

Chemical Analysis Report

NW-DIST-2022-03-17-01

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

Event Description: **Bioassessment Eglin restoration**
Request ID: **RQ-2022-03-07-61**
Customer: **NW-DIST**
Project ID: **SPPROJECTS**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 07-APR-2022 11:46

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: Middle Rocky Creek

Collection Date/Time: 03/16/2022 11:20

Field ID: G3NW0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313044	DEP SOP: NU-094-1	Color (true)**	11		PCU	P411440	
	EPA 180.1 Rev. 2.0	Turbidity	0.85	I	NTU	P411246	
	EPA 300.0 Rev. 2.1	Chloride	2.1		mg Cl/L	P411368	
		Sulfate	0.66		mg SO4/L	P411370	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P411445	
	SM 2540 C-2011	TDS	15	U	mg/L	P411634	
	SM 2540 D-2011	TSS	2	U	mg/L	P411430	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P411454	
2313045	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	I	mg N/L	P411486	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P411466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.083		mg N/L	P411335	
	EPA 365.1 Rev. 2.0	Total-P	0.002	U	mg P/L	P411457	
	SM 5310 B-2011	Organic Carbon	1.2		mg C/L	P411402	
2313046	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P411243	
2313050	EPA 8321B	2,4-D	0.0020	U	ug/L	P411262	
		Acesulfame K	0.10	U	ug/L	P411170	
		2,4,5-T	0.0040	U	ug/L	P411262	
		AMPA	0.10	U	ug/L	P411170	
		Acetaminophen	0.0080	U	ug/L	P411262	
		Acetamiprid	0.0020	U	ug/L	P411262	
		Endothall	0.25	U	ug/L	P411170	
		Glufosinate	0.10	U	ug/L	P411170	
		Glyphosate	0.10	U	ug/L	P411170	
		Afidopyrophen	0.0020	U	ug/L	P411262	
		Bentazon	8.0E-04	U	ug/L	P411262	
		Sucralose	0.010	U	ug/L	P411170	
		Benzovindiflupyr	0.0020	U	ug/L	P411262	
		Carbamazepine	8.0E-04	U	ug/L	P411262	
		Clothianidin	0.0020	U	ug/L	P411262	
		Dinotefuran	0.0020	U	ug/L	P411262	
		Diuron	0.0020	U	ug/L	P411262	
		Fenuron	0.016	U	ug/L	P411262	
		Fluridone	8.0E-04	U	ug/L	P411262	
		Imazapyr	0.0040	U	ug/L	P411262	
		Hydrocodone	0.0020	U	ug/L	P411262	
		Ibuprofen	0.020	U	ug/L	P411262	
		Imidacloprid	0.0020	U	ug/L	P411262	MS
		Linuron	0.0040	U	ug/L	P411262	
		Mandestrobin	0.0020	U	ug/L	P411262	
		MCP	0.0020	U	ug/L	P411262	
		Naproxen	0.0080	U	ug/L	P411262	
		Primidone	0.0040	U	ug/L	P411262	
		Pyraclostrobin	0.0020	U	ug/L	P411262	

Field ID: G3NW0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313050	EPA 8321B	Silvex	0.0040	U	ug/L	P411262	
		Thiamethoxam	0.0020	U	ug/L	P411262	MS
		Tolfenpyrad	0.0020	U	ug/L	P411262	
		Triclopyr	0.0040	U	ug/L	P411262	
2313051	EPA 200.7 Rev. 4.4	Barium	6.5		ug/L	P411263	
		Calcium	0.20	I	mg/L	P411263	
		Iron	30	U	ug/L	P411263	
		Magnesium	0.27		mg/L	P411263	
		Potassium	0.30	U	mg/L	P411263	
		Sodium	1.3	I	mg/L	P411263	
		Strontium	2.4	I	ug/L	P411263	
		Tin	3.0	U	ug/L	P411263	
		Titanium	0.75	U	ug/L	P411263	
		Vanadium	2.0	U	ug/L	P411263	
		Zinc	5.0	U	ug/L	P411263	
	EPA 200.8 Rev. 5.4	Aluminum	39		ug/L	P411263	
		Antimony	0.050	U	ug/L	P411263	
		Arsenic	0.050	U	ug/L	P411263	
		Barium	6.23		ug/L	P411263	
		Beryllium	0.016	I	ug/L	P411263	
		Boron**	7.3	I	ug/L	P411263	
		Cadmium	0.020	U	ug/L	P411263	
		Chromium	0.40	U	ug/L	P411263	
		Cobalt	0.071	I	ug/L	P411263	
		Copper	0.40	U	ug/L	P411263	
		Lead	0.20	U	ug/L	P411263	
		Manganese	2.25		ug/L	P411263	
		Molybdenum	0.15	U	ug/L	P411263	
		Nickel	0.50	U	ug/L	P411263	
		Selenium	0.20	U	ug/L	P411263	
		Silver	0.010	U	ug/L	P411263	
		Thallium	0.10	U	ug/L	P411263	
	SM 2340B	Hardness	1.6		mg/L	P411263	
2313052	EPA 8270E	Oxybenzone**	10	U	ng/L	P411232	
		Acetochlor	0.25	U	ng/L	P411232	
		Octinoxate**	20	U	ng/L	P411232	
		Alachlor	0.25	U	ng/L	P411232	
		Avobenzone**	100	U	ng/L	P411232	
		Ametryn	0.61	U	ng/L	P411232	
		Atrazine	0.25	U	ng/L	P411232	
		Atrazine Desethyl	1.5	U	ng/L	P411232	
		Azinphos Methyl	2.0	U	ng/L	P411232	
		Azoxystrobin**	0.51	U	ng/L	P411232	
		Bromacil	0.51	U	ng/L	P411232	
		Butylate	0.40	U	ng/L	P411232	

Field ID: G3NW0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313052	EPA 8270E	Caffeine**	7.6	U	ng/L	P411232	
		Carbophenothion	0.20	U	ng/L	P411232	
		Carfentrazone Ethyl**	0.10	U	ng/L	P411232	
		Chlorfenapyr**	0.18	U	ng/L	P411232	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P411232	
		Chlorpyrifos Methyl	0.051	U	ng/L	P411232	
		Coumaphos**	0.51	U	ng/L	P411232	
		Cyanazine	3.3	U	ng/L	P411232	
		Cyprodinil**	0.10	U	ng/L	P411232	
		Demeton	1.5	U	ng/L	P411232	
		Diazinon	0.13	U	ng/L	P411232	
		Difenoconazole**	0.61	U	ng/L	P411232	RPD
		Dimethenamid**	0.10	U	ng/L	P411232	
		Dimethomorph**	0.18	U	ng/L	P411232	MS, RPD
		Disulfoton	0.51	U	ng/L	P411232	
		Dithiopyr**	0.18	U	ng/L	P411232	
		EPTC	1.3	U	ng/L	P411232	
		Ethion	0.15	U	ng/L	P411232	
		Ethoprop	0.10	U	ng/L	P411232	
		Etridiazole**	0.15	U	ng/L	P411232	
		Fenamiphos	0.51	U	ng/L	P411232	
		Fenbuconazole**	0.13	U	ng/L	P411232	RPD
		Fipronil	0.25	U	ng/L	P411232	
		Fipronil Desulfinyl**	0.13	U	ng/L	P411232	
		Fipronil Sulfide	0.15	U	ng/L	P411232	
		Fipronil Sulfone	0.15	U	ng/L	P411232	
		Fluazifop-P-butyl**	0.10	U	ng/L	P411232	
		Fludioxonil**	0.13	U	ng/L	P411232	
		Flumioxazin**	1.8	U	ng/L	P411232	
		Flutolanil**	0.10	U	ng/L	P411232	
		Fluxapyroxad**	0.10	U	ng/L	P411232	
		Fonofos	0.20	U	ng/L	P411232	
		Hexazinone	990		ng/L	P411232	
		Imazalil**	0.76	U	ng/L	P411232	
		Iprodione**	0.61	U	ng/L	P411232	
		Loratadine**	0.10	U	ng/L	P411232	MS, RPD
		Malathion	0.35	U	ng/L	P411232	
		Metalaxyl	0.76	U	ng/L	P411232	
		Metolachlor	0.35	U	ng/L	P411232	
		Metribuzin	2.5	U	ng/L	P411232	
		Mevinphos	1.1	U	ng/L	P411232	
		Molinate	0.30	U	ng/L	P411232	
		Myclobutanil**	0.25	U	ng/L	P411232	
		Naled**	1.5	U	ng/L	P411232	
		Napropamide**	0.40	U	ng/L	P411232	

