

Chemical Analysis Report

SO-DIST-2021-10-20-01

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

Event Description: **SMP 2021: Goldfish Creek SCI**

Request ID: **RQ-2021-10-18-49**

Customer: **SO-DIST**

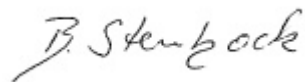
Project ID: **SMP**

Send Reports to:
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FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901-3381
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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 15-NOV-2021 13:05



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: Englewood Ditch @ Indian Ave

Collection Date/Time: 10/19/2021 12:30

Field ID: G2SD0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285000	EPA 180.1 Rev. 2.0	Turbidity	6.2		NTU	P405345	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P405509	
		Sulfate	21		mg SO4/L	P405511	
	SM 2120 B-2011	Color (true)	69		PCU	P405348	
	SM 2320 B-2011	Total Alkalinity	240		mg CaCO3/L	P405521	
	SM 2540 C-2011	TDS	610		mg/L	P405956	
	SM 2540 D-2011	TSS	22		mg/L	P405878	
	SM 4500 F-C-2011	Fluoride	0.28		mg F/L	P405524	
2285001	EPA 350.1 Rev. 2.0	Ammonia-N	0.26		mg N/L	P405803	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.9		mg N/L	P405570	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P405654	
	EPA 365.1 Rev. 2.0	Total-P	1.1		mg P/L	P405467	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P405621	
2285002	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.74		mg P/L	P405334	
2285006	EPA 8321B	2,4-D	0.0029	I	ug/L	P405462	
		Acesulfame K	0.12	I J	ug/L	P405305	RPD
		2,4,5-T	0.0040	U	ug/L	P405462	
		AMPA	0.28	I	ug/L	P405305	
		Acetaminophen	0.0080	U	ug/L	P405462	
		Acetamiprid	0.0020	U	ug/L	P405462	
		Endothall	0.25	U	ug/L	P405305	
		Glufosinate	0.10	U	ug/L	P405305	
		Glyphosate	1.3	J	ug/L	P405305	MS
		Afidopyropen	0.0020	U	ug/L	P405462	
		Bentazon	0.029		ug/L	P405462	
		Sucralose	0.55		ug/L	P405305	
		Benzovindiflupyr	0.0020	U	ug/L	P405462	
		Carbamazepine	0.0013	I	ug/L	P405462	
		Clothianidin	0.0020	U	ug/L	P405462	
		Dinotefuran	0.0031	I	ug/L	P405462	
		Diuron	0.011		ug/L	P405462	
		Fenuron	0.016	U	ug/L	P405462	
		Fluridone	0.014		ug/L	P405462	
		Imazapyr	0.35		ug/L	P405462	
		Hydrocodone	0.0020	U	ug/L	P405462	
		Ibuprofen	0.020	U	ug/L	P405462	
		Imidacloprid	0.018	J	ug/L	P405462	MS
		Linuron	0.0040	U	ug/L	P405462	
		Mandestrobin	0.0020	U	ug/L	P405462	
		MCP	0.0046	I	ug/L	P405462	
		Naproxen	0.0080	U	ug/L	P405462	
		Primidone	0.0059	I J	ug/L	P405462	RPD
		Pyraclostrobin	0.0020	U	ug/L	P405462	

Field ID: G2SD0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285006	EPA 8321B	Thiamethoxam	0.0020	UJ	ug/L	P405462	MS
		Tolfenpyrad	0.0020	U	ug/L	P405462	
		Triclopyr	0.0040	U	ug/L	P405462	
2285007	EPA 200.7 Rev. 4.4	Calcium	128		mg/L	P405355	
		Iron	210		ug/L	P405355	
		Magnesium	11.0		mg/L	P405355	
		Potassium	3.2		mg/L	P405355	
		Sodium	70.7		mg/L	P405355	
		Strontium	1.06E+03		ug/L	P405355	
		Tin	3.0	U	ug/L	P405355	
		Titanium	2.9	I	ug/L	P405355	
		Vanadium	3.9	I	ug/L	P405355	
		Zinc	10	I	ug/L	P405355	
	EPA 200.8 Rev. 5.4	Aluminum	556		ug/L	P405355	
		Antimony	0.075	I	ug/L	P405355	
		Arsenic	0.72		ug/L	P405355	
		Barium	13.0		ug/L	P405355	
		Beryllium	0.044		ug/L	P405355	
		Boron**	59.0		ug/L	P405355	
		Cadmium	0.021	I	ug/L	P405355	
		Chromium	2.0		ug/L	P405355	
		Cobalt	0.069	I	ug/L	P405355	
		Copper	3.99		ug/L	P405355	
		Lead	1.01		ug/L	P405355	
		Manganese	9.48		ug/L	P405355	
		Molybdenum	0.37	I	ug/L	P405355	
		Nickel	0.55	I	ug/L	P405355	
		Selenium	0.20	U	ug/L	P405355	
		Silver	0.010	U	ug/L	P405355	
		Thallium	0.10	U	ug/L	P405355	
	SM 2340B	Hardness	366		mg/L	P405355	
2285008	EPA 8270E	Acetochlor	0.25	U	ng/L	P405100	
		Alachlor	0.25	U	ng/L	P405100	
		Ametryn	1.4	I	ng/L	P405100	
		Atrazine	0.58	I	ng/L	P405100	
		Atrazine Desethyl	1.5	U	ng/L	P405100	
		Azinphos Methyl	2.0	UJ	ng/L	P405100	LCS, MS, RPD
		Azoxystrobin**	0.50	U	ng/L	P405100	
		Bromacil	0.50	U	ng/L	P405100	
		Butylate	0.40	U	ng/L	P405100	
		Caffeine**	7.5	U	ng/L	P405100	
		Carbophenothion	0.50	U	ng/L	P405100	
		Carfentrazone Ethyl**	0.10	U	ng/L	P405100	
		Chlorpyrifos Ethyl	0.25	U	ng/L	P405100	

Field ID: G2SD0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285008	EPA 8270E	Chlorpyrifos Methyl	0.050	U	ng/L	P405100	
		Cyanazine	3.2	U	ng/L	P405100	
		Demeton	1.5	U	ng/L	P405100	
		Diazinon	0.12	U	ng/L	P405100	
		Difenoconazole**	0.60	U	ng/L	P405100	
		Dimethenamid**	0.10	U	ng/L	P405100	
		Disulfoton	0.50	U	ng/L	P405100	
		Dithiopyr**	0.17	U	ng/L	P405100	
		EPTC	1.2	U	ng/L	P405100	
		Ethion	0.15	U	ng/L	P405100	
		Ethoprop	0.10	U	ng/L	P405100	
		Fenamiphos	0.50	U	ng/L	P405100	
		Fenbuconazole**	0.12	U	ng/L	P405100	
		Fipronil	0.25	U	ng/L	P405100	
		Fipronil Desulfinyl**	0.44	I	ng/L	P405100	
		Fipronil Sulfide	0.58	I	ng/L	P405100	
		Fipronil Sulfone	1.2		ng/L	P405100	
		Fluazifop-P-butyl**	0.10	U	ng/L	P405100	
		Fludioxonil**	0.12	U	ng/L	P405100	
		Flumioxazin**	1.7	UJ	ng/L	P405100	LCS, MS
		Flutolanil**	0.10	U	ng/L	P405100	
		Fluxapyroxad**	0.26	I	ng/L	P405100	
		Fonofos	0.20	U	ng/L	P405100	
		Hexazinone	0.50	U	ng/L	P405100	
		Imazalil**	0.75	U	ng/L	P405100	
		Iprodione**	0.60	U	ng/L	P405100	MS
		Malathion	0.35	U	ng/L	P405100	
		Metalaxyl	0.75	U	ng/L	P405100	
		Metolachlor	0.35	U	ng/L	P405100	
		Metribuzin	3.2	U	ng/L	P405100	
		Mevinphos	1.0	U	ng/L	P405100	
		Molinate	0.30	U	ng/L	P405100	
		Myclobutanil**	0.25	U	ng/L	P405100	
		Naled**	1.5	UJ	ng/L	P405100	LCS
		Norflurazon	0.50	U	ng/L	P405100	
		Oxadiazon	0.76	I	ng/L	P405100	
		Oxyfluorfen**	0.15	U	ng/L	P405100	
		Parathion Ethyl	0.25	U	ng/L	P405100	
		Parathion Methyl	0.55	U	ng/L	P405100	
		Pendimethalin	1.0	U	ng/L	P405100	
		Phorate	0.52	U	ng/L	P405100	
		Prodiamine**	0.17	U	ng/L	P405100	
		Prometon	0.90	U	ng/L	P405100	
		Prometryn	0.20	U	ng/L	P405100	
		Pronamide**	0.15	U	ng/L	P405100	

Field ID: G2SD0022

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2285008	EPA 8270E	Propiconazole**	0.51	I	ng/L	P405100	LCS, RPD
		Pyriproxyfen**	0.12	UJ	ng/L	P405100	
		Simazine	0.50	U	ng/L	P405100	
		Sulfentrazone**	4.6		ng/L	P405100	
		Tebuconazole**	0.52	I	ng/L	P405100	
		Terbufos	0.10	U	ng/L	P405100	
		Terbutylazine	0.42	U	ng/L	P405100	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

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

EPA 8270E: Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P405345

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P405355

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: P405355

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: P405509

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P405511

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P405803

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P405570

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P405654

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P405467

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P405334

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

Reference Method: EPA 8270E
Batch ID: P405100

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.50	U	ng/L
Carbophenothion	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P405100

Component	Result	Code	Units
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P405100

Component	Result	Code	Units
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	3.2	U	ng/L
Metribuzin	3.2	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiamine	0.18	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P405100

Component	Result	Code	Units
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B

Batch ID: P405305

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P405462

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	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B-2011

Batch ID: P405348

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-2011
Batch ID: P405521

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2011
Batch ID: P405956

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P405878

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P405524

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P405621

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	108		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	103		P	85 - 115
Sodium	106		P	85 - 115
Strontium	102		P	85 - 115
Tin	102		P	85 - 115
Titanium	103		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	102		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	97.2		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	94.3		P	85 - 115
Barium	101		P	85 - 115
Beryllium	95.5		P	85 - 115
Boron	97.5		P	85 - 115
Cadmium	95.3		P	85 - 115
Chromium	93.1		P	85 - 115
Cobalt	93.4		P	85 - 115
Copper	92.9		P	85 - 115
Lead	97.3		P	85 - 115
Manganese	92.9		P	85 - 115
Molybdenum	95.1		P	85 - 115
Nickel	94.1		P	85 - 115
Selenium	97.3		P	85 - 115
Silver	93.7		P	85 - 115
Thallium	96.6		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405509

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405511

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

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405803

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.2		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405654

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405467

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405334

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

Reference Method: EPA 8270E

Batch ID: P405100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	95.4	97.3	P/P	70 - 121
Alachlor	84.5	88.3	P/P	70 - 119
Ametryn	81.8	90.2	P/P	61 - 135
Atrazine	87.7	90.8	P/P	76 - 123
Atrazine Desethyl	51.3	54.4	P/P	35 - 140
Azinphos Methyl	54.0	120	F/P	57 - 163
Azoxystrobin	84.5	84.9	P/P	43 - 231
Bromacil	78.1	80.5	P/P	42 - 123
Butylate	57.7	56.9	P/P	34 - 92.0
Caffeine	94.2	106	P/P	70 - 130
Carbophenothion	91.5	93.4	P/P	61 - 121
Carfentrazone Ethyl	92.5	95.8	P/P	62 - 139
Chlorpyrifos Ethyl	91.2	108	P/P	67 - 121
Chlorpyrifos Methyl	93.2	101	P/P	67 - 120
Cyanazine	115	117	P/P	20 - 226
Demeton	74.9	80.9	P/P	35 - 125
Diazinon	96.5	99.1	P/P	70 - 122
Difenoconazole	69.6	73.1	P/P	56 - 186
Dimethenamid	84.8	87.4	P/P	67 - 119
Disulfoton	85.6	90.6	P/P	47 - 120
Dithiopyr	81.5	85.3	P/P	67 - 118
EPTC	56.3	59.0	P/P	33 - 90.0
Ethion	89.9	97.6	P/P	40 - 133
Ethoprop	86.7	89.8	P/P	61 - 121
Fenamiphos	118	117	P/P	31 - 139
Fenbuconazole	115	104	P/P	66 - 141
Fipronil	92.3	95.9	P/P	62 - 129
Fipronil Desulfiny	92.1	101	P/P	59 - 126

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P405100

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fipronil Sulfide	80.1	91.5	P/P	63 - 117
Fipronil Sulfone	84.8	89.6	P/P	57 - 117
Fluazifop-P-butyl	82.2	86.0	P/P	63 - 124
Fludioxonil	85.9	91.9	P/P	63 - 123
Flumioxazin	291	303	F/F	34 - 245
Flutolanil	74.3	78.5	P/P	56 - 131
Fluxapyroxad	73.4	83.4	P/P	33 - 140
Fonofos	87.4	88.5	P/P	61 - 116
Hexazinone	95.6	99.6	P/P	55 - 138
Imazalil	81.8	106	P/P	33 - 143
Iprodione	96.9	111	P/P	59 - 118
Malathion	126	133	P/P	62 - 138
Metalaxyl	82.8	86.1	P/P	24 - 147
Metolachlor	88.9	93.2	P/P	68 - 118
Metribuzin	89.9	97.0	P/P	20 - 239
Mevinphos	89.3	88.8	P/P	46 - 124
Molinate	68.4	72.0	P/P	46 - 100
Myclobutanil	86.7	90.6	P/P	32 - 149
Naled	31.4	33.9	F/P	32 - 95.0
Norflurazon	79.0	83.1	P/P	57 - 127
Oxadiazon	76.4	79.2	P/P	63 - 118
Oxyfluorfen	71.5	81.8	P/P	69 - 137
Parathion Ethyl	91.1	90.9	P/P	70 - 113
Parathion Methyl	103	108	P/P	71 - 130
Pendimethalin	78.3	71.7	P/P	55 - 118
Phorate	85.2	84.1	P/P	46 - 125
Prodiamine	56.0	61.4	P/P	20 - 141
Prometon	92.2	94.2	P/P	54 - 122
Prometryn	79.8	86.4	P/P	66 - 124
Pronamide	88.0	93.4	P/P	79 - 122
Propiconazole	86.0	89.2	P/P	61 - 126
Pyriproxyfen	32.6	59.9	F/P	52 - 131
Simazine	85.5	86.3	P/P	75 - 128
Sulfentrazone	107	114	P/P	20 - 132
Tebuconazole	91.9	96.5	P/P	20 - 116
Terbufos	103	103	P/P	61 - 117
Terbuthylazine	85.8	89.0	P/P	74 - 116

Reference Method: EPA 8321B
Batch ID: P405305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.9		P	40 - 150
AMPA	94.8		P	40 - 160
Endothall	59.9		P	40 - 150
Glufosinate	109		P	40 - 160
Glyphosate	85.4		P	40 - 160
Sucralose	91.8		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P405462

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	128		P	40 - 150
2,4,5-T	123		P	40 - 150
Acetaminophen	89.6		P	30 - 150
Acetamiprid	100		P	40 - 150
Afidopyropen	81.4		P	40 - 150
Bentazon	98.3		P	30 - 150
Benzovindiflupyr	98.1		P	40 - 150
Carbamazepine	112		P	40 - 150
Clothianidin	94.7		P	40 - 150
Dinotefuran	93.3		P	40 - 150
Diuron	97.1		P	40 - 150
Fenuron	109		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	96.2		P	40 - 150
Ibuprofen	77.9		P	40 - 150
Imazapyr	106		P	40 - 150
Imidacloprid	108		P	40 - 150
Linuron	111		P	40 - 150
Mandestrobin	103		P	40 - 150
MCPP	124		P	40 - 150
Naproxen	70.6		P	40 - 150
Primidone	91.7		P	40 - 150
Pyraclostrobin	90.4		P	40 - 150
Thiamethoxam	108		P	40 - 150
Tolfenpyrad	58.9		P	30 - 150
Triclopyr	105		P	40 - 150

Reference Method: SM 2120 B-2011

Batch ID: P405348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.8		P	85 - 115

Reference Method: SM 2320 B-2011

Batch ID: P405521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	94 - 106

Reference Method: SM 4500 F-C-2011

Batch ID: P405524

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	93 - 104

Reference Method: SM 5310 B-2011

Batch ID: P405621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283902	Calcium	109	107	P/P	80 - 120
2283902	Iron	109	106	P/P	80 - 120
2283902	Magnesium	112	108	P/P	80 - 120
2283902	Potassium	111	109	P/P	80 - 120
2283902	Sodium	105	103	P/P	80 - 120
2283902	Strontium	103	101	P/P	80 - 120
2283902	Tin	104	103	P/P	80 - 120
2283902	Titanium	105	104	P/P	80 - 120
2283902	Vanadium	104	103	P/P	80 - 120
2283902	Zinc	104	103	P/P	80 - 120
2283931	Calcium	97.6		P	80 - 120
2283931	Iron	105		P	80 - 120
2283931	Magnesium	104		P	80 - 120
2283931	Potassium	102		P	80 - 120
2283931	Sodium	106		P	80 - 120
2283931	Strontium	100		P	80 - 120
2283931	Tin	104		P	80 - 120
2283931	Titanium	107		P	80 - 120
2283931	Vanadium	109		P	80 - 120
2283931	Zinc	106		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283902	Aluminum	100	101	P/P	80 - 120
2283902	Antimony	104	105	P/P	80 - 120
2283902	Arsenic	96.7	97.4	P/P	80 - 120
2283902	Barium	104	105	P/P	80 - 120
2283902	Beryllium	98.8	95.1	P/P	80 - 120
2283902	Boron	101	102	P/P	80 - 120
2283902	Cadmium	100	101	P/P	80 - 120
2283902	Chromium	96.9	97.1	P/P	80 - 120
2283902	Cobalt	96.3	96.4	P/P	80 - 120
2283902	Copper	98.2	98.5	P/P	80 - 120
2283902	Lead	101	102	P/P	80 - 120
2283902	Manganese	96.4	96.6	P/P	80 - 120
2283902	Molybdenum	99.4	100	P/P	80 - 120
2283902	Nickel	96.7	96.3	P/P	80 - 120
2283902	Selenium	101	98.1	P/P	80 - 120
2283902	Silver	96.5	96.5	P/P	80 - 120
2283902	Thallium	101	102	P/P	80 - 120
2283931	Aluminum	98.9		P	80 - 120
2283931	Antimony	107		P	80 - 120
2283931	Arsenic	98.4		P	80 - 120
2283931	Barium	107		P	80 - 120
2283931	Beryllium	97.1		P	80 - 120
2283931	Boron	102		P	80 - 120
2283931	Cadmium	103		P	80 - 120
2283931	Chromium	101		P	80 - 120
2283931	Cobalt	97.4		P	80 - 120
2283931	Copper	94.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283931	Lead	101		P	80 - 120
2283931	Manganese	99.6		P	80 - 120
2283931	Molybdenum	104		P	80 - 120
2283931	Nickel	96.4		P	80 - 120
2283931	Selenium	98.0		P	80 - 120
2283931	Silver	97.4		P	80 - 120
2283931	Thallium	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405509

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284904	Chloride	102		P	90 - 110
2285052	Chloride	99.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405511

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284904	Sulfate	101		P	90 - 110
2285052	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405803

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285021	Ammonia-N	93.8	95.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405570

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284824	Kjeldahl Nitrogen	90.1	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405654

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284915	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405334

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285024	O-Phosphate-P	97.7	98.2	P/P	90 - 110

Reference Method: EPA 8270E

Batch ID: P405100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283948	Acetochlor	99.1	96.5	P/P	66 - 122
2283948	Alachlor	90.6	91.2	P/P	65 - 122

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P405100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283948	Ametryn	93.5	89.7	P/P	45 - 173
2283948	Atrazine	94.8	94.0	P/P	70 - 134
2283948	Atrazine Desethyl	49.8	47.4	P/P	25 - 150
2283948	Azinphos Methyl	37.2	44.0	F/P	44 - 174
2283948	Azoxystrobin	109	108	P/P	10 - 268
2283948	Bromacil	80.9	83.9	P/P	31 - 145
2283948	Butylate	50.2	54.3	P/P	15 - 97.0
2283948	Caffeine	117	121	P/P	70 - 130
2283948	Carbophenothion	94.2	86.7	P/P	42 - 129
2283948	Carfentrazone Ethyl	94.7	95.2	P/P	62 - 145
2283948	Chlorpyrifos Ethyl	98.8	94.6	P/P	60 - 124
2283948	Chlorpyrifos Methyl	97.2	91.3	P/P	66 - 119
2283948	Cyanazine	115	116	P/P	17 - 225
2283948	Demeton	85.4	83.6	P/P	36 - 142
2283948	Diazinon	106	107	P/P	70 - 128
2283948	Difenoconazole	68.6	76.4	P/P	33 - 222
2283948	Dimethenamid	86.1	82.1	P/P	54 - 125
2283948	Disulfoton	93.0	82.9	P/P	49 - 133
2283948	Dithiopyr	87.9	93.0	P/P	55 - 123
2283948	EPTC	45.8	52.8	P/P	19 - 91.0
2283948	Ethion	93.1	84.4	P/P	13 - 143
2283948	Ethoprop	86.8	86.3	P/P	49 - 144
2283948	Fenamiphos	108	97.9	P/P	32 - 136
2283948	Fenbuconazole	120	123	P/P	73 - 148
2283948	Fipronil	101	101	P/P	57 - 129
2283948	Fipronil Desulfinyl	105	104	P/P	49 - 127
2283948	Fipronil Sulfide	90.0	83.6	P/P	44 - 127
2283948	Fipronil Sulfone	92.5	82.1	P/P	35 - 126
2283948	Fluazifop-P-butyl	85.2	84.8	P/P	67 - 129
2283948	Fludioxonil	88.6	87.2	P/P	61 - 126
2283948	Flumioxazin	336	323	F/F	38 - 279
2283948	Flutolanil	120	108	P/P	55 - 136
2283948	Fluxapyroxad	93.7	87.1	P/P	57 - 117
2283948	Fonofos	92.0	85.8	P/P	58 - 125
2283948	Hexazinone	112	109	P/P	57 - 148
2283948	Imazalil	85.0	91.6	P/P	10 - 221
2283948	Iprodione	153	129	F/P	32 - 140
2283948	Malathion	133	130	P/P	52 - 138
2283948	Metaxalyl	84.9	84.6	P/P	46 - 134
2283948	Metolachlor	102	98.0	P/P	58 - 122
2283948	Metribuzin	86.7	104	P/P	16 - 272
2283948	Mevinphos	94.4	96.5	P/P	45 - 140
2283948	Molinate	67.2	71.7	P/P	41 - 103
2283948	Myclobutanil	91.2	91.6	P/P	60 - 134
2283948	Naled	26.1	26.8	P/P	20 - 113
2283948	Norflurazon	78.6	79.9	P/P	51 - 123
2283948	Oxadiazon	76.4	75.2	P/P	44 - 125
2283948	Oxyfluorfen	92.2	94.7	P/P	66 - 176
2283948	Parathion Ethyl	91.7	91.9	P/P	57 - 132
2283948	Parathion Methyl	116	109	P/P	59 - 156
2283948	Pendimethalin	79.6	75.5	P/P	59 - 129
2283948	Phorate	83.6	81.9	P/P	47 - 136

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E
Batch ID: P405100

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2283948	Prodiamine	101	93.1	P/P	10 - 159
2283948	Prometon	92.2	91.3	P/P	59 - 127
2283948	Prometryn	84.4	86.3	P/P	59 - 129
2283948	Pronamide	103	110	P/P	65 - 145
2283948	Propiconazole	90.9	90.5	P/P	28 - 165
2283948	Pyriproxyfen	42.7	40.1	P/P	21 - 180
2283948	Simazine	84.3	78.7	P/P	63 - 147
2283948	Sulfentrazone	130	116	P/P	32 - 136
2283948	Tebuconazole	96.2	96.9	P/P	10 - 117
2283948	Terbufos	112	113	P/P	61 - 131
2283948	Terbutylazine	87.0	84.7	P/P	62 - 126

Reference Method: EPA 8321B
Batch ID: P405305

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285006	Acesulfame K	91.9	135	P/P	40 - 150
2285006	AMPA	56.4	55.9	P/P	40 - 160
2285006	Endothall	84.0	89.9	P/P	40 - 150
2285006	Glufosinate	77.7	68.6	P/P	40 - 160
2285006	Glyphosate	32.6	39.3	F/F	40 - 160
2285006	Sucralose	95.6	92.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P405462

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285006	2,4-D	129	129	P/P	40 - 150
2285006	2,4,5-T	127	138	P/P	40 - 150
2285006	Acetaminophen	102	114	P/P	30 - 150
2285006	Acetamiprid	104	107	P/P	40 - 150
2285006	Afidopyropen	86.0	96.9	P/P	40 - 150
2285006	Benzovindiflupyr	79.5	79.3	P/P	40 - 150
2285006	Carbamazepine	97.6	110	P/P	40 - 150
2285006	Clothianidin	108	108	P/P	40 - 150
2285006	Dinotefuran	119	125	P/P	40 - 150
2285006	Diuron	66.9	68.6	P/P	40 - 150
2285006	Fenuron	87.0	95.3	P/P	40 - 150
2285006	Fluridone	72.8	89.3	P/P	40 - 150
2285006	Hydrocodone	100	107	P/P	40 - 150
2285006	Ibuprofen	77.3	68.1	P/P	40 - 150
2285006	Imidacloprid	194	211	F/F	40 - 150
2285006	Linuron	87.7	94.4	P/P	40 - 150
2285006	Mandestrobin	82.7	85.3	P/P	40 - 150
2285006	MCCP	128	135	P/P	40 - 150
2285006	Naproxen	84.2	83.7	P/P	40 - 150
2285006	Primidone	66.9	122	P/P	40 - 150
2285006	Pyraclostrobin	74.6	79.8	P/P	40 - 150
2285006	Thiamethoxam	157	170	F/F	40 - 150
2285006	Tolfenpyrad	52.3	56.2	P/P	30 - 150
2285006	Triclopyr	112	126	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P405524

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2285141	Fluoride	99.1	98.5	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P405621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2284490	Organic Carbon	96.2	95.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P405345

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285018	Turbidity	7.06	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P405355

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283902	Calcium	1.24	Spike	P	0 - 20
2283902	Iron	2.83	Spike	P	0 - 20
2283902	Magnesium	3.10	Spike	P	0 - 20
2283902	Potassium	1.76	Spike	P	0 - 20
2283902	Sodium	1.34	Spike	P	0 - 20
2283902	Strontium	1.81	Spike	P	0 - 20
2283902	Tin	1.10	Spike	P	0 - 20
2283902	Titanium	1.15	Spike	P	0 - 20
2283902	Vanadium	1.40	Spike	P	0 - 20
2283902	Zinc	1.19	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P405355

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283902	Aluminum	1.17	Spike	P	0 - 20
2283902	Antimony	0.462	Spike	P	0 - 20
2283902	Arsenic	0.772	Spike	P	0 - 20
2283902	Barium	0.827	Spike	P	0 - 20
2283902	Beryllium	3.78	Spike	P	0 - 20
2283902	Boron	1.40	Spike	P	0 - 20
2283902	Cadmium	1.06	Spike	P	0 - 20
2283902	Chromium	0.261	Spike	P	0 - 20
2283902	Cobalt	0.131	Spike	P	0 - 20
2283902	Copper	0.332	Spike	P	0 - 20
2283902	Lead	0.384	Spike	P	0 - 20
2283902	Manganese	0.166	Spike	P	0 - 20
2283902	Molybdenum	0.563	Spike	P	0 - 20
2283902	Nickel	0.389	Spike	P	0 - 20
2283902	Selenium	3.11	Spike	P	0 - 20
2283902	Silver	0.0328	Spike	P	0 - 20
2283902	Thallium	1.19	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P405509

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284904	Chloride	0.327	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P405803

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285021	Ammonia-N	1.27	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P405570

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284824	Kjeldahl Nitrogen	4.50	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P405654

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284915	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P405467

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285001	Total-P	0.247	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P405334

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285024	O-Phosphate-P	0.510	Spike	P	0 - 20

Reference Method: EPA 8270E

Batch ID: P405100

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283948	Acetochlor	2.57	Spike	P	0 - 30
2283948	Alachlor	0.723	Spike	P	0 - 30
2283948	Ametryn	4.08	Spike	P	0 - 30
2283948	Atrazine	0.684	Spike	P	0 - 30
2283948	Atrazine Desethyl	4.90	Spike	P	0 - 30
2283948	Azinphos Methyl	16.8	Spike	P	0 - 30
2283948	Azoxystrobin	1.04	Spike	P	0 - 30
2283948	Bromacil	3.57	Spike	P	0 - 30
2283948	Butylate	7.86	Spike	P	0 - 30
2283948	Caffeine	3.23	Spike	P	0 - 30
2283948	Carbophenothion	8.28	Spike	P	0 - 30
2283948	Carfentrazone Ethyl	0.531	Spike	P	0 - 30
2283948	Chlorpyrifos Ethyl	4.33	Spike	P	0 - 30
2283948	Chlorpyrifos Methyl	6.25	Spike	P	0 - 30
2283948	Cyanazine	1.15	Spike	P	0 - 30
2283948	Demeton	2.12	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P405100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2283948	Diazinon	1.43	Spike	P	0 - 30
2283948	Difenoconazole	10.8	Spike	P	0 - 30
2283948	Dimethenamid	4.69	Spike	P	0 - 30
2283948	Disulfoton	11.4	Spike	P	0 - 30
2283948	Dithiopyr	5.61	Spike	P	0 - 30
2283948	EPTC	14.1	Spike	P	0 - 30
2283948	Ethion	9.79	Spike	P	0 - 30
2283948	Ethoprop	0.609	Spike	P	0 - 30
2283948	Fenamiphos	9.58	Spike	P	0 - 30
2283948	Fenbuconazole	2.79	Spike	P	0 - 30
2283948	Fipronil	0.0747	Spike	P	0 - 30
2283948	Fipronil Desulfinyl	1.46	Spike	P	0 - 30
2283948	Fipronil Sulfide	7.36	Spike	P	0 - 30
2283948	Fipronil Sulfone	11.9	Spike	P	0 - 30
2283948	Fluazifop-P-butyl	0.488	Spike	P	0 - 30
2283948	Fludioxonil	1.55	Spike	P	0 - 30
2283948	Flumioxazin	3.94	Spike	P	0 - 30
2283948	Flutolanil	8.87	Spike	P	0 - 30
2283948	Fluxapyroxad	5.68	Spike	P	0 - 30
2283948	Fonofos	7.01	Spike	P	0 - 30
2283948	Hexazinone	2.93	Spike	P	0 - 30
2283948	Imazalil	7.46	Spike	P	0 - 30
2283948	Iprodione	16.4	Spike	P	0 - 30
2283948	Malathion	2.05	Spike	P	0 - 30
2283948	Metalaxyl	0.453	Spike	P	0 - 30
2283948	Metolachlor	3.24	Spike	P	0 - 30
2283948	Metribuzin	18.1	Spike	P	0 - 30
2283948	Mevinphos	2.23	Spike	P	0 - 30
2283948	Molinate	6.56	Spike	P	0 - 30
2283948	Myclobutanil	0.495	Spike	P	0 - 30
2283948	Naled	2.62	Spike	P	0 - 30
2283948	Norflurazon	1.64	Spike	P	0 - 30
2283948	Oxadiazon	1.55	Spike	P	0 - 30
2283948	Oxyfluorfen	2.74	Spike	P	0 - 30
2283948	Parathion Ethyl	0.244	Spike	P	0 - 30
2283948	Parathion Methyl	6.15	Spike	P	0 - 30
2283948	Pendimethalin	5.24	Spike	P	0 - 30
2283948	Phorate	1.98	Spike	P	0 - 30
2283948	Prodiamine	7.92	Spike	P	0 - 30
2283948	Prometon	0.932	Spike	P	0 - 30
2283948	Prometryn	2.14	Spike	P	0 - 30
2283948	Pronamide	6.28	Spike	P	0 - 30
2283948	Propiconazole	0.423	Spike	P	0 - 30
2283948	Pyriproxyfen	6.33	Spike	P	0 - 30
2283948	Simazine	3.91	Spike	P	0 - 30
2283948	Sulfentrazone	10.8	Spike	P	0 - 30
2283948	Tebuconazole	0.563	Spike	P	0 - 30
2283948	Terbufos	1.05	Spike	P	0 - 30
2283948	Terbuthylazine	2.70	Spike	P	0 - 30
LFB	Acetochlor	1.90	LCS	P	0 - 30
LFB	Alachlor	4.44	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E
Batch ID: P405100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Ametryn	9.83	LCS	P	0 - 30
LFB	Atrazine	3.48	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.91	LCS	P	0 - 30
LFB	Azinphos Methyl	75.8	LCS	F	0 - 30
LFB	Azoxystrobin	0.473	LCS	P	0 - 30
LFB	Bromacil	2.94	LCS	P	0 - 30
LFB	Butylate	1.35	LCS	P	0 - 30
LFB	Caffeine	11.4	LCS	P	0 - 30
LFB	Carbophenothion	2.08	LCS	P	0 - 30
LFB	Carfentrazone Ethyl	3.51	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	16.4	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.72	LCS	P	0 - 30
LFB	Cyanazine	1.84	LCS	P	0 - 30
LFB	Demeton	7.74	LCS	P	0 - 30
LFB	Diazinon	2.67	LCS	P	0 - 30
LFB	Difenoconazole	4.89	LCS	P	0 - 30
LFB	Dimethenamid	3.01	LCS	P	0 - 30
LFB	Disulfoton	5.68	LCS	P	0 - 30
LFB	Dithiopyr	4.60	LCS	P	0 - 30
LFB	EPTC	4.67	LCS	P	0 - 30
LFB	Ethion	8.17	LCS	P	0 - 30
LFB	Ethoprop	3.44	LCS	P	0 - 30
LFB	Fenamiphos	1.10	LCS	P	0 - 30
LFB	Fenbuconazole	10.6	LCS	P	0 - 30
LFB	Fipronil	3.85	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	8.92	LCS	P	0 - 30
LFB	Fipronil Sulfide	13.3	LCS	P	0 - 30
LFB	Fipronil Sulfone	5.47	LCS	P	0 - 30
LFB	Fluazifop-P-butyl	4.55	LCS	P	0 - 30
LFB	Fludioxonil	6.77	LCS	P	0 - 30
LFB	Flumioxazin	4.11	LCS	P	0 - 30
LFB	Flutolanil	5.49	LCS	P	0 - 30
LFB	Fluxapyroxad	12.8	LCS	P	0 - 30
LFB	Fonofos	1.22	LCS	P	0 - 30
LFB	Hexazinone	4.08	LCS	P	0 - 30
LFB	Imazalil	25.6	LCS	P	0 - 30
LFB	Iprodione	13.3	LCS	P	0 - 30
LFB	Malathion	5.06	LCS	P	0 - 30
LFB	Metalaxyl	4.01	LCS	P	0 - 30
LFB	Metolachlor	4.73	LCS	P	0 - 30
LFB	Metribuzin	7.57	LCS	P	0 - 30
LFB	Mevinphos	0.601	LCS	P	0 - 30
LFB	Molinate	5.09	LCS	P	0 - 30
LFB	Myclobutanil	4.39	LCS	P	0 - 30
LFB	Naled	7.65	LCS	P	0 - 30
LFB	Norflurazon	5.05	LCS	P	0 - 30
LFB	Oxadiazon	3.61	LCS	P	0 - 30
LFB	Oxyfluorfen	13.4	LCS	P	0 - 30
LFB	Parathion Ethyl	0.198	LCS	P	0 - 30
LFB	Parathion Methyl	5.48	LCS	P	0 - 30
LFB	Pendimethalin	8.77	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P405100

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Phorate	1.32	LCS	P	0 - 30
LFB	Prodiamine	9.18	LCS	P	0 - 30
LFB	Prometon	2.20	LCS	P	0 - 30
LFB	Prometryn	7.86	LCS	P	0 - 30
LFB	Pronamide	5.92	LCS	P	0 - 30
LFB	Propiconazole	3.64	LCS	P	0 - 30
LFB	Pyriproxyfen	59.1	LCS	F	0 - 30
LFB	Simazine	0.862	LCS	P	0 - 30
LFB	Sulfentrazone	6.70	LCS	P	0 - 30
LFB	Tebuconazole	4.82	LCS	P	0 - 30
LFB	Terbufos	0.688	LCS	P	0 - 30
LFB	Terbuthylazine	3.64	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285006	Acesulfame K	36.7	Spike	F	0 - 30
2285006	AMPA	0.801	Spike	P	0 - 30
2285006	Endothall	6.83	Spike	P	0 - 30
2285006	Glufosinate	12.4	Spike	P	0 - 30
2285006	Glyphosate	7.77	Spike	P	0 - 30
2285006	Sucralose	2.65	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P405462

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285006	2,4-D	0.0340	Spike	P	0 - 30
2285006	2,4,5-T	8.19	Spike	P	0 - 30
2285006	Acetaminophen	11.0	Spike	P	0 - 30
2285006	Acetamiprid	2.65	Spike	P	0 - 30
2285006	Afidopyropen	11.9	Spike	P	0 - 30
2285006	Bentazon	6.64	Spike	P	0 - 30
2285006	Benzovindiflupyr	0.205	Spike	P	0 - 30
2285006	Carbamazepine	11.1	Spike	P	0 - 30
2285006	Clothianidin	0.776	Spike	P	0 - 30
2285006	Dinotefuran	4.50	Spike	P	0 - 30
2285006	Diuron	2.18	Spike	P	0 - 30
2285006	Fenuron	9.07	Spike	P	0 - 30
2285006	Fluridone	11.1	Spike	P	0 - 30
2285006	Hydrocodone	6.39	Spike	P	0 - 30
2285006	Ibuprofen	12.6	Spike	P	0 - 30
2285006	Imazapyr	7.50	Spike	P	0 - 30
2285006	Imidacloprid	7.58	Spike	P	0 - 30
2285006	Linuron	7.27	Spike	P	0 - 30
2285006	Mandestrobin	3.01	Spike	P	0 - 30
2285006	MCP	5.13	Spike	P	0 - 30
2285006	Naproxen	0.519	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P405462

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285006	Primidone	54.0	Spike	F	0 - 30
2285006	Pyraclostrobin	6.78	Spike	P	0 - 30
2285006	Thiamethoxam	7.69	Spike	P	0 - 30
2285006	Tolfenpyrad	7.11	Spike	P	0 - 30
2285006	Triclopyr	12.0	Spike	P	0 - 30

Reference Method: SM 2120 B-2011

Batch ID: P405348

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285020	Color (true)	1.26	Sample	P	0 - 20

Reference Method: SM 2320 B-2011

Batch ID: P405521

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285141	Total Alkalinity	1.88	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011

Batch ID: P405956

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285082	TDS	3.95	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011

Batch ID: P405524

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2285141	Fluoride	0.495	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011

Batch ID: P405621

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2284490	Organic Carbon	0.149	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2285006
Field Sample ID: G2SD0022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	128	P	30 - 160
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	112	P	30 - 160
EPA 8321B	Diuron-d6	77.4	P	30 - 160
EPA 8321B	Endothall-d6	93.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	53.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.2	P	30 - 160
EPA 8321B	Primidone-d5	95.8	P	30 - 160
EPA 8321B	Sucralose-d6	87.1	P	30 - 160

Lab Sample ID: 2285008
Field Sample ID: G2SD0022

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	53.7	P	20 - 200
EPA 8270E	Simazine-d10	92.7	P	73 - 135
EPA 8270E	Terbufos-d10	110	P	58 - 130

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A108426

Included Lab Sample IDs: 2285000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.5	100	P/P	90 - 110
Sulfate	99.9	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A108441

Included Lab Sample IDs: 2285002

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

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A108442

Included Lab Sample IDs: 2285000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	99.0	P/P	95 - 105

Reference Method: SM 2120 B-2011

Run ID: A108443

Included Lab Sample IDs: 2285000

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.7	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A108478

Included Lab Sample IDs: 2285006

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	93.6	94.0	P/P	60 - 160
Glufosinate	99.3	107	P/P	60 - 160
Glyphosate	90.1	86.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A108503

Included Lab Sample IDs: 2285006

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	82.8	80.7	P/P	60 - 160
Endothall	66.2	76.9	P/P	60 - 160
Sucralose	92.3	95.5	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108504

Included Lab Sample IDs: 2285007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	99.8	102	P/P	90 - 110
Antimony	103	105	P/P	90 - 110
Arsenic	95.1	96.5	P/P	90 - 110
Barium	98.9	102	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108504

Included Lab Sample IDs: 2285007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	93.0	94.8	P/P	90 - 110
Boron	103	102	P/P	90 - 110
Cadmium	99.5	99.7	P/P	90 - 110
Chromium	95.3	95.9	P/P	90 - 110
Cobalt	92.3	94.0	P/P	90 - 110
Molybdenum	97.0	96.7	P/P	90 - 110
Nickel	92.6	94.9	P/P	90 - 110
Selenium	98.5	101	P/P	90 - 110
Silver	95.4	95.7	P/P	90 - 110
Thallium	96.9	96.9	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A108510

Included Lab Sample IDs: 2285000

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

Reference Method: SM 4500 F-C-2011

Run ID: A108510

Included Lab Sample IDs: 2285000

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A108516

Included Lab Sample IDs: 2285001

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A108517

Included Lab Sample IDs: 2285007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.4	97.0	P/P	90 - 110
Lead	94.1	93.9	P/P	90 - 110
Manganese	99.2	97.9	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A108545

Included Lab Sample IDs: 2285001

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.2	96.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A108558

Included Lab Sample IDs: 2285001

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A108571

Included Lab Sample IDs: 2285007

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	105	P/P	90 - 110
Iron	103	104	P/P	90 - 110
Magnesium	106	107	P/P	90 - 110
Potassium	98.0	99.1	P/P	90 - 110
Sodium	103	104	P/P	90 - 110
Strontium	102	103	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Vanadium	102	101	P/P	90 - 110
Zinc	103	102	P/P	90 - 110

Reference Method: EPA 8270E

Run ID: A108575

Included Lab Sample IDs: 2285008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	106		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	110		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	102		P	80 - 120
Azinphos Methyl	108		P	80 - 120
Azoxystrobin	96.8		P	80 - 120
Bromacil	107		P	80 - 120
Butylate	96.4		P	80 - 120
Caffeine	105		P	80 - 120
Carbophenothion	104		P	80 - 120
Carfentrazone Ethyl	110		P	80 - 120
Chlorpyrifos Ethyl	103		P	80 - 120
Chlorpyrifos Methyl	100		P	80 - 120
Cyanazine	107		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	104		P	80 - 120
Difenoconazole	103		P	80 - 120
Dimethenamid	104		P	80 - 120
Disulfoton	99.0		P	80 - 120
Dithiopyr	105		P	80 - 120
EPTC	101		P	80 - 120
Ethion	104		P	80 - 120
Ethoprop	103		P	80 - 120
Fenamiphos	105		P	80 - 120
Fenbuconazole	108		P	80 - 120
Fipronil	108		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A108575
 Included Lab Sample IDs: 2285008

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Sulfone	104		P	80 - 120
Fluazifop-P-butyl	110		P	80 - 120
Fludioxonil	115		P	80 - 120
Flumioxazin	106		P	80 - 120
Flutolanil	114		P	80 - 120
Fluxapyroxad	106		P	80 - 120
Fonofos	98.1		P	80 - 120
Hexazinone	101		P	80 - 120
Imazalil	104		P	80 - 120
Iprodione	107		P	80 - 120
Malathion	105		P	80 - 120
Metaxyl	107		P	80 - 120
Metolachlor	109		P	80 - 120
Metribuzin	105		P	80 - 120
Mevinphos	96.6		P	80 - 120
Molinate	100		P	80 - 120
Myclobutanil	108		P	80 - 120
Naled	107		P	80 - 120
Norflurazon	104		P	80 - 120
Oxadiazon	112		P	80 - 120
Oxyfluorfen	103		P	80 - 120
Parathion Ethyl	98.5		P	80 - 120
Parathion Methyl	102		P	80 - 120
Pendimethalin	101		P	80 - 120
Phorate	105		P	80 - 120
Prodiamine	111		P	80 - 120
Prometon	109		P	80 - 120
Prometryn	111		P	80 - 120
Pronamide	99.1		P	80 - 120
Propiconazole	111		P	80 - 120
Pyriproxyfen	102		P	80 - 120
Simazine	107		P	80 - 120
Sulfentrazone	101		P	80 - 120
Tebuconazole	104		P	80 - 120
Terbufos	95.5		P	80 - 120
Terbuthylazine	102		P	80 - 120

Reference Method: EPA 8321B
 Run ID: A108578
 Included Lab Sample IDs: 2285006

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.6	102	P/P	50 - 150
2,4,5-T	103	97.5	P/P	50 - 150
Acetaminophen	84.3	88.7	P/P	60 - 160
Acetamiprid	108	108	P/P	50 - 150
Afidopyropen	103	96.0	P/P	50 - 150
Bentazon	107	107	P/P	50 - 160
Benzovindiflupyr	114	109	P/P	50 - 150
Carbamazepine	113	104	P/P	60 - 150
Clothianidin	119	102	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A108578
Included Lab Sample IDs: 2285006

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Dinotefuran	103	96.4	P/P	50 - 150
Diuron	102	92.2	P/P	60 - 160
Fenuron	101	98.5	P/P	60 - 150
Fluridone	102	103	P/P	60 - 160
Hydrocodone	99.1	97.2	P/P	60 - 150
Ibuprofen	90.9	83.0	P/P	50 - 160
Imazapyr	62.2	108	P/P	50 - 150
Imidacloprid	103	110	P/P	60 - 150
Linuron	106	135	P/P	60 - 150
Mandestrobin	104	104	P/P	50 - 150
MCPP	90.8	93.9	P/P	50 - 150
Naproxen	137	110	P/P	50 - 160
Primidone	108	129	P/P	60 - 150
Pyraclostrobin	103	102	P/P	60 - 150
Thiamethoxam	101	106	P/P	50 - 150
Tolfenpyrad	93.8	97.2	P/P	60 - 150
Triclopyr	94.0	97.3	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A108580
Included Lab Sample IDs: 2285001

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.4	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A108604
Included Lab Sample IDs: 2285007

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

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A108646
Included Lab Sample IDs: 2285001

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.3	96.7	P/P	90 - 110

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							7.06	
EPA 200.7 Rev. 4.4	Calcium	108		109	107	97.6			1.24
	Iron	108		109	106	105			2.83
	Magnesium	110		112	108	104			3.10
	Potassium	103		111	109	102			1.76
	Sodium	106		105	103	106			1.34
	Strontium	102		103	101	100			1.81
	Tin	102		104	103	104			1.10
	Titanium	103		105	104	107			1.15
	Vanadium	102		104	103	109			1.40
	Zinc	102		104	103	106			1.19
EPA 200.8 Rev. 5.4	Aluminum	97.2		100	101	98.9			1.17
	Antimony	100		104	105	107			0.462
	Arsenic	94.3		96.7	97.4	98.4			0.772
	Barium	101		104	105	107			0.827
	Beryllium	95.5		98.8	95.1	97.1			3.78
	Boron	97.5		101	102	102			1.40
	Cadmium	95.3		100	101	103			1.06
	Chromium	93.1		96.9	97.1	101			0.261
	Cobalt	93.4		96.3	96.4	97.4			0.131
	Copper	92.9		98.2	98.5	94.0			0.332
	Lead	97.3		101	102	101			0.384
	Manganese	92.9		96.4	96.6	99.6			0.166
	Molybdenum	95.1		99.4	100	104			0.563
	Nickel	94.1		96.7	96.3	96.4			0.389
	Selenium	97.3		101	98.1	98.0			3.11
	Silver	93.7		96.5	96.5	97.4			0.0328
	Thallium	96.6		101	102	103			1.19
EPA 300.0 Rev. 2.1	Chloride	99.2		102	99.6			0.327	
	Sulfate	99.8		101	101				
EPA 350.1 Rev. 2.0	Ammonia-N	97.2		93.8	95.2				1.27
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6		90.1	95.4				4.50
EPA 353.2 Rev. 2.0	NO2NO3-N	101		100	99.5				0.501
EPA 365.1 Rev. 2.0	Total-P	103							0.247
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.5		97.7	98.2				0.510
EPA 8270E	Acetochlor	95.4	97.3	99.1	96.5	1.90			2.57
	Alachlor	84.5	88.3	90.6	91.2	4.44			0.723
	Ametryn	81.8	90.2	93.5	89.7	9.83			4.08
	Atrazine	87.7	90.8	94.8	94.0	3.48			0.684
	Atrazine Desethyl	51.3	54.4	49.8	47.4	5.91			4.90
	Azinphos Methyl	54.0	120	37.2	44.0	75.8			16.8
	Azoxystrobin	84.5	84.9	109	108	0.473			1.04
	Bromacil	78.1	80.5	80.9	83.9	2.94			3.57
	Butylate	57.7	56.9	50.2	54.3	1.35			7.86
	Caffeine	94.2	106	117	121	11.4			3.23
	Carbophenothion	91.5	93.4	94.2	86.7	2.08			8.28
	Carfentrazone Ethyl	92.5	95.8	94.7	95.2	3.51			0.531
	Chlorpyrifos Ethyl	91.2	108	98.8	94.6	16.4			4.33
	Chlorpyrifos Methyl	93.2	101	97.2	91.3	7.72			6.25
	Cyanazine	115	117	115	116	1.84			1.15
	Demeton	74.9	80.9	85.4	83.6	7.74			2.12
	Diazinon	96.5	99.1	106	107	2.67			1.43
	Difenoconazole	69.6	73.1	68.6	76.4	4.89			10.8
	Dimethenamid	84.8	87.4	86.1	82.1	3.01			4.69

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Disulfoton	85.6	90.6	93.0	82.9	5.68	11.4
	Dithiopyr	81.5	85.3	87.9	93.0	4.60	5.61
	EPTC	56.3	59.0	45.8	52.8	4.67	14.1
	Ethion	89.9	97.6	93.1	84.4	8.17	9.79
	Ethoprop	86.7	89.8	86.8	86.3	3.44	0.609
	Fenamiphos	118	117	108	97.9	1.10	9.58
	Fenbuconazole	115	104	120	123	10.6	2.79
	Fipronil	92.3	95.9	101	101	3.85	0.0747
	Fipronil Desulfinyl	92.1	101	105	104	8.92	1.46
	Fipronil Sulfide	80.1	91.5	90.0	83.6	13.3	7.36
	Fipronil Sulfone	84.8	89.6	92.5	82.1	5.47	11.9
	Fluazifop-P-butyl	82.2	86.0	85.2	84.8	4.55	0.488
	Fludioxonil	85.9	91.9	88.6	87.2	6.77	1.55
	Flumioxazin	291	303	336	323	4.11	3.94
	Flutolanil	74.3	78.5	120	108	5.49	8.87
	Fluxapyroxad	73.4	83.4	93.7	87.1	12.8	5.68
	Fonofos	87.4	88.5	92.0	85.8	1.22	7.01
	Hexazinone	95.6	99.6	112	109	4.08	2.93
	Imazalil	81.8	106	85.0	91.6	25.6	7.46
	Iprