyl	151		P	43 - 192
Azoxystrobin	114		P	36 - 224
Bromacil	85.7		P	52 - 121
Butylate	36.5		P	28 - 91.0
Caffeine	66.1		P	50 - 134
Carbophenothion	90.4		P	56 - 129
Carfentrazone Ethyl	99.4		P	60 - 141
Chlorfenapyr	92.3		P	56 - 115
Chlorpyrifos Ethyl	96.7		P	60 - 118
Chlorpyrifos Methyl	96.5		P	68 - 119

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P413289

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Coumaphos	90.0		P	18 - 250
Cyanazine	107		P	61 - 250
Cyprodinil	104		P	55 - 145
Demeton	77.2		P	30 - 159
Diazinon	105		P	70 - 123
Difenoconazole	142		P	49 - 204
Dimethenamid	83.8		P	64 - 115
Dimethomorph	113		P	12 - 219
Disulfoton	89.2		P	44 - 125
Dithiopyr	102		P	64 - 115
EPTC	48.8		P	28 - 86.0
Ethion	66.5		P	33 - 125
Ethoprop	78.8		P	64 - 116
Etridiazole	56.0		P	34 - 91.0
Fenamiphos	92.6		P	12 - 127
Fenbuconazole	95.6		P	59 - 151
Fipronil	101		P	67 - 129
Fipronil Desulfinyl	115		P	65 - 127
Fipronil Sulfide	81.5		P	61 - 116
Fipronil Sulfone	94.7		P	55 - 117
Fluazifop-P-butyl	106		P	62 - 127
Fludioxonil	107		P	62 - 128
Flumioxazin	129		P	33 - 250
Flutolanil	101		P	56 - 127
Fluxapyroxad	87.4		P	45 - 128
Fonofos	81.1		P	62 - 111
Hexazinone	83.5		P	46 - 139
Imazalil	72.6		P	38 - 142
Iprodione	76.7		P	47 - 135
Loratadine	101		P	10 - 244
Malathion	95.3		P	61 - 139
Metaxyl	104		P	10 - 119
Metolachlor	102		P	65 - 118
Metribuzin	102		P	51 - 250
Mevinphos	73.4		P	53 - 121
Molinate	61.0		P	42 - 96.0
Myclobutanil	100		P	55 - 128
Naled	92.6		P	10 - 98.0
Napropamide	98.0		P	49 - 121
Norflurazon	90.9		P	61 - 126
Octinoxate	80.1		P	30 - 159
Oxadiazon	94.7		P	59 - 116
Oxybenzone	64.6		P	61 - 139
Oxyfluorfen	106		P	64 - 137
Parathion Ethyl	97.6		P	70 - 112
Parathion Methyl	102		P	76 - 133
Pendimethalin	77.1		P	52 - 117
Phenytol	33.6		P	10 - 199
Phorate	70.4		P	48 - 121
Prodiamine	44.9		P	26 - 142
Prometon	82.2		P	43 - 123
Prometryn	103		P	66 - 127

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P413289

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pronamide	102		P	75 - 121
Propanil	96.6		P	45 - 150
Propargite	66.9		P	42 - 208
Propiconazole	85.6		P	60 - 125
Pyraflufen Ethyl	89.9		P	70 - 138
Pyridaben	93.1		P	35 - 245
Pyriproxyfen	38.3		P	30 - 149
Simazine	92.1		P	72 - 125
Stirophos	64.2		P	29 - 164
Sulfentrazone	82.1		P	21 - 139
Tebuconazole	51.3		P	10 - 115
Terbufos	107		P	60 - 123
Terbuthylazine	99.4		P	72 - 115
Thiobencarb	92.8		P	31 - 139
Triadimefon	77.9		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P413045

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	155		F	40 - 150
AMPA	91.6		P	40 - 150
Endothall	85.3		P	40 - 150
Glufosinate	91.1		P	40 - 150
Glyphosate	91.6		P	40 - 150
Sucralose	117		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P413186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	74.3		P	40 - 150
2,4,5-T	84.2		P	40 - 150
Acetaminophen	92.9		P	30 - 150
Acetamiprid	65.2		P	40 - 150
Afidopyropen	30.1		P	30 - 150
Bentazon	70.7		P	30 - 150
Benzovindiflupyr	68.2		P	40 - 150
Carbamazepine	61.5		P	40 - 150
Clothianidin	91.8		P	40 - 150
Dinotefuran	113		P	40 - 150
Diuron	73.5		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	74.0		P	40 - 150
Hydrocodone	78.8		P	40 - 150
Ibuprofen	73.3		P	40 - 150
Imazapyr	84.6		P	40 - 150
Imidacloprid	73.9		P	40 - 150
Linuron	69.4		P	40 - 150
Mandestrobin	64.8		P	40 - 150
MCPP	102		P	40 - 150
Naproxen	57.9		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P413186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	95.4		P	40 - 150
Pyraclostrobin	59.8		P	40 - 150
Silvex	89.8		P	40 - 150
Thiamethoxam	86.3		P	40 - 150
Tolfenpyrad	35.5		P	30 - 150
Triclopyr	81.0		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P413565

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.3		P	94 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P413567