Field ID: G3NW0226

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2313052	EPA 8270E	Norflurazon	0.51	U	ng/L	P411232	
		Oxadiazon	0.30	U	ng/L	P411232	
		Oxyfluorfen**	0.15	U	ng/L	P411232	
		Parathion Ethyl	0.25	U	ng/L	P411232	
		Parathion Methyl	0.56	U	ng/L	P411232	
		Pendimethalin	1.0	U	ng/L	P411232	RPD
		Phenytoin**	3.5	UJ	ng/L	P411232	LCS, MS, RPD
		Phorate	0.53	U	ng/L	P411232	
		Prodiamine**	0.30	UJ	ng/L	P411232	CCV
		Prometon	0.91	U	ng/L	P411232	
		Prometryn	0.20	U	ng/L	P411232	
		Pronamide**	0.15	U	ng/L	P411232	
		Propanil**	0.13	U	ng/L	P411232	
		Propargite**	1.5	U	ng/L	P411232	
		Propiconazole**	0.51	U	ng/L	P411232	
		Pyraflufen Ethyl**	0.25	U	ng/L	P411232	
		Pyridaben**	0.45	U	ng/L	P411232	
		Pyriproxyfen**	0.13	U	ng/L	P411232	
		Simazine	0.51	U	ng/L	P411232	
		Stirophos**	0.13	U	ng/L	P411232	MS
		Sulfentrazone**	0.51	U	ng/L	P411232	
		Tebuconazole**	0.51	U	ng/L	P411232	
		Terbufos	0.10	U	ng/L	P411232	
		Terbuthylazine	0.43	U	ng/L	P411232	
		Thiobencarb**	0.61	U	ng/L	P411232	
		Triadimefon**	0.25	U	ng/L	P411232	

Ref. Method and Comment:

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

EPA 8270E: MS accuracy for Atrazine not assessed due to high content of this parameter in the sample spiked. 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: P411440

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411246

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411263

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
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: P411263

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: P411368

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: P411370

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411486

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411335

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411457

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411243

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

Reference Method: EPA 8270E
Batch ID: P411232

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: P411232

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: P411232

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: P411232

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
Phenytoin	3.5	U	ng/L
Phenytoin	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.30	U	ng/L
Prodiamine	0.30	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: P411170

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P411170

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: P411262

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
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: P411445

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

Reference Method: SM 2540 C-2011

Batch ID: P411634

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2011
Batch ID: P411430

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P411402

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: P411440

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.8		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411246

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.9		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411263

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	109		P	85 - 115
Calcium	106		P	85 - 115
Iron	103		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	102		P	85 - 115
Sodium	105		P	85 - 115
Strontium	106		P	85 - 115
Tin	105		P	85 - 115
Titanium	102		P	85 - 115
Vanadium	97.2		P	85 - 115
Zinc	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411263

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.1		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	101		P	85 - 115
Barium	105		P	85 - 115
Beryllium	98.2		P	85 - 115
Boron	103		P	85 - 115
Cadmium	99.6		P	85 - 115
Chromium	97.9		P	85 - 115
Cobalt	99.0		P	85 - 115
Copper	95.4		P	85 - 115
Lead	98.0		P	85 - 115
Manganese	97.3		P	85 - 115
Molybdenum	98.7		P	85 - 115
Nickel	96.8		P	85 - 115
Selenium	101		P	85 - 115
Silver	101		P	85 - 115
Thallium	99.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411368

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411370

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411486

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

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: P411335

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	99.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411457

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411243

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

Reference Method: EPA 8270E
Batch ID: P411232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	101		P	70 - 121
Alachlor	92.5		P	68 - 119
Ametryn	72.7		P	64 - 139
Atrazine	98.4		P	76 - 120
Atrazine Desethyl	56.6		P	44 - 126
Avobenzone	106		P	76 - 212
Azinphos Methyl	97.0		P	43 - 192
Azoxystrobin	93.6		P	36 - 224
Bromacil	60.6		P	52 - 121
Butylate	39.7		P	28 - 91.0
Caffeine	93.2		P	50 - 134
Carbophenothion	99.1		P	56 - 129
Carfentrazone Ethyl	85.2		P	60 - 141
Chlorfenapyr	103		P	56 - 115
Chlorpyrifos Ethyl	94.5		P	60 - 118
Chlorpyrifos Methyl	100		P	68 - 119

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P411232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Coumaphos	110		P	18 - 250
Cyanazine	82.1		P	61 - 250
Cyprodinil	92.6		P	55 - 145
Demeton	75.2		P	30 - 159
Diazinon	96.9		P	70 - 123
Difenoconazole	94.8		P	49 - 204
Dimethenamid	82.5		P	64 - 115
Dimethomorph	155		P	12 - 219
Disulfoton	80.1		P	44 - 125
Dithiopyr	89.9		P	64 - 115
EPTC	49.3		P	28 - 86.0
Ethion	65.6		P	33 - 125
Ethoprop	88.7		P	64 - 116
Etridiazole	67.9		P	34 - 91.0
Fenamiphos	63.8		P	12 - 127
Fenbuconazole	64.1		P	59 - 151
Fipronil	94.4		P	67 - 129
Fipronil Desulfinyl	99.8		P	65 - 127
Fipronil Sulfide	85.7		P	61 - 116
Fipronil Sulfone	75.9		P	55 - 117
Fluazifop-P-butyl	112		P	62 - 127
Fludioxonil	74.6		P	62 - 128
Flumioxazin	81.9		P	33 - 250
Flutolanil	57.9		P	56 - 127
Fluxapyroxad	72.1		P	45 - 128
Fonofos	90.3		P	62 - 111
Hexazinone	83.4		P	46 - 139
Imazalil	66.5		P	38 - 142
Iprodione	73.2		P	47 - 135
Loratadine	119		P	10 - 244
Malathion	96.6		P	61 - 139
Metalaxyl	93.9		P	10 - 119
Metolachlor	92.9		P	65 - 118
Metribuzin	80.0		P	51 - 250
Mevinphos	82.1		P	53 - 121
Molinate	54.3		P	42 - 96.0
Myclobutanil	82.9		P	55 - 128
Naled	73.1		P	10 - 98.0
Napropamide	58.7		P	49 - 121
Norflurazon	78.9		P	61 - 126
Octinoxate	92.5		P	30 - 159
Oxadiazon	71.7		P	59 - 116
Oxybenzone	89.2		P	61 - 139
Oxyfluorfen	116		P	64 - 137
Parathion Ethyl	84.1		P	70 - 112
Parathion Methyl	93.0		P	76 - 133
Pendimethalin	103		P	52 - 117
Phenytoin	9.03		F	10 - 199
Phorate	86.2		P	48 - 121
Prodiamine	33.1		P	26 - 142
Prometon	74.8		P	43 - 123
Prometryn	88.7		P	66 - 127

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P411232

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pronamide	93.9		P	75 - 121
Propanil	97.9		P	45 - 150
Propargite	55.7		P	42 - 208
Propiconazole	72.2		P	60 - 125
Pyraflufen Ethyl	78.1		P	70 - 138
Pyridaben	97.7		P	35 - 245
Pyriproxyfen	76.3		P	30 - 149
Simazine	85.3		P	72 - 125
Stirophos	55.7		P	29 - 164
Sulfentrazone	32.2		P	21 - 139
Tebuconazole	45.9		P	10 - 115
Terbufos	113		P	60 - 123
Terbuthylazine	93.8		P	72 - 115
Thiobencarb	85.0		P	31 - 139
Triadimefon	92.2		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P411170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	94.1		P	40 - 150
AMPA	95.4		P	40 - 150
Endothall	93.2		P	40 - 150
Glufosinate	101		P	40 - 150
Glyphosate	95.1		P	40 - 150
Sucralose	86.4		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P411262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	56.3		P	30 - 160
2,4,5-T	44.5		P	30 - 160
Acetaminophen	82.9		P	30 - 150
Acetamiprid	73.6		P	30 - 160
Afidopyropen	51.3		P	30 - 160
Bentazon	85.2		P	30 - 150
Benzovindiflupyr	72.0		P	30 - 160
Carbamazepine	67.7		P	30 - 160
Clothianidin	96.1		P	30 - 160
Dinotefuran	93.7		P	30 - 160
Diuron	54.3		P	30 - 160
Fenuron	106		P	30 - 160
Fluridone	69.7		P	30 - 160
Hydrocodone	92.4		P	30 - 160
Ibuprofen	56.8		P	30 - 160
Imazapyr	88.3		P	30 - 160
Imidacloprid	80.1		P	30 - 160
Linuron	70.3		P	30 - 160
Mandestrobin	53.1		P	30 - 160
MCPP	59.3		P	30 - 160
Naproxen	67.5		P	30 - 160

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P411262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Primidone	76.6		P	30 - 160
Pyraclostrobin	64.8		P	30 - 160
Silvex	37.0		P	30 - 160
Thiamethoxam	93.0		P	30 - 160
Tolfenpyrad	37.9		P	30 - 160
Triclopyr	43.7		P	30 - 160

Reference Method: SM 2320 B-2011

Batch ID: P411445

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.4		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P411454

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P411402

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.9		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P411263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312824	Barium	110		P	80 - 120
2312824	Calcium	107		P	80 - 120
2312824	Iron	103		P	80 - 120
2312824	Magnesium	107		P	80 - 120
2312824	Potassium	103		P	80 - 120
2312824	Sodium	101		P	80 - 120
2312824	Strontium	108		P	80 - 120
2312824	Tin	105		P	80 - 120
2312824	Titanium	102		P	80 - 120
2312824	Vanadium	98.4		P	80 - 120
2312824	Zinc	107		P	80 - 120
2313051	Barium	109	111	P/P	80 - 120
2313051	Calcium	104	107	P/P	80 - 120
2313051	Iron	104	107	P/P	80 - 120
2313051	Magnesium	107	110	P/P	80 - 120
2313051	Potassium	107	109	P/P	80 - 120
2313051	Sodium	103	104	P/P	80 - 120
2313051	Strontium	108	110	P/P	80 - 120
2313051	Tin	103	105	P/P	80 - 120
2313051	Titanium	101	103	P/P	80 - 120
2313051	Vanadium	96.7	98.4	P/P	80 - 120
2313051	Zinc	105	107	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P411263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312824	Aluminum	99.8		P	80 - 120
2312824	Antimony	100		P	80 - 120
2312824	Arsenic	98.7		P	80 - 120
2312824	Barium	107		P	80 - 120
2312824	Beryllium	98.9		P	80 - 120
2312824	Boron	103		P	80 - 120
2312824	Cadmium	101		P	80 - 120
2312824	Chromium	100		P	80 - 120
2312824	Cobalt	97.4		P	80 - 120
2312824	Copper	94.2		P	80 - 120
2312824	Lead	98.7		P	80 - 120
2312824	Manganese	98.1		P	80 - 120
2312824	Molybdenum	97.9		P	80 - 120
2312824	Nickel	97.0		P	80 - 120
2312824	Selenium	98.0		P	80 - 120
2312824	Silver	100		P	80 - 120
2312824	Thallium	102		P	80 - 120
2313051	Aluminum	99.5	101	P/P	80 - 120
2313051	Antimony	99.9	101	P/P	80 - 120
2313051	Arsenic	100	101	P/P	80 - 120
2313051	Barium	105	106	P/P	80 - 120
2313051	Beryllium	95.7	98.1	P/P	80 - 120
2313051	Boron	99.4	101	P/P	80 - 120
2313051	Cadmium	99.2	101	P/P	80 - 120
2313051	Chromium	97.6	99.4	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P411263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313051	Cobalt	98.5	100	P/P	80 - 120
2313051	Copper	96.0	97.8	P/P	80 - 120
2313051	Lead	97.5	98.6	P/P	80 - 120
2313051	Manganese	97.9	99.7	P/P	80 - 120
2313051	Molybdenum	97.1	98.3	P/P	80 - 120
2313051	Nickel	97.9	99.3	P/P	80 - 120
2313051	Selenium	99.4	101	P/P	80 - 120
2313051	Silver	98.8	100	P/P	80 - 120
2313051	Thallium	99.5	101	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P411368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312997	Chloride	99.7		P	90 - 110
2313020	Chloride	99.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P411370

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312997	Sulfate	99.9		P	90 - 110
2313020	Sulfate	99.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P411486

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313045	Ammonia-N	93.0	96.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P411466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313040	Kjeldahl Nitrogen	109	105	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P411335

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313045	NO2NO3-N	99.4	98.9	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P411457

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313000	Total-P	105	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P411243

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411243

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313046	O-Phosphate-P	99.6	99.9	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P411232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313285	Acetochlor	112	124	P/P	65 - 124
2313285	Alachlor	91.0	105	P/P	61 - 121
2313285	Ametryn	93.5	91.3	P/P	52 - 216
2313285	Atrazine Desethyl	53.8	60.6	P/P	15 - 160
2313285	Avobenzone	91.2	96.6	P/P	59 - 206
2313285	Azinphos Methyl	107	137	P/P	40 - 292
2313285	Azoxystrobin	99.0	129	P/P	12 - 242
2313285	Bromacil	87.7	88.8	P/P	54 - 167
2313285	Butylate	48.2	51.3	P/P	14 - 94.0
2313285	Caffeine	101	85.2	P/P	10 - 226
2313285	Carbophenothion	94.7	95.1	P/P	49 - 122
2313285	Carfentrazone Ethyl	92.1	99.9	P/P	53 - 138
2313285	Chlorfenapyr	85.7	91.3	P/P	50 - 150
2313285	Chlorpyrifos Ethyl	78.9	86.6	P/P	52 - 122
2313285	Chlorpyrifos Methyl	96.3	95.1	P/P	66 - 117
2313285	Coumaphos	90.6	92.1	P/P	50 - 220
2313285	Cyanazine	86.8	85.9	P/P	43 - 245
2313285	Cyprodinil	105	93.8	P/P	50 - 150
2313285	Demeton	81.7	80.4	P/P	43 - 188
2313285	Diazinon	107	111	P/P	69 - 131
2313285	Difenoconazole	104	76.7	P/P	34 - 231
2313285	Dimethenamid	90.8	95.3	P/P	55 - 118
2313285	Dimethomorph	140	225	P/F	50 - 150
2313285	Disulfoton	73.4	76.0	P/P	38 - 141
2313285	Dithiopyr	86.7	90.9	P/P	42 - 116
2313285	EPTC	50.6	55.4	P/P	18 - 85.0
2313285	Ethion	77.3	48.7	P/P	10 - 131
2313285	Ethoprop	88.3	92.4	P/P	65 - 129
2313285	Etridiazole	78.5	95.9	P/P	50 - 150
2313285	Fenamiphos	68.7	74.3	P/P	31 - 137
2313285	Fenbuconazole	73.7	112	P/P	57 - 160
2313285	Fipronil	98.5	112	P/P	62 - 132
2313285	Fipronil Desulfinyl	99.5	106	P/P	57 - 131
2313285	Fipronil Sulfide	85.0	87.9	P/P	15 - 138
2313285	Fipronil Sulfone	64.6	59.8	P/P	21 - 134
2313285	Fluazifop-P-butyl	102	101	P/P	54 - 133
2313285	Fludioxonil	92.5	98.5	P/P	58 - 127
2313285	Flumioxazin	118	145	P/P	33 - 300
2313285	Flutolanil	58.7	72.4	P/P	42 - 130
2313285	Fluxapyroxad	76.5	85.0	P/P	23 - 141
2313285	Fonofos	83.1	93.7	P/P	58 - 119
2313285	Hexazinone	91.7	85.8	P/P	68 - 172
2313285	Imazalil	80.9	109	P/P	48 - 283
2313285	Iprodione	87.0	97.8	P/P	38 - 140
2313285	Loratadine	112	209	P/F	50 - 150
2313285	Malathion	82.1	83.5	P/P	40 - 137

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P411232

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313285	Metalaxyl	86.8	90.3	P/P	21 - 129
2313285	Metolachlor	91.1	105	P/P	55 - 122
2313285	Metribuzin	75.9	80.6	P/P	38 - 187
2313285	Mevinphos	92.2	93.4	P/P	54 - 134
2313285	Molinate	63.5	68.9	P/P	41 - 97.0
2313285	Myclobutanil	80.0	79.0	P/P	56 - 125
2313285	Naled	69.3	73.7	P/P	10 - 108
2313285	Napropamide	69.1	78.8	P/P	50 - 150
2313285	Norflurazon	71.1	63.0	P/P	32 - 122
2313285	Octinoxate	98.0	100	P/P	25 - 150
2313285	Oxadiazon	69.8	80.8	P/P	40 - 119
2313285	Oxybenzone	88.7	92.3	P/P	59 - 147
2313285	Oxyfluorfen	127	128	P/P	61 - 153
2313285	Parathion Ethyl	86.6	86.1	P/P	59 - 130
2313285	Parathion Methyl	124	115	P/P	65 - 155
2313285	Pendimethalin	119	83.7	P/P	49 - 138
2313285	Phenytoin	31.4	13.2	F/F	50 - 200
2313285	Phorate	85.9	88.9	P/P	54 - 161
2313285	Prodiamine	49.4	50.5	P/P	33 - 161
2313285	Prometon	80.7	80.0	P/P	48 - 140
2313285	Prometryn	84.0	85.7	P/P	55 - 134
2313285	Pronamide	101	111	P/P	66 - 137
2313285	Propanil	119	113	P/P	50 - 150
2313285	Propargite	66.5	51.0	P/P	50 - 200
2313285	Propiconazole	70.3	57.1	P/P	36 - 150
2313285	Pyraflufen Ethyl	71.7	65.1	P/P	50 - 150
2313285	Pyridaben	87.4	93.6	P/P	50 - 200
2313285	Pyriproxyfen	83.1	86.7	P/P	10 - 165
2313285	Simazine	93.2	120	P/P	57 - 145
2313285	Stirophos	55.6	43.7	P/F	50 - 150
2313285	Sulfentrazone	97.7	114	P/P	34 - 140
2313285	Tebuconazole	55.7	41.9	P/P	10 - 127
2313285	Terbufos	109	109	P/P	59 - 138
2313285	Terbuthylazine	100	109	P/P	68 - 119
2313285	Thiobencarb	80.7	85.9	P/P	50 - 150
2313285	Triadimefon	97.1	94.0	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P411170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312858	Acesulfame K	82.9	83.1	P/P	40 - 150
2312858	AMPA	95.4	102	P/P	40 - 150
2312858	Endothall	102	106	P/P	40 - 150
2312858	Glufosinate	84.3	93.3	P/P	40 - 150
2312858	Glyphosate	84.4	88.7	P/P	40 - 150
2312858	Sucralose	80.9	95.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P411262

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

Reference Method: EPA 8321B

Batch ID: P411262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312452	2,4-D	69.0	59.8	P/P	30 - 160
2312452	2,4,5-T	58.5	65.2	P/P	30 - 160
2312452	Acetaminophen	103	105	P/P	30 - 150
2312452	Acetamiprid	98.6	87.1	P/P	30 - 160
2312452	Afidopyropen	57.9	55.4	P/P	30 - 160
2312452	Bentazon	92.4	103	P/P	30 - 150
2312452	Benzovindiflupyr	76.1	78.1	P/P	30 - 160
2312452	Carbamazepine	80.4	77.8	P/P	30 - 160
2312452	Clothianidin	128	126	P/P	30 - 160
2312452	Dinotefuran	124	119	P/P	30 - 160
2312452	Diuron	52.2	45.3	P/P	30 - 160
2312452	Fenuron	132	152	P/P	30 - 160
2312452	Fluridone	65.8	68.2	P/P	30 - 160
2312452	Hydrocodone	103	112	P/P	30 - 160
2312452	Ibuprofen	51.3	56.8	P/P	30 - 160
2312452	Imazapyr	130	111	P/P	30 - 160
2312452	Imidacloprid	212	203	F/F	30 - 160
2312452	Linuron	84.9	79.7	P/P	30 - 160
2312452	Mandestrobin	64.3	60.9	P/P	30 - 160
2312452	MCCP	86.8	79.1	P/P	30 - 160
2312452	Naproxen	74.6	74.8	P/P	30 - 160
2312452	Primidone	124	92.4	P/P	30 - 160
2312452	Pyraclostrobin	80.0	80.3	P/P	30 - 160
2312452	Silvex	59.9	58.3	P/P	30 - 160
2312452	Thiamethoxam	174	175	F/F	30 - 160
2312452	Tolfenpyrad	55.2	46.1	P/P	30 - 160
2312452	Triclopyr	60.0	53.8	P/P	30 - 160

Reference Method: SM 4500 F-C-2011

Batch ID: P411454

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2313039	Fluoride	99.3	99.3	P/P	92 - 107

Reference Method: SM 5310 B-2011

Batch ID: P411402

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2312784	Organic Carbon	95.4	94.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P411440

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313153	Color (true)	0.453	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P411246

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313103	Turbidity	16.7	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P411263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313051	Barium	2.02	Spike	P	0 - 20
2313051	Calcium	2.64	Spike	P	0 - 20
2313051	Iron	2.79	Spike	P	0 - 20
2313051	Magnesium	2.45	Spike	P	0 - 20
2313051	Potassium	2.25	Spike	P	0 - 20
2313051	Sodium	1.28	Spike	P	0 - 20
2313051	Strontium	2.00	Spike	P	0 - 20
2313051	Tin	2.37	Spike	P	0 - 20
2313051	Titanium	1.96	Spike	P	0 - 20
2313051	Vanadium	1.74	Spike	P	0 - 20
2313051	Zinc	1.76	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P411263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313051	Aluminum	1.60	Spike	P	0 - 20
2313051	Antimony	0.714	Spike	P	0 - 20
2313051	Arsenic	0.600	Spike	P	0 - 20
2313051	Barium	1.30	Spike	P	0 - 20
2313051	Beryllium	2.36	Spike	P	0 - 20
2313051	Boron	1.42	Spike	P	0 - 20
2313051	Cadmium	1.59	Spike	P	0 - 20
2313051	Chromium	1.87	Spike	P	0 - 20
2313051	Cobalt	1.86	Spike	P	0 - 20
2313051	Copper	1.90	Spike	P	0 - 20
2313051	Lead	1.04	Spike	P	0 - 20
2313051	Manganese	1.80	Spike	P	0 - 20
2313051	Molybdenum	1.19	Spike	P	0 - 20
2313051	Nickel	1.40	Spike	P	0 - 20
2313051	Selenium	1.79	Spike	P	0 - 20
2313051	Silver	1.61	Spike	P	0 - 20
2313051	Thallium	1.96	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312997	Chloride	0.0507	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P411370

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312997	Sulfate	0.145	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P411486

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313045	Ammonia-N	3.24	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P411466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313040	Kjeldahl Nitrogen	2.44	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P411335

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313045	NO2NO3-N	0.355	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P411457

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313000	Total-P	1.49	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P411243

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313046	O-Phosphate-P	0.301	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P411232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313285	Acetochlor	10.4	Spike	P	0 - 27
2313285	Alachlor	14.2	Spike	P	0 - 27

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P411232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313285	Ametryn	2.44	Spike	P	0 - 34
2313285	Atrazine	4.69	Spike	P	0 - 41
2313285	Atrazine Desethyl	8.97	Spike	P	0 - 38
2313285	Avobenzone	5.72	Spike	P	0 - 30
2313285	Azinphos Methyl	24.7	Spike	P	0 - 62
2313285	Azoxystrobin	26.2	Spike	P	0 - 32
2313285	Bromacil	1.23	Spike	P	0 - 30
2313285	Butylate	6.22	Spike	P	0 - 59
2313285	Caffeine	13.8	Spike	P	0 - 60
2313285	Carbophenothion	0.470	Spike	P	0 - 25
2313285	Carfentrazone Ethyl	8.13	Spike	P	0 - 26
2313285	Chlorfenapyr	6.33	Spike	P	0 - 30
2313285	Chlorpyrifos Ethyl	9.27	Spike	P	0 - 27
2313285	Chlorpyrifos Methyl	1.18	Spike	P	0 - 26
2313285	Coumaphos	1.73	Spike	P	0 - 30
2313285	Cyanazine	1.05	Spike	P	0 - 58
2313285	Cyprodinil	11.2	Spike	P	0 - 30
2313285	Demeton	1.60	Spike	P	0 - 25
2313285	Diazinon	3.82	Spike	P	0 - 29
2313285	Difenoconazole	29.9	Spike	F	0 - 25
2313285	Dimethenamid	4.85	Spike	P	0 - 30
2313285	Dimethomorph	46.8	Spike	F	0 - 30
2313285	Disulfoton	3.46	Spike	P	0 - 33
2313285	Dithiopyr	4.65	Spike	P	0 - 22
2313285	EPTC	8.98	Spike	P	0 - 38
2313285	Ethion	45.3	Spike	P	0 - 79
2313285	Ethoprop	4.50	Spike	P	0 - 23
2313285	Etridiazole	19.9	Spike	P	0 - 30
2313285	Fenamiphos	7.91	Spike	P	0 - 58
2313285	Fenbuconazole	41.4	Spike	F	0 - 37
2313285	Fipronil	13.1	Spike	P	0 - 33
2313285	Fipronil Desulfinyl	6.39	Spike	P	0 - 26
2313285	Fipronil Sulfide	3.41	Spike	P	0 - 37
2313285	Fipronil Sulfone	5.52	Spike	P	0 - 50
2313285	Fluazifop-P-butyl	0.416	Spike	P	0 - 24
2313285	Fludioxonil	6.31	Spike	P	0 - 26
2313285	Flumioxazin	20.9	Spike	P	0 - 37
2313285	Flutolanil	21.0	Spike	P	0 - 26
2313285	Fluxapyroxad	10.5	Spike	P	0 - 34
2313285	Fonofos	12.0	Spike	P	0 - 27
2313285	Hexazinone	6.68	Spike	P	0 - 36
2313285	Imazalil	29.3	Spike	P	0 - 65
2313285	Iprodione	11.7	Spike	P	0 - 33
2313285	Loratadine	60.4	Spike	F	0 - 30
2313285	Malathion	1.71	Spike	P	0 - 44
2313285	Metalaxyl	3.89	Spike	P	0 - 38
2313285	Metolachlor	14.5	Spike	P	0 - 36
2313285	Metribuzin	5.93	Spike	P	0 - 63
2313285	Mevinphos	1.20	Spike	P	0 - 26
2313285	Molinate	8.24	Spike	P	0 - 40
2313285	Myclobutanil	1.23	Spike	P	0 - 21

Quality Assurance Report Precision

Reference Method: EPA 8270E

Batch ID: P411232

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313285	Naled	6.16	Spike	P	0 - 26
2313285	Napropamide	13.2	Spike	P	0 - 30
2313285	Norflurazon	12.1	Spike	P	0 - 24
2313285	Octinoxate	2.06	Spike	P	0 - 30
2313285	Oxadiazon	14.6	Spike	P	0 - 27
2313285	Oxybenzone	3.93	Spike	P	0 - 30
2313285	Oxyfluorfen	0.971	Spike	P	0 - 24
2313285	Parathion Ethyl	0.638	Spike	P	0 - 28
2313285	Parathion Methyl	7.70	Spike	P	0 - 27
2313285	Pendimethalin	34.7	Spike	F	0 - 31
2313285	Phenytoin	81.4	Spike	F	0 - 30
2313285	Phorate	3.51	Spike	P	0 - 27
2313285	Prodiamine	2.12	Spike	P	0 - 52
2313285	Prometon	0.884	Spike	P	0 - 31
2313285	Prometryn	1.96	Spike	P	0 - 28
2313285	Pronamide	9.56	Spike	P	0 - 26
2313285	Propanil	5.47	Spike	P	0 - 30
2313285	Propargite	26.4	Spike	P	0 - 30
2313285	Propiconazole	20.8	Spike	P	0 - 31
2313285	Pyraflufen Ethyl	9.72	Spike	P	0 - 30
2313285	Pyridaben	6.83	Spike	P	0 - 30
2313285	Pyriproxyfen	4.19	Spike	P	0 - 50
2313285	Simazine	25.2	Spike	P	0 - 29
2313285	Stiophos	24.0	Spike	P	0 - 30
2313285	Sulfentrazone	13.8	Spike	P	0 - 33
2313285	Tebuconazole	28.2	Spike	P	0 - 44
2313285	Terbufos	0.838	Spike	P	0 - 29
2313285	Terbuthylazine	8.73	Spike	P	0 - 27
2313285	Thiobencarb	6.31	Spike	P	0 - 30
2313285	Triadimefon	3.24	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P411170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312858	Acesulfame K	0.268	Spike	P	0 - 30
2312858	AMPA	6.92	Spike	P	0 - 30
2312858	Endothall	3.00	Spike	P	0 - 30
2312858	Glufosinate	10.1	Spike	P	0 - 30
2312858	Glyphosate	5.02	Spike	P	0 - 30
2312858	Sucralose	15.9	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P411262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312452	2,4-D	10.1	Spike	P	0 - 30
2312452	2,4,5-T	10.9	Spike	P	0 - 30
2312452	Acetaminophen	1.44	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P411262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312452	Acetamiprid	12.4	Spike	P	0 - 30
2312452	Afidopyropen	4.29	Spike	P	0 - 30
2312452	Bentazon	6.68	Spike	P	0 - 30
2312452	Benzovindiflupyr	2.67	Spike	P	0 - 30
2312452	Carbamazepine	3.30	Spike	P	0 - 30
2312452	Clothianidin	1.75	Spike	P	0 - 30
2312452	Dinotefuran	3.15	Spike	P	0 - 30
2312452	Diuron	9.63	Spike	P	0 - 30
2312452	Fenuron	11.5	Spike	P	0 - 30
2312452	Fluridone	3.71	Spike	P	0 - 30
2312452	Hydrocodone	8.85	Spike	P	0 - 30
2312452	Ibuprofen	10.2	Spike	P	0 - 30
2312452	Imazapyr	10.7	Spike	P	0 - 30
2312452	Imidacloprid	4.20	Spike	P	0 - 30
2312452	Linuron	6.27	Spike	P	0 - 30
2312452	Mandestrobin	5.53	Spike	P	0 - 30
2312452	MCPP	9.29	Spike	P	0 - 30
2312452	Naproxen	0.262	Spike	P	0 - 30
2312452	Primidone	28.8	Spike	P	0 - 30
2312452	Pyraclostrobin	0.361	Spike	P	0 - 30
2312452	Silvex	2.71	Spike	P	0 - 30
2312452	Thiamethoxam	0.767	Spike	P	0 - 30
2312452	Tolfenpyrad	17.8	Spike	P	0 - 30
2312452	Triclopyr	10.9	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P411445

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313039	Total Alkalinity	1.78	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
Batch ID: P411634

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313115	TDS	0.563	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
Batch ID: P411454

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2313039	Fluoride	0.0	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
Batch ID: P411402

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: P411402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2312784	Organic Carbon	0.938	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2313050
Field Sample ID: G3NW0226

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	56.1	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.9	P	30 - 160
EPA 8321B	Diuron-d6	58.2	P	30 - 160
EPA 8321B	Endothall-d6	91.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	99.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	53.0	P	30 - 160
EPA 8321B	Primidone-d5	95.0	P	30 - 160
EPA 8321B	Sucralose-d6	67.9	P	30 - 160

Lab Sample ID: 2313052
Field Sample ID: G3NW0226

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	67.4	P	20 - 200
EPA 8270E	Simazine-d10	112	P	71 - 140
EPA 8270E	Terbufos-d10	121	P	62 - 131
EPA 8270E	Terphenyl-d14	97.6	P	55 - 108

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A111002

Included Lab Sample IDs: 2313046

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A111005

Included Lab Sample IDs: 2313044

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A111053

Included Lab Sample IDs: 2313045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	99.0	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A111067

Included Lab Sample IDs: 2313051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.5	98.9	P/P	90 - 110
Antimony	97.0	96.5	P/P	90 - 110
Arsenic	98.8	98.8	P/P	90 - 110
Beryllium	96.2	96.5	P/P	90 - 110
Boron	95.5	97.7	P/P	90 - 110
Cadmium	98.8	98.7	P/P	90 - 110
Chromium	97.4	98.1	P/P	90 - 110
Cobalt	97.1	97.7	P/P	90 - 110
Copper	95.1	96.6	P/P	90 - 110
Lead	95.4	96.2	P/P	90 - 110
Manganese	96.6	97.1	P/P	90 - 110
Molybdenum	97.2	97.7	P/P	90 - 110
Nickel	95.8	96.3	P/P	90 - 110
Selenium	99.3	99.4	P/P	90 - 110
Silver	97.2	97.4	P/P	90 - 110
Thallium	98.5	99.5	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A111070

Included Lab Sample IDs: 2313044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.0	99.8	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111076

Included Lab Sample IDs: 2313050

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

Reference Method: EPA 8321B
Run ID: A111076
Included Lab Sample IDs: 2313050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	95.3	92.3	P/P	60 - 160
Endothall	99.1	97.4	P/P	60 - 160
Glufosinate	97.0	99.2	P/P	60 - 160
Glyphosate	95.2	97.4	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A111077
Included Lab Sample IDs: 2313050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	101	P/P	60 - 160
Sucralose	91.0	96.1	P/P	60 - 160

Reference Method: SM 5310 B-2011
Run ID: A111082
Included Lab Sample IDs: 2313045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.4	97.9	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A111091
Included Lab Sample IDs: 2313051

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

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A111094
Included Lab Sample IDs: 2313051

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	103	105	P/P	90 - 110
Calcium	102	101	P/P	90 - 110
Iron	100	99.9	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	104	104	P/P	90 - 110
Sodium	101	102	P/P	90 - 110
Strontium	101	102	P/P	90 - 110
Tin	97.2	99.8	P/P	90 - 110
Titanium	96.2	97.2	P/P	90 - 110
Vanadium	98.1	99.4	P/P	90 - 110
Zinc	102	105	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A111097
Included Lab Sample IDs: 2313044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	100	P/P	85 - 115

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-2011

Run ID: A111098

Included Lab Sample IDs: 2313044

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	96.1	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A111098

Included Lab Sample IDs: 2313044

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

Reference Method: EPA 8270E

Run ID: A111106

Included Lab Sample IDs: 2313052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	105		P	80 - 120
Alachlor	107		P	80 - 120
Ametryn	111		P	80 - 120
Atrazine	98.6		P	80 - 120
Atrazine Desethyl	97.8		P	80 - 120
Azinphos Methyl	94.2		P	80 - 120
Azoxystrobin	97.0		P	80 - 120
Bromacil	105		P	80 - 120
Butylate	93.8		P	80 - 120
Caffeine	94.8		P	80 - 120
Carbophenothion	107		P	80 - 120
Carfentrazone Ethyl	113		P	80 - 120
Chlorfenapyr	101		P	80 - 120
Chlorpyrifos Ethyl	104		P	80 - 120
Chlorpyrifos Methyl	110		P	80 - 120
Coumaphos	107		P	80 - 120
Cyanazine	94.8		P	80 - 120
Cyprodinil	106		P	80 - 120
Demeton	102		P	80 - 120
Diazinon	109		P	80 - 120
Dimethenamid	109		P	80 - 120
Dimethomorph	100		P	80 - 120
Disulfoton	101		P	80 - 120
Dithiopyr	114		P	80 - 120
EPTC	101		P	80 - 120
Ethion	100		P	80 - 120
Ethoprop	105		P	80 - 120
Etridiazole	104		P	80 - 120
Fenamiphos	100		P	80 - 120
Fenbuconazole	91.6		P	80 - 120
Fipronil	104		P	80 - 120
Fipronil Desulfinyl	119		P	80 - 120
Fipronil Sulfide	120		P	80 - 120
Fipronil Sulfone	102		P	80 - 120
Fludioxonil	111		P	80 - 120
Flumioxazin	88.6		P	80 - 120
Flutolanil	104		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A111106
Included Lab Sample IDs: 2313052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluxapyroxad	119		P	80 - 120
Fonofos	103		P	80 - 120
Imazalil	115		P	80 - 120
Iprodione	102		P	80 - 120
Loratadine	100		P	80 - 120
Malathion	98.6		P	80 - 120
Metalaxyl	106		P	80 - 120
Metolachlor	101		P	80 - 120
Metribuzin	96.4		P	80 - 120
Mevinphos	107		P	80 - 120
Molinate	99.1		P	80 - 120
Myclobutanil	105		P	80 - 120
Naled	104		P	80 - 120
Napropamide	107		P	80 - 120
Norflurazon	101		P	80 - 120
Oxadiazon	108		P	80 - 120
Oxyfluorfen	111		P	80 - 120
Parathion Ethyl	98.4		P	80 - 120
Parathion Methyl	104		P	80 - 120
Pendimethalin	107		P	80 - 120
Phenytoin	90.1		P	80 - 120
Phorate	108		P	80 - 120
Prometon	92.0		P	80 - 120
Prometryn	110		P	80 - 120
Pronamide	103		P	80 - 120
Propanil	113		P	80 - 120
Propargite	94.9		P	80 - 120
Propiconazole	104		P	80 - 120
Pyraflufen Ethyl	106		P	80 - 120
Pyridaben	98.2		P	80 - 120
Pyriproxyfen	101		P	80 - 120
Simazine	102		P	80 - 120
Stirophos	92.4		P	80 - 120
Sulfentrazone	114		P	80 - 120
Tebuconazole	95.0		P	80 - 120
Terbufos	108		P	80 - 120
Terbuthylazine	108		P	80 - 120
Thiobencarb	102		P	80 - 120
Triadimefon	105		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A111108
Included Lab Sample IDs: 2313045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	97.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A111163

Included Lab Sample IDs: 2313045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A111176

Included Lab Sample IDs: 2313052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Difenoconazole	93.0		P	80 - 120
Fluazifop-P-butyl	101		P	80 - 120
Hexazinone	103		P	80 - 120
Prodiamine	122*		F	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A111178

Included Lab Sample IDs: 2313045

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	105	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A111189

Included Lab Sample IDs: 2313050

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	94.0	67.3	P/P	50 - 150
2,4,5-T	85.3	75.0	P/P	50 - 150
Acetaminophen	103	122	P/P	60 - 160
Acetamiprid	95.2	99.8	P/P	50 - 150
Afidopyropen	69.8	80.5	P/P	50 - 150
Bentazon	60.5	74.8	P/P	50 - 160
Benzovindiflupyr	104	98.3	P/P	50 - 160
Carbamazepine	82.2	74.2	P/P	60 - 150
Clothianidin	97.0	118	P/P	60 - 150
Dinotefuran	113	110	P/P	50 - 150
Diuron	69.3	74.7	P/P	60 - 160
Fenuron	93.0	103	P/P	60 - 150
Fluridone	78.2	81.7	P/P	60 - 160
Hydrocodone	103	107	P/P	60 - 150
Ibuprofen	63.7	144	P/P	50 - 160
Imazapyr	120	108	P/P	50 - 150
Imidacloprid	91.8	104	P/P	60 - 150
Linuron	130	110	P/P	60 - 150
Mandestrobin	97.4	67.8	P/P	50 - 150
MCPP	83.5	78.3	P/P	50 - 150
Naproxen	83.2	125	P/P	50 - 160
Primidone	91.7	110	P/P	60 - 150
Pyraclostrobin	118	94.1	P/P	60 - 150
Silvex	98.7	83.5	P/P	50 - 150
Thiamethoxam	107	110	P/P	50 - 150
Tolfenpyrad	118	94.7	P/P	60 - 150
Triclopyr	75.0	68.8	P/P	50 - 150

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E

Run ID: A111263

Included Lab Sample IDs: 2313052

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Avobenzone	104		P	80 - 120
Octinoxate	94.9		P	80 - 120
Oxybenzone	103		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)	98.8				0.453	
EPA 180.1 Rev. 2.0	Turbidity	96.9				16.7	
EPA 200.7 Rev. 4.4	Barium	109	110	109	111		2.02
	Calcium	106	107	104	107		2.64
	Iron	103	103	104	107		2.79
	Magnesium	106	107	107	110		2.45
	Potassium	102	103	107	109		2.25
	Sodium	105	101	103	104		1.28
	Strontium	106	108	108	110		2.00
	Tin	105	105	103	105		2.37
	Titanium	102	102	101	103		1.96
	Vanadium	97.2	98.4	96.7	98.4		1.74
	Zinc	106	107	105	107		1.76
EPA 200.8 Rev. 5.4	Aluminum	99.1	99.5	101	99.8		1.60
	Antimony	102	99.9	101	100		0.714
	Arsenic	101	100	101	98.7		0.600
	Barium	105	105	106	107		1.30
	Beryllium	98.2	95.7	98.1	98.9		2.36
	Boron	103	99.4	101	103		1.42
	Cadmium	99.6	99.2	101	101		1.59
	Chromium	97.9	97.6	99.4	100		1.87
	Cobalt	99.0	98.5	100	97.4		1.86
	Copper	95.4	96.0	97.8	94.2		1.90
	Lead	98.0	97.5	98.6	98.7		1.04
	Manganese	97.3	97.9	99.7	98.1		1.80
	Molybdenum	98.7	97.1	98.3	97.9		1.19
	Nickel	96.8	97.9	99.3	97.0		1.40
	Selenium	101	99.4	101	98.0		1.79
	Silver	101	98.8	100	100		1.61
	Thallium	99.6	99.5	101	102		1.96
EPA 300.0 Rev. 2.1	Chloride	100	99.7	99.3		0.0507	
	Sulfate	100	99.9	99.3		0.145	
EPA 350.1 Rev. 2.0	Ammonia-N	97.4	93.0	96.2			3.24
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	109	105			2.44
EPA 353.2 Rev. 2.0	NO2NO3-N	99.5	99.4	98.9			0.355
EPA 365.1 Rev. 2.0	Total-P	101	105	103			1.49
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	99.6	99.9			0.301
EPA 8270E	Acetochlor	101	112	124			10.4
	Alachlor	92.5	91.0	105			14.2
	Ametryn	72.7	93.5	91.3			2.44
	Atrazine	98.4					4.69
	Atrazine Desethyl	56.6	53.8	60.6			8.97
	Avobenzone	106	91.2	96.6			5.72
	Azinphos Methyl	97.0	107	137			24.7
	Azoxystrobin	93.6	99.0	129			26.2
	Bromacil	60.6	87.7	88.8			1.23
	Butylate	39.7	48.2	51.3			6.22
	Caffeine	93.2	101	85.2			13.8
	Carbophenothion	99.1	94.7	95.1			0.470
	Carfentrazone Ethyl	85.2	92.1	99.9			8.13
	Chlorfenapyr	103	85.7	91.3			6.33
	Chlorpyrifos Ethyl	94.5	78.9	86.6			9.27
	Chlorpyrifos Methyl	100	96.3	95.1			1.18
	Coumaphos	110	90.6	92.1			1.73

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Cyanazine	82.1	86.8	85.9		1.05
	Cyprodinil	92.6	105	93.8		11.2
	Demeton	75.2	81.7	80.4		1.60
	Diazinon	96.9	107	111		3.82
	Difenoconazole	94.8	104	76.7		29.9
	Dimethenamid	82.5	90.8	95.3		4.85
	Dimethomorph	155	140	225		46.8
	Disulfoton	80.1	73.4	76.0		3.46
	Dithiopyr	89.9	86.7	90.9		4.65
	EPTC	49.3	50.6	55.4		8.98
	Ethion	65.6	77.3	48.7		45.3
	Ethoprop	88.7	88.3	92.4		4.50
	Etridiazole	67.9	78.5	95.9		19.9
	Fenamiphos	63.8	68.7	74.3		7.91
	Fenbuconazole	64.1	73.7	112		41.4
	Fipronil	94.4	98.5	112		13.1
	Fipronil Desulfinyl	99.8	99.5	106		6.39
	Fipronil Sulfide	85.7	85.0	87.9		3.41
	Fipronil Sulfone	75.9	64.6	59.8		5.52
	Fluazifop-P-butyl	112	102	101		0.416
	Fludioxonil	74.6	92.5	98.5		6.31
	Flumioxazin	81.9	118	145		20.9
	Flutolanil	57.9	58.7	72.4		21.0
	Fluxapyroxad	72.1	76.5	85.0		10.5
	Fonofos	90.3	83.1	93.7		12.0
	Hexazinone	83.4	91.7	85.8		6.68
	Imazalil	66.5	80.9	109		29.3
	Iprodione	73.2	87.0	97.8		11.7
	Loratadine	119	112	209		60.4
	Malathion	96.6	82.1	83.5		1.71
	Metalaxyl	93.9	86.8	90.3		3.89
	Metolachlor	92.9	91.1	105		14.5
	Metribuzin	80.0	75.9	80.6		5.93
	Mevinphos	82.1	92.2	93.4		1.20
	Molinate	54.3	63.5	68.9		8.24
	Myclobutanil	82.9	80.0	79.0		1.23
	Naled	73.1	69.3	73.7		6.16
	Napropamide	58.7	69.1	78.8		13.2
	Norflurazon	78.9	71.1	63.0		12.1
	Octinoxate	92.5	98.0	100		2.06
	Oxadiazon	71.7	69.8	80.8		14.6
	Oxybenzone	89.2	88.7	92.3		3.93
	Oxyfluorfen	116	127	128		0.971
	Parathion Ethyl	84.1	86.6	86.1		0.638
	Parathion Methyl	93.0	124	115		7.70
	Pendimethalin	103	119	83.7		34.7
	Phenytoin	9.03	31.4	13.2		81.4
	Phorate	86.2	85.9	88.9		3.51
	Prodiamine	33.1	49.4	50.5		2.12
	Prometon	74.8	80.7	80.0		0.884
	Prometryn	88.7	84.0	85.7		1.96
	Pronamide	93.9	101	111		9.56
	Propanil	97.9	119	113		5.47
	Propargite	55.7	66.5	51.0		26.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Propiconazole	72.2	70.3	57.1			20.8
	Pyraflufen Ethyl	78.1	71.7	65.1			9.72
	Pyridaben	97.7	87.4	93.6			6.83
	Pyriproxyfen	76.3	83.1	86.7			4.19
	Simazine	85.3	93.2	120			25.2
	Stirophos	55.7	55.6	43.7			24.0
	Sulfentrazone	32.2	97.7	114			13.8
	Tebuconazole	45.9	55.7	41.9			28.2
	Terbufos	113	109	109			0.838
	Terbuthylazine	93.8	100	109			8.73
	Thiobencarb	85.0	80.7	85.9			6.31
	Triadimefon	92.2	97.1	94.0			3.24
EPA 8321B	2,4-D	56.3	69.0	59.8			10.1
	2,4,5-T	44.5	58.5	65.2			10.9
	Acesulfame K	94.1	82.9	83.1			0.268
	Acetaminophen	82.9	103	105			1.44
	Acetamiprid	73.6	98.6	87.1			12.4
	Afidopyropen	51.3	57.9	55.4			4.29
	AMPA	95.4	95.4	102			6.92
	Bentazon	85.2	92.4	103			6.68
	Benzovindiflupyr	72.0	76.1	78.1			2.67
	Carbamazepine	67.7	80.4	77.8			3.30
	Clothianidin	96.1	128	126			1.75
	Dinotefuran	93.7	124	119			3.15
	Diuron	54.3	52.2	45.3			9.63
	Endothall	93.2	102	106			3.00
	Fenuron	106	132	152			11.5
	Fluridone	69.7	65.8	68.2			3.71
	Glufosinate	101	84.3	93.3			10.1
	Glyphosate	95.1	84.4	88.7			5.02
	Hydrocodone	92.4	103	112			8.85
	Ibuprofen	56.8	51.3	56.8			10.2
	Imazapyr	88.3	130	111			10.7
	Imidacloprid	80.1	212	203			4.20
	Linuron	70.3	84.9	79.7			6.27
	Mandestrobin	53.1	64.3	60.9			5.53
	MCPP	59.3	86.8	79.1			9.29
	Naproxen	67.5	74.6	74.8			0.262
	Primidone	76.6	124	92.4			28.8
	Pyraclostrobin	64.8	80.0	80.3			0.361
	Silvex	37.0	59.9	58.3			2.71
	Sucralose	86.4	80.9	95.0			15.9
	Thiamethoxam	93.0	174	175			0.767
	Tolfenpyrad	37.9	55.2	46.1			17.8
	Triclopyr	43.7	60.0	53.8			10.9
SM 2320 B-2011	Total Alkalinity	97.4				1.78	
SM 2540 C-2011	TDS					0.563	
SM 4500 F-C-2011	Fluoride	101	99.3	99.3			0.0
SM 5310 B-2011	Organic Carbon	93.9	95.4	94.3			0.938

Reference Method Descriptions

Method	Description	Associated Samples
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Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2313044
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2313044
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2313051
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2313051
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2313044
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2313044
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2313045
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2313045
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2313045
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2313045
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2313046
EPA 8270E	Analysis of Sunscreen Compounds in Water by GC/MS-SIM	2313052
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2313052
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2313050
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2313044
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2313051
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2313044
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2313044
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2313044
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2313045

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	03/17/2022			03/17/2022 16:37	Anna M. Plaviak	2313044
EPA 180.1 Rev. 2.0	03/17/2022			03/17/2022 15:17	Khloe J Berg	2313044
EPA 200.7 Rev. 4.4	03/17/2022	03/18/2022 10:25	Megan Whitefoot	03/23/2022 01:38	Josef B Mick	2313051
EPA 200.8 Rev. 5.4	03/17/2022	03/18/2022 10:25	Megan Whitefoot	03/21/2022 16:50	Emily M Philpot	2313051
	03/17/2022	03/18/2022 10:25	Megan Whitefoot	03/22/2022 11:54	Alexander Thompson	2313051
EPA 300.0 Rev. 2.1	03/17/2022			03/21/2022 21:28	James L Waggeberby	2313044
EPA 350.1 Rev. 2.0	03/17/2022			03/23/2022 11:08	Judith K. Clark	2313045
EPA 351.2 Rev. 2.0	03/17/2022	03/24/2022 16:16	Samantha L Bates	03/25/2022 16:36	Alexandra J Mattheus	2313045
EPA 353.2 Rev. 2.0	03/17/2022			03/21/2022 09:24	Beverly Y. Sanders	2313045
EPA 365.1 Rev. 2.0	03/17/2022	03/23/2022 17:20	Simonne.V. Calhoun	03/25/2022 14:28	James L Waggeberby	2313045
EPA 365.1 Rev. 2.0 dissolved	03/17/2022			03/17/2022 14:54	James L Waggeberby	2313046
EPA 8270E	03/17/2022	03/21/2022 08:30	Fe-Val Siddell	03/22/2022 21:25	Michael Poppell	2313052
	03/17/2022	03/21/2022 08:30	Fe-Val Siddell	03/25/2022 19:05	Michael Poppell	2313052
	03/17/2022	03/21/2022 08:30	Fe-Val Siddell	03/25/2022 19:31	Michael Poppell	2313052
	03/17/2022	03/21/2022 08:30	Fe-Val Siddell	03/30/2022 23:13	Lipi Saha	2313052
EPA 8321B	03/17/2022	03/18/2022 12:00	June Rhew	03/26/2022 18:29	Juyoung Kim	2313050
	03/17/2022	03/21/2022 12:00	Manjita Shrestha	03/21/2022 17:26	Manjita Shrestha	2313050
	03/17/2022	03/21/2022 12:00	Manjita Shrestha	03/21/2022 19:32	Manjita Shrestha	2313050
SM 2320 B-2011	03/17/2022			03/22/2022 19:05	Dale L. Simmons	2313044
SM 2340B	03/17/2022			03/23/2022 01:38	Josef B Mick	2313051
SM 2540 C-2011	03/17/2022			03/18/2022 16:00	Simonne.V. Calhoun	2313044
SM 2540 D-2011	03/17/2022			03/18/2022 16:00	Simonne.V. Calhoun	2313044
SM 4500 F-C-2011	03/17/2022			03/22/2022 19:05	Dale L. Simmons	2313044
SM 5310 B-2011	03/17/2022			03/22/2022 02:58	Touraj Touran	2313045