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.7		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P413568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P413179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322974	Calcium	104		P	80 - 120
2322974	Iron	105		P	80 - 120
2322974	Magnesium	107		P	80 - 120
2322974	Potassium	97.9		P	80 - 120
2322974	Sodium	95.1		P	80 - 120
2322974	Strontium	99.0		P	80 - 120
2322974	Tin	98.4		P	80 - 120
2322974	Titanium	101		P	80 - 120
2322974	Vanadium	94.4		P	80 - 120
2322974	Zinc	101		P	80 - 120
2322975	Calcium	110	107	P/P	80 - 120
2322975	Iron	111	106	P/P	80 - 120
2322975	Magnesium	113	109	P/P	80 - 120
2322975	Potassium	103	99.9	P/P	80 - 120
2322975	Sodium	104	101	P/P	80 - 120
2322975	Strontium	101	99.4	P/P	80 - 120
2322975	Tin	102	99.8	P/P	80 - 120
2322975	Titanium	105	103	P/P	80 - 120
2322975	Vanadium	98.3	96.0	P/P	80 - 120
2322975	Zinc	103	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P413179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322974	Aluminum	99.3		P	80 - 120
2322974	Antimony	101		P	80 - 120
2322974	Arsenic	96.0		P	80 - 120
2322974	Barium	101		P	80 - 120
2322974	Beryllium	92.8		P	80 - 120
2322974	Boron	102		P	80 - 120
2322974	Cadmium	99.8		P	80 - 120
2322974	Chromium	96.4		P	80 - 120
2322974	Cobalt	93.1		P	80 - 120
2322974	Copper	93.3		P	80 - 120
2322974	Lead	98.7		P	80 - 120
2322974	Manganese	97.6		P	80 - 120
2322974	Molybdenum	97.5		P	80 - 120
2322974	Nickel	94.4		P	80 - 120
2322974	Selenium	94.1		P	80 - 120
2322974	Silver	94.8		P	80 - 120
2322974	Thallium	101		P	80 - 120
2322975	Aluminum	99.0	99.4	P/P	80 - 120
2322975	Antimony	100	101	P/P	80 - 120
2322975	Arsenic	96.7	97.6	P/P	80 - 120
2322975	Barium	102	103	P/P	80 - 120
2322975	Beryllium	93.9	93.7	P/P	80 - 120
2322975	Boron	100	101	P/P	80 - 120
2322975	Cadmium	98.3	98.7	P/P	80 - 120
2322975	Chromium	97.1	97.9	P/P	80 - 120
2322975	Cobalt	93.8	95.1	P/P	80 - 120
2322975	Copper	93.2	94.1	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322975	Lead	98.3	99.0	P/P	80 - 120
2322975	Manganese	98.6	99.1	P/P	80 - 120
2322975	Molybdenum	97.9	98.4	P/P	80 - 120
2322975	Nickel	95.1	95.3	P/P	80 - 120
2322975	Selenium	93.5	95.0	P/P	80 - 120
2322975	Silver	95.0	96.3	P/P	80 - 120
2322975	Thallium	101	102	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413492

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322944	Chloride	97.6		P	90 - 110
2323001	Chloride	97.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413495

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322944	Sulfate	98.5		P	90 - 110
2323001	Sulfate	95.8		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413434

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322947	Ammonia-N	103	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323108	NO2NO3-N	100	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413408

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323166	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P413165

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323112	O-Phosphate-P	97.8	98.6	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P413289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323548	Acetochlor	96.7	105	P/P	65 - 124
2323548	Alachlor	91.6	101	P/P	61 - 121

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P413289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323548	Ametryn	112	98.8	P/P	52 - 216
2323548	Atrazine	96.8	101	P/P	68 - 133
2323548	Atrazine Desethyl	67.2	66.6	P/P	15 - 160
2323548	Avobenzone	115	115	P/P	59 - 206
2323548	Azinphos Methyl	119	137	P/P	40 - 292
2323548	Azoxystrobin	145	121	P/P	12 - 242
2323548	Bromacil	85.9	85.1	P/P	54 - 167
2323548	Butylate	40.5	42.4	P/P	14 - 94.0
2323548	Caffeine	70.4	66.1	P/P	10 - 226
2323548	Carbophenothion	67.8	77.1	P/P	49 - 122
2323548	Carfentrazone Ethyl	77.7	78.8	P/P	53 - 138
2323548	Chlorfenapyr	72.5	89.0	P/P	50 - 150
2323548	Chlorpyrifos Ethyl	83.4	99.0	P/P	52 - 122
2323548	Chlorpyrifos Methyl	88.0	105	P/P	66 - 117
2323548	Coumaphos	74.5	86.1	P/P	50 - 220
2323548	Cyanazine	87.8	108	P/P	43 - 245
2323548	Cyprodinil	85.2	88.9	P/P	50 - 150
2323548	Demeton	72.1	87.1	P/P	43 - 188
2323548	Diazinon	92.8	110	P/P	69 - 131
2323548	Difenoconazole	97.0	123	P/P	34 - 231
2323548	Dimethenamid	69.8	83.0	P/P	55 - 118
2323548	Dimethomorph	95.9	88.0	P/P	50 - 150
2323548	Disulfoton	77.7	96.9	P/P	38 - 141
2323548	Dithiopyr	99.1	94.0	P/P	42 - 116
2323548	EPTC	45.0	52.5	P/P	18 - 85.0
2323548	Ethion	34.2	64.9	P/P	10 - 131
2323548	Ethoprop	81.3	83.0	P/P	65 - 129
2323548	Etridiazole	56.8	64.4	P/P	50 - 150
2323548	Fenamiphos	70.1	86.0	P/P	31 - 137
2323548	Fenbuconazole	83.2	89.9	P/P	57 - 160
2323548	Fipronil	89.3	99.6	P/P	62 - 132
2323548	Fipronil Desulfinyl	96.3	103	P/P	57 - 131
2323548	Fipronil Sulfide	81.4	88.5	P/P	15 - 138
2323548	Fipronil Sulfone	73.8	81.2	P/P	21 - 134
2323548	Fluazifop-P-butyl	80.8	80.1	P/P	54 - 133
2323548	Fludioxonil	82.4	84.0	P/P	58 - 127
2323548	Flumioxazin	116	125	P/P	33 - 300
2323548	Flutolanil	83.7	86.1	P/P	42 - 130
2323548	Fluxapyroxad	65.8	69.0	P/P	23 - 141
2323548	Fonofos	73.2	93.6	P/P	58 - 119
2323548	Hexazinone	83.8	86.0	P/P	68 - 172
2323548	Imazalil	137	85.4	P/P	48 - 283
2323548	Iprodione	68.6	79.0	P/P	38 - 140
2323548	Loratadine	89.9	75.7	P/P	50 - 150
2323548	Malathion	88.1	102	P/P	40 - 137
2323548	Metalaxyl	79.1	101	P/P	21 - 129
2323548	Metolachlor	91.3	93.1	P/P	55 - 122
2323548	Metribuzin	102	94.4	P/P	38 - 187
2323548	Mevinphos	74.3	87.7	P/P	54 - 134
2323548	Molinate	63.6	71.5	P/P	41 - 97.0
2323548	Myclobutanil	82.6	90.4	P/P	56 - 125
2323548	Naled	78.3	99.7	P/P	10 - 108

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P413289

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323548	Napropamide	71.6	76.2	P/P	50 - 150
2323548	Norflurazon	77.8	75.7	P/P	32 - 122
2323548	Octinoxate	112	107	P/P	25 - 150
2323548	Oxadiazon	75.7	73.1	P/P	40 - 119
2323548	Oxybenzone	82.9	82.7	P/P	59 - 147
2323548	Oxyfluorfen	80.9	90.6	P/P	61 - 153
2323548	Parathion Ethyl	82.2	97.6	P/P	59 - 130
2323548	Parathion Methyl	97.2	111	P/P	65 - 155
2323548	Pendimethalin	84.9	89.9	P/P	49 - 138
2323548	Phenytoln	51.3	72.7	P/P	50 - 200
2323548	Phorate	77.7	91.1	P/P	54 - 161
2323548	Prodiamine	71.1	63.7	P/P	33 - 161
2323548	Prometon	70.6	79.8	P/P	48 - 140
2323548	Prometryn	84.8	93.2	P/P	55 - 134
2323548	Pronamide	96.5	111	P/P	66 - 137
2323548	Propanil	79.4	97.7	P/P	50 - 150
2323548	Propargite	96.7	103	P/P	50 - 200
2323548	Propiconazole	67.7	67.3	P/P	36 - 150
2323548	Pyraflufen Ethyl	79.3	67.4	P/P	50 - 150
2323548	Pyridaben	74.7	94.9	P/P	50 - 200
2323548	Pyriproxyfen	32.9	35.8	P/P	10 - 165
2323548	Simazine	92.6	90.8	P/P	57 - 145
2323548	Stiropfos	86.7	103	P/P	50 - 150
2323548	Sulfentrazone	81.0	77.3	P/P	34 - 140
2323548	Tebuconazole	29.7	39.2	P/P	10 - 127
2323548	Terbufos	97.6	120	P/P	59 - 138
2323548	Terbutylazine	82.3	107	P/P	68 - 119
2323548	Thiobencarb	86.7	85.7	P/P	50 - 150
2323548	Triadimefon	82.9	75.5	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P413045

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2322881	Acesulfame K	117	129	P/P	40 - 150
2322881	AMPA	71.5	74.4	P/P	40 - 150
2322881	Endothall	80.5	85.0	P/P	40 - 150
2322881	Glufosinate	72.7	74.7	P/P	40 - 150
2322881	Glyphosate	71.1	76.3	P/P	40 - 150
2322881	Sucralose	112	128	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P413186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323084	2,4-D	96.4	60.3	P/P	40 - 150
2323084	2,4,5-T	93.8	63.6	P/P	40 - 150
2323084	Acetaminophen	127	130	P/P	30 - 150
2323084	Acetamiprid	47.3	43.7	P/P	40 - 150
2323084	Afidopyropen	52.6	31.6	P/F	40 - 150
2323084	Bentazon	34.9	24.8	P/F	30 - 150
2323084	Benzovindiflupyr	54.5	45.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P413186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323084	Carbamazepine	60.0	52.3	P/P	40 - 150
2323084	Clothianidin	44.7	44.5	P/P	40 - 150
2323084	Dinotefuran	98.6	93.8	P/P	40 - 150
2323084	Diuron	49.5	42.8	P/P	40 - 150
2323084	Fenuron	53.3	52.0	P/P	40 - 150
2323084	Fluridone	59.6	47.0	P/P	40 - 150
2323084	Hydrocodone	50.1	36.8	P/F	40 - 150
2323084	Ibuprofen	62.3	52.6	P/P	40 - 150
2323084	Imazapyr	74.2	69.3	P/P	40 - 150
2323084	Imidacloprid	55.3	51.4	P/P	40 - 150
2323084	Linuron	57.7	49.9	P/P	40 - 150
2323084	Mandestrobin	57.1	46.1	P/P	40 - 150
2323084	MCPP	126	96.5	P/P	40 - 150
2323084	Naproxen	60.1	46.1	P/P	40 - 150
2323084	Primidone	71.9	67.7	P/P	40 - 150
2323084	Pyraclostrobin	59.8	47.0	P/P	40 - 150
2323084	Silvex	106	59.7	P/P	40 - 150
2323084	Thiamethoxam	52.8	51.3	P/P	40 - 150
2323084	Tolfenpyrad	41.6	31.7	P/P	30 - 150
2323084	Triclopyr	93.4	60.8	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P413567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323243	Fluoride	100	99.2	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P413568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2323232	Organic Carbon	96.4	95.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P413159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323077	Color (true)	2.14	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P413162

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323163	Turbidity	18.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P413179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322975	Calcium	2.11	Spike	P	0 - 20
2322975	Iron	3.17	Spike	P	0 - 20
2322975	Magnesium	2.95	Spike	P	0 - 20
2322975	Potassium	3.13	Spike	P	0 - 20
2322975	Sodium	2.08	Spike	P	0 - 20
2322975	Strontium	1.66	Spike	P	0 - 20
2322975	Tin	2.50	Spike	P	0 - 20
2322975	Titanium	2.26	Spike	P	0 - 20
2322975	Vanadium	2.43	Spike	P	0 - 20
2322975	Zinc	1.60	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P413179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322975	Aluminum	0.335	Spike	P	0 - 20
2322975	Antimony	0.120	Spike	P	0 - 20
2322975	Arsenic	0.845	Spike	P	0 - 20
2322975	Barium	1.06	Spike	P	0 - 20
2322975	Beryllium	0.224	Spike	P	0 - 20
2322975	Boron	0.962	Spike	P	0 - 20
2322975	Cadmium	0.434	Spike	P	0 - 20
2322975	Chromium	0.781	Spike	P	0 - 20
2322975	Cobalt	1.38	Spike	P	0 - 20
2322975	Copper	0.863	Spike	P	0 - 20
2322975	Lead	0.763	Spike	P	0 - 20
2322975	Manganese	0.317	Spike	P	0 - 20
2322975	Molybdenum	0.500	Spike	P	0 - 20
2322975	Nickel	0.198	Spike	P	0 - 20
2322975	Selenium	1.61	Spike	P	0 - 20
2322975	Silver	1.42	Spike	P	0 - 20
2322975	Thallium	0.723	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413492

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322944	Chloride	0.760	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P413495

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322944	Sulfate	1.03	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P413434

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322947	Ammonia-N	2.36	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P413583

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323079	Kjeldahl Nitrogen	1.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P413402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323108	NO2NO3-N	1.51	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P413408

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323166	Total-P	0.912	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P413165

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323112	O-Phosphate-P	0.777	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P413289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323548	Acetochlor	8.19	Spike	P	0 - 27
2323548	Alachlor	9.99	Spike	P	0 - 27

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P413289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323548	Ametryn	12.2	Spike	P	0 - 34
2323548	Atrazine	4.40	Spike	P	0 - 41
2323548	Atrazine Desethyl	0.954	Spike	P	0 - 38
2323548	Avobenzone	0.497	Spike	P	0 - 30
2323548	Azinphos Methyl	14.7	Spike	P	0 - 62
2323548	Azoxystrobin	18.0	Spike	P	0 - 32
2323548	Bromacil	0.899	Spike	P	0 - 30
2323548	Butylate	4.53	Spike	P	0 - 59
2323548	Caffeine	5.97	Spike	P	0 - 60
2323548	Carbophenothion	12.8	Spike	P	0 - 25
2323548	Carfentrazone Ethyl	1.46	Spike	P	0 - 26
2323548	Chlorfenapyr	20.4	Spike	P	0 - 30
2323548	Chlorpyrifos Ethyl	17.2	Spike	P	0 - 27
2323548	Chlorpyrifos Methyl	17.8	Spike	P	0 - 26
2323548	Coumaphos	14.4	Spike	P	0 - 30
2323548	Cyanazine	21.0	Spike	P	0 - 58
2323548	Cyprodinil	4.18	Spike	P	0 - 30
2323548	Demeton	18.8	Spike	P	0 - 25
2323548	Diazinon	16.7	Spike	P	0 - 29
2323548	Difenoconazole	23.8	Spike	P	0 - 25
2323548	Dimethenamid	17.3	Spike	P	0 - 30
2323548	Dimethomorph	8.62	Spike	P	0 - 30
2323548	Disulfoton	21.9	Spike	P	0 - 33
2323548	Dithiopyr	5.25	Spike	P	0 - 22
2323548	EPTC	15.4	Spike	P	0 - 38
2323548	Ethion	61.8	Spike	P	0 - 79
2323548	Ethoprop	2.10	Spike	P	0 - 23
2323548	Etridiazole	12.5	Spike	P	0 - 30
2323548	Fenamiphos	20.4	Spike	P	0 - 58
2323548	Fenbuconazole	7.74	Spike	P	0 - 37
2323548	Fipronil	10.9	Spike	P	0 - 33
2323548	Fipronil Desulfinyl	6.59	Spike	P	0 - 26
2323548	Fipronil Sulfide	8.39	Spike	P	0 - 37
2323548	Fipronil Sulfone	9.56	Spike	P	0 - 50
2323548	Fluazifop-P-butyl	0.884	Spike	P	0 - 24
2323548	Fludioxonil	1.98	Spike	P	0 - 26
2323548	Flumioxazin	7.74	Spike	P	0 - 37
2323548	Flutolanil	2.92	Spike	P	0 - 26
2323548	Fluxapyroxad	4.69	Spike	P	0 - 34
2323548	Fonofos	24.5	Spike	P	0 - 27
2323548	Hexazinone	2.58	Spike	P	0 - 36
2323548	Imazalil	46.2	Spike	P	0 - 65
2323548	Iprodione	14.1	Spike	P	0 - 33
2323548	Loratadine	17.2	Spike	P	0 - 30
2323548	Malathion	14.7	Spike	P	0 - 44
2323548	Metalaxyl	24.6	Spike	P	0 - 38
2323548	Metolachlor	1.99	Spike	P	0 - 36
2323548	Metribuzin	7.70	Spike	P	0 - 63
2323548	Mevinphos	16.5	Spike	P	0 - 26
2323548	Molinate	11.8	Spike	P	0 - 40
2323548	Myclobutanil	9.06	Spike	P	0 - 21

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P413289

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323548	Naled	24.0	Spike	P	0 - 26
2323548	Napropamide	6.20	Spike	P	0 - 30
2323548	Norflurazon	2.82	Spike	P	0 - 24
2323548	Octinoxate	4.37	Spike	P	0 - 30
2323548	Oxadiazon	3.43	Spike	P	0 - 27
2323548	Oxybenzone	0.232	Spike	P	0 - 30
2323548	Oxyfluorfen	11.3	Spike	P	0 - 24
2323548	Parathion Ethyl	17.2	Spike	P	0 - 28
2323548	Parathion Methyl	13.5	Spike	P	0 - 27
2323548	Pendimethalin	5.70	Spike	P	0 - 31
2323548	Phenytoin	34.5	Spike	F	0 - 30
2323548	Phorate	15.9	Spike	P	0 - 27
2323548	Prodiamine	10.9	Spike	P	0 - 52
2323548	Prometon	12.2	Spike	P	0 - 31
2323548	Prometryn	9.44	Spike	P	0 - 28
2323548	Pronamide	14.3	Spike	P	0 - 26
2323548	Propanil	20.7	Spike	P	0 - 30
2323548	Propargite	6.30	Spike	P	0 - 30
2323548	Propiconazole	0.660	Spike	P	0 - 31
2323548	Pyraflufen Ethyl	16.2	Spike	P	0 - 30
2323548	Pyridaben	23.8	Spike	P	0 - 30
2323548	Pyriproxyfen	8.37	Spike	P	0 - 50
2323548	Simazine	1.96	Spike	P	0 - 29
2323548	Stiropfos	17.6	Spike	P	0 - 30
2323548	Sulfentrazone	4.70	Spike	P	0 - 33
2323548	Tebuconazole	27.6	Spike	P	0 - 44
2323548	Terbufos	20.4	Spike	P	0 - 29
2323548	Terbuthylazine	25.9	Spike	P	0 - 27
2323548	Thiobencarb	1.22	Spike	P	0 - 30
2323548	Triadimefon	9.38	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P413045

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2322881	Acesulfame K	10.3	Spike	P	0 - 30
2322881	AMPA	3.74	Spike	P	0 - 30
2322881	Endothall	5.48	Spike	P	0 - 30
2322881	Glufosinate	2.63	Spike	P	0 - 30
2322881	Glyphosate	5.97	Spike	P	0 - 30
2322881	Sucralose	12.9	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P413186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323084	2,4-D	44.1	Spike	F	0 - 30
2323084	2,4,5-T	38.3	Spike	F	0 - 30
2323084	Acetaminophen	2.65	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8321B

Batch ID: P413186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323084	Acetamiprid	7.89	Spike	P	0 - 30
2323084	Afidopyropen	49.9	Spike	F	0 - 30
2323084	Bentazon	13.4	Spike	P	0 - 30
2323084	Benzovindiflupyr	19.1	Spike	P	0 - 30
2323084	Carbamazepine	13.7	Spike	P	0 - 30
2323084	Clothianidin	0.608	Spike	P	0 - 30
2323084	Dinotefuran	4.99	Spike	P	0 - 30
2323084	Diuron	14.5	Spike	P	0 - 30
2323084	Fenuron	2.33	Spike	P	0 - 30
2323084	Fluridone	18.4	Spike	P	0 - 30
2323084	Hydrocodone	30.6	Spike	F	0 - 30
2323084	Ibuprofen	16.8	Spike	P	0 - 30
2323084	Imazapyr	6.92	Spike	P	0 - 30
2323084	Imidacloprid	6.62	Spike	P	0 - 30
2323084	Linuron	14.4	Spike	P	0 - 30
2323084	Mandestrobin	21.2	Spike	P	0 - 30
2323084	MCPP	26.2	Spike	P	0 - 30
2323084	Naproxen	26.3	Spike	P	0 - 30
2323084	Primidone	5.97	Spike	P	0 - 30
2323084	Pyraclostrobin	23.9	Spike	P	0 - 30
2323084	Silvex	55.6	Spike	F	0 - 30
2323084	Thiamethoxam	2.90	Spike	P	0 - 30
2323084	Tolfenpyrad	26.8	Spike	P	0 - 30
2323084	Triclopyr	42.3	Spike	F	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P413565

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323243	Total Alkalinity	1.45	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P413672

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323149	TDS	4.33	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P413567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323243	Fluoride	0.480	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P413568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
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Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P413568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2323232	Organic Carbon	0.725	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2323153
Field Sample ID: G4CE0230

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	84.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	36.7	P	30 - 160
EPA 8321B	Diuron-d6	30.5	P	30 - 160
EPA 8321B	Endothall-d6	90.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	80.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	51.2	P	30 - 160
EPA 8321B	Primidone-d5	66.7	P	30 - 160
EPA 8321B	Sucralose-d6	130	P	30 - 160

Lab Sample ID: 2323156
Field Sample ID: G4CE0230

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	115	P	20 - 200
EPA 8270E	Simazine-d10	124	P	71 - 140
EPA 8270E	Terbufos-d10	103	P	62 - 131
EPA 8270E	Terphenyl-d14	92.2	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A111814

Included Lab Sample IDs: 2323149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.7	102	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111815

Included Lab Sample IDs: 2323149

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A111816

Included Lab Sample IDs: 2323151

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111859

Included Lab Sample IDs: 2323153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	158	157	P/P	60 - 160
Sucralose	121	121	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A111874

Included Lab Sample IDs: 2323153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.2	90.5	P/P	60 - 160
Endothall	86.7	85.9	P/P	60 - 160
Glufosinate	87.2	89.6	P/P	60 - 160
Glyphosate	88.3	90.5	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111895

Included Lab Sample IDs: 2323154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	96.6	96.4	P/P	90 - 110
Antimony	99.9	99.7	P/P	90 - 110
Arsenic	94.7	95.5	P/P	90 - 110
Barium	96.4	97.5	P/P	90 - 110
Beryllium	94.3	93.4	P/P	90 - 110
Boron	98.1	97.2	P/P	90 - 110
Cadmium	98.1	97.5	P/P	90 - 110
Chromium	96.7	96.5	P/P	90 - 110
Cobalt	92.3	92.0	P/P	90 - 110
Copper	92.9	93.2	P/P	90 - 110
Lead	94.8	95.3	P/P	90 - 110
Manganese	96.3	95.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111895

Included Lab Sample IDs: 2323154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molybdenum	95.1	95.6	P/P	90 - 110
Nickel	93.1	93.3	P/P	90 - 110
Selenium	95.1	96.8	P/P	90 - 110
Silver	96.2	96.3	P/P	90 - 110
Thallium	95.2	95.2	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A111908

Included Lab Sample IDs: 2323154

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	105	P/P	90 - 110
Iron	103	106	P/P	90 - 110
Magnesium	104	107	P/P	90 - 110
Potassium	102	105	P/P	90 - 110
Sodium	100	103	P/P	90 - 110
Strontium	98.1	97.2	P/P	90 - 110
Tin	100	100	P/P	90 - 110
Titanium	102	103	P/P	90 - 110
Vanadium	102	103	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111932

Included Lab Sample IDs: 2323153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	72.3	73.5	P/P	50 - 150
2,4,5-T	90.9	82.2	P/P	50 - 150
Acetaminophen	101	100	P/P	60 - 160
Acetamiprid	103	105	P/P	50 - 150
Afidopyropen	80.7	84.7	P/P	50 - 150
Bentazon	96.3	93.8	P/P	50 - 160
Benzovindiflupyr	98.6	96.1	P/P	50 - 150
Carbamazepine	94.6	94.1	P/P	60 - 150
Clothianidin	105	102	P/P	60 - 150
Dinotefuran	105	104	P/P	50 - 150
Diuron	99.9	101	P/P	60 - 160
Fenuron	109	109	P/P	60 - 150
Fluridone	98.5	97.8	P/P	60 - 160
Hydrocodone	95.3	94.5	P/P	60 - 150
Ibuprofen	108	121	P/P	50 - 160
Imazapyr	93.1	88.0	P/P	50 - 150
Imidacloprid	104	100	P/P	60 - 150
Linuron	102	96.9	P/P	60 - 150
Mandestrobin	94.3	92.7	P/P	50 - 150
MCPP	91.5	84.9	P/P	50 - 150
Naproxen	90.8	104	P/P	50 - 160
Primidone	99.4	95.9	P/P	60 - 150
Pyraclostrobin	88.5	87.3	P/P	60 - 150
Silvex	88.2	81.5	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A111932
Included Lab Sample IDs: 2323153

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Thiamethoxam	106	104	P/P	50 - 150
Tolfenpyrad	81.3	81.2	P/P	60 - 150
Triclopyr	86.3	86.6	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A111933
Included Lab Sample IDs: 2323150

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111943
Included Lab Sample IDs: 2323150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.9	96.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A111962
Included Lab Sample IDs: 2323149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	98.5	98.4	P/P	90 - 110
Sulfate	100	99.9	P/P	90 - 110

Reference Method: SM 5310 B-2011
Run ID: A111986
Included Lab Sample IDs: 2323150

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

Reference Method: SM 2320 B-2011
Run ID: A111988
Included Lab Sample IDs: 2323149

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.8	95.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A111988
Included Lab Sample IDs: 2323149

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A112010
Included Lab Sample IDs: 2323150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A112098
Included Lab Sample IDs: 2323150

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	101	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A112140
Included Lab Sample IDs: 2323156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Avobenzone	97.5		P	80 - 120
Octinoxate	93.1		P	80 - 120
Oxybenzone	95.8		P	80 - 120

Reference Method: EPA 8270E
Run ID: A112161
Included Lab Sample IDs: 2323156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.1		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	111		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	100		P	80 - 120
Azinphos Methyl	80.8		P	80 - 120
Azoxystrobin	94.5		P	80 - 120
Bromacil	98.8		P	80 - 120
Butylate	111		P	80 - 120
Caffeine	92.4		P	80 - 120
Carbophenothion	89.1		P	80 - 120
Carfentrazone Ethyl	92.4		P	80 - 120
Chlorfenapyr	89.3		P	80 - 120
Chlorpyrifos Ethyl	102		P	80 - 120
Chlorpyrifos Methyl	91.4		P	80 - 120
Coumaphos	83.3		P	80 - 120
Cyanazine	100		P	80 - 120
Cyprodinil	95.4		P	80 - 120
Demeton	99.4		P	80 - 120
Diazinon	93.9		P	80 - 120
Difenoconazole	90.3		P	80 - 120
Dimethenamid	97.2		P	80 - 120
Dimethomorph	104		P	80 - 120
Disulfoton	91.8		P	80 - 120
Dithiopyr	103		P	80 - 120
EPTC	101		P	80 - 120
Ethion	93.0		P	80 - 120
Ethoprop	97.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A112161
 Included Lab Sample IDs: 2323156

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Etridiazole	98.5		P	80 - 120
Fenamiphos	90.7		P	80 - 120
Fenbuconazole	87.5		P	80 - 120
Fipronil	88.9		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	88.8		P	80 - 120
Fipronil Sulfone	90.6		P	80 - 120
Fluazifop-P-butyl	80.4		P	80 - 120
Fludioxonil	91.5		P	80 - 120
Flumioxazin	83.1		P	80 - 120
Flutolanil	94.6		P	80 - 120
Fluxapyroxad	90.1		P	80 - 120
Fonofos	85.3		P	80 - 120
Hexazinone	100		P	80 - 120
Imazalil	90.3		P	80 - 120
Iprodione	87.9		P	80 - 120
Loratadine	101		P	80 - 120
Malathion	95.9		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	97.9		P	80 - 120
Mevinphos	98.4		P	80 - 120
Molinate	104		P	80 - 120
Myclobutanil	99.3		P	80 - 120
Naled	95.2		P	80 - 120
Napropamide	81.9		P	80 - 120
Norflurazon	85.4		P	80 - 120
Oxadiazon	97.4		P	80 - 120
Oxyfluorfen	93.4		P	80 - 120
Parathion Ethyl	97.0		P	80 - 120
Parathion Methyl	86.4		P	80 - 120
Pendimethalin	86.8		P	80 - 120
Phenytoin	90.1		P	80 - 120
Phorate	107		P	80 - 120
Prodiamine	97.8		P	80 - 120
Prometon	89.5		P	80 - 120
Prometryn	103		P	80 - 120
Pronamide	95.1		P	80 - 120
Propanil	93.5		P	80 - 120
Propargite	99.2		P	80 - 120
Propiconazole	82.9		P	80 - 120
Pyraflufen Ethyl	80.7		P	80 - 120
Pyridaben	86.4		P	80 - 120
Pyriproxyfen	84.9		P	80 - 120
Simazine	106		P	80 - 120
Stirophos	90.3		P	80 - 120
Sulfentrazone	89.2		P	80 - 120
Tebuconazole	90.7		P	80 - 120
Terbufos	90.6		P	80 - 120
Terbuthylazine	83.6		P	80 - 120
Thiobencarb	98.1		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E
Run ID: A112161
Included Lab Sample IDs: 2323156

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

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	98.3				2.14	
EPA 180.1 Rev. 2.0	Turbidity	96.1				18.0	
EPA 200.7 Rev. 4.4	Calcium	107	104	110	107		2.11
	Iron	108	105	111	106		3.17
	Magnesium	109	107	113	109		2.95
	Potassium	101	97.9	103	99.9		3.13
	Sodium	112	95.1	104	101		2.08
	Strontium	113	99.0	101	99.4		1.66
	Tin	98.3	98.4	102	99.8		2.50
	Titanium	97.0	101	105	103		2.26
	Vanadium	91.1	94.4	98.3	96.0		2.43
	Zinc	105	101	103	101		1.60
EPA 200.8 Rev. 5.4	Aluminum	99.5	99.0	99.4	99.3		0.335
	Antimony	102	100	101	101		0.120
	Arsenic	99.7	96.7	97.6	96.0		0.845
	Barium	105	102	103	101		1.06
	Beryllium	98.1	93.9	93.7	92.8		0.224
	Boron	101	100	101	102		0.962
	Cadmium	98.8	98.3	98.7	99.8		0.434
	Chromium	97.7	97.1	97.9	96.4		0.781
	Cobalt	98.5	93.8	95.1	93.1		1.38
	Copper	97.7	93.2	94.1	93.3		0.863
	Lead	99.3	98.3	99.0	98.7		0.763
	Manganese	98.4	98.6	99.1	97.6		0.317
	Molybdenum	99.5	97.9	98.4	97.5		0.500
	Nickel	99.1	95.1	95.3	94.4		0.198
	Selenium	97.7	93.5	95.0	94.1		1.61
	Silver	97.2	95.0	96.3	94.8		1.42
	Thallium	103	101	102	101		0.723
EPA 300.0 Rev. 2.1	Chloride	98.9	97.6	97.4		0.760	
	Sulfate	99.2	98.5	95.8		1.03	
EPA 350.1 Rev. 2.0	Ammonia-N	101	103	106			2.36
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105					1.78
EPA 353.2 Rev. 2.0	NO2NO3-N	100	100	98.5			1.51
EPA 365.1 Rev. 2.0	Total-P	104	102	103			0.912
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	103	97.8	98.6			0.777
EPA 8270E	Acetochlor	106	96.7	105			8.19
	Alachlor	103	91.6	101			9.99
	Ametryn	108	112	98.8			12.2
	Atrazine	102	96.8	101			4.40
	Atrazine Desethyl	61.2	67.2	66.6			0.954
	Avobenzone	93.2	115	115			0.497
	Azinphos Methyl	151	119	137			14.7
	Azoxystrobin	114	145	121			18.0
	Bromacil	85.7	85.9	85.1			0.899
	Butylate	36.5	40.5	42.4			4.53
	Caffeine	66.1	70.4	66.1			5.97
	Carbophenothion	90.4	67.8	77.1			12.8
	Carfentrazone Ethyl	99.4	77.7	78.8			1.46
	Chlorfenapyr	92.3	72.5	89.0			20.4
	Chlorpyrifos Ethyl	96.7	83.4	99.0			17.2
	Chlorpyrifos Methyl	96.5	88.0	105			17.8
	Coumaphos	90.0	74.5	86.1			14.4
	Cyanazine	107	87.8	108			21.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Cyprodinil	104	85.2	88.9			4.18
	Demeton	77.2	72.1	87.1			18.8
	Diazinon	105	92.8	110			16.7
	Difenoconazole	142	97.0	123			23.8
	Dimethenamid	83.8	69.8	83.0			17.3
	Dimethomorph	113	95.9	88.0			8.62
	Disulfoton	89.2	77.7	96.9			21.9
	Dithiopyr	102	99.1	94.0			5.25
	EPTC	48.8	45.0	52.5			15.4
	Ethion	66.5	34.2	64.9			61.8
	Ethoprop	78.8	81.3	83.0			2.10
	Etridiazole	56.0	56.8	64.4			12.5
	Fenamiphos	92.6	70.1	86.0			20.4
	Fenbuconazole	95.6	83.2	89.9			7.74
	Fipronil	101	89.3	99.6			10.9
	Fipronil Desulfinyl	115	96.3	103			6.59
	Fipronil Sulfide	81.5	81.4	88.5			8.39
	Fipronil Sulfone	94.7	73.8	81.2			9.56
	Fluazifop-P-butyl	106	80.8	80.1			0.884
	Fludioxonil	107	82.4	84.0			1.98
	Flumioxazin	129	116	125			7.74
	Flutolanil	101	83.7	86.1			2.92
	Fluxapyroxad	87.4	65.8	69.0			4.69
	Fonofos	81.1	73.2	93.6			24.5
	Hexazinone	83.5	83.8	86.0			2.58
	Imazalil	72.6	137	85.4			46.2
	Iprodione	76.7	68.6	79.0			14.1
	Loratadine	101	89.9	75.7			17.2
	Malathion	95.3	88.1	102			14.7
	Metalaxyl	104	79.1	101			24.6
	Metolachlor	102	91.3	93.1			1.99
	Metribuzin	102	102	94.4			7.70
	Mevinphos	73.4	74.3	87.7			16.5
	Molinate	61.0	63.6	71.5			11.8
	Myclobutanil	100	82.6	90.4			9.06
	Naled	92.6	78.3	99.7			24.0
	Napropamide	98.0	71.6	76.2			6.20
	Norflurazon	90.9	77.8	75.7			2.82
	Octinoxate	80.1	112	107			4.37
	Oxadiazon	94.7	75.7	73.1			3.43
	Oxybenzone	64.6	82.9	82.7			0.232
	Oxyfluorfen	106	80.9	90.6			11.3
	Parathion Ethyl	97.6	82.2	97.6			17.2
	Parathion Methyl	102	97.2	111			13.5
	Pendimethalin	77.1	84.9	89.9			5.70
	Phenytol	33.6	51.3	72.7			34.5
	Phorate	70.4	77.7	91.1			15.9
	Prodiamine	44.9	71.1	63.7			10.9
	Prometon	82.2	70.6	79.8			12.2
	Prometryn	103	84.8	93.2			9.44
	Pronamide	102	96.5	111			14.3
	Propanil	96.6	79.4	97.7			20.7
	Propargite	66.9	96.7	103			6.30
	Propiconazole	85.6	67.7	67.3			0.660

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8270E	Pyraflufen Ethyl	89.9	79.3	67.4			16.2
	Pyridaben	93.1	74.7	94.9			23.8
	Pyriproxyfen	38.3	32.9	35.8			8.37
	Simazine	92.1	92.6	90.8			1.96
	Stirophos	64.2	86.7	103			17.6
	Sulfentrazone	82.1	81.0	77.3			4.70
	Tebuconazole	51.3	29.7	39.2			27.6
	Terbufos	107	97.6	120			20.4
	Terbuthylazine	99.4	82.3	107			25.9
	Thiobencarb	92.8	86.7	85.7			1.22
	Triadimefon	77.9	82.9	75.5			9.38
EPA 8321B	2,4-D	74.3	96.4	60.3			44.1
	2,4,5-T	84.2	93.8	63.6			38.3
	Acesulfame K	155	117	129			10.3
	Acetaminophen	92.9	127	130			2.65
	Acetamiprid	65.2	47.3	43.7			7.89
	Afidopyropen	30.1	52.6	31.6			49.9
	AMPA	91.6	71.5	74.4			3.74
	Bentazon	70.7	34.9	24.8			13.4
	Benzovindiflupyr	68.2	54.5	45.0			19.1
	Carbamazepine	61.5	60.0	52.3			13.7
	Clothianidin	91.8	44.7	44.5			0.608
	Dinotefuran	113	98.6	93.8			4.99
	Diuron	73.5	49.5	42.8			14.5
	Endothall	85.3	80.5	85.0			5.48
	Fenuron	101	53.3	52.0			2.33
	Fluridone	74.0	59.6	47.0			18.4
	Glufosinate	91.1	72.7	74.7			2.63
	Glyphosate	91.6	71.1	76.3			5.97
	Hydrocodone	78.8	50.1	36.8			30.6
	Ibuprofen	73.3	62.3	52.6			16.8
	Imazapyr	84.6	74.2	69.3			6.92
	Imidacloprid	73.9	55.3	51.4			6.62
	Linuron	69.4	57.7	49.9			14.4
	Mandestrobin	64.8	57.1	46.1			21.2
	MCPP	102	126	96.5			26.2
	Naproxen	57.9	60.1	46.1			26.3
	Primidone	95.4	71.9	67.7			5.97
	Pyraclostrobin	59.8	59.8	47.0			23.9
	Silvex	89.8	106	59.7			55.6
	Sucralose	117	112	128			12.9
	Thiamethoxam	86.3	52.8	51.3			2.90
	Tolfenpyrad	35.5	41.6	31.7			26.8
	Triclopyr	81.0	93.4	60.8			42.3
SM 2320 B-2011	Total Alkalinity	98.3				1.45	
SM 2540 C-2011	TDS					4.33	
SM 4500-F- C-2011	Fluoride	98.7	100	99.2			0.480
SM 5310 B-2011	Organic Carbon	99.8	96.4	95.3			0.725

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2323149

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2323149
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2323154
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2323154
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2323149
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2323149
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2323150
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2323150
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2323150
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2323150
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2323151
EPA 8270E	Analysis of Sunscreen Compounds in Water by GC/MS-SIM	2323156
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2323156
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2323153
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2323149
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2323154
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2323149
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2323149
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2323149
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2323150

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	04/29/2022			04/29/2022 15:26	Samantha L Bates	2323149
EPA 180.1 Rev. 2.0	04/29/2022			04/29/2022 14:23	Khloe J Berg	2323149
EPA 200.7 Rev. 4.4	04/29/2022	05/02/2022 10:10	Megan Whitefoot	05/03/2022 23:31	McKinley C Carter	2323154
EPA 200.8 Rev. 5.4	04/29/2022	05/02/2022 10:10	Megan Whitefoot	05/03/2022 18:07	Alexander Thompson	2323154
EPA 300.0 Rev. 2.1	04/29/2022			05/05/2022 19:07	Anna M. Plaviak	2323149
EPA 350.1 Rev. 2.0	04/29/2022			05/05/2022 15:33	Judith K. Clark	2323150
EPA 351.2 Rev. 2.0	04/29/2022	05/10/2022 14:31	Samantha L Bates	05/11/2022 14:05	Samantha L Bates	2323150
EPA 353.2 Rev. 2.0	04/29/2022			05/05/2022 10:30	Beverly Y. Sanders	2323150
EPA 365.1 Rev. 2.0	04/29/2022	05/05/2022 14:45	Simonne.V. Calhoun	05/09/2022 16:36	James L Waggerby	2323150
EPA 365.1 Rev. 2.0 dissolved	04/29/2022			04/29/2022 17:17	Nathaniel J Jones	2323151
EPA 8270E	04/29/2022	05/04/2022 08:00	Rasheda Ghaffari	05/10/2022 16:46	Vandana T. Nagar	2323156
	04/29/2022	05/04/2022 08:00	Rasheda Ghaffari	05/11/2022 19:14	Lipi Saha	2323156
EPA 8321B	04/29/2022	04/29/2022 17:00	Manjita Shrestha	04/30/2022 01:29	Manjita Shrestha	2323153
	04/29/2022	04/29/2022 17:00	Manjita Shrestha	04/30/2022 22:30	Manjita Shrestha	2323153
	04/29/2022	05/03/2022 09:00	Hoor Shaik	05/05/2022 11:08	Juyoung Kim	2323153
SM 2320 B-2011	04/29/2022			05/05/2022 00:20	Dale L. Simmons	2323149
SM 2340 B-2011	04/29/2022			05/03/2022 23:31	McKinley C Carter	2323154
SM 2540 C-2011	04/29/2022			05/03/2022 14:33	Yijie Li	2323149
SM 2540 D-2011	04/29/2022			05/03/2022 14:33	Yijie Li	2323149
SM 4500-F- C-2011	04/29/2022			05/05/2022 00:20	Dale L. Simmons	2323149
SM 5310 B-2011	04/29/2022			05/06/2022 20:28	Judith K. Clark	2323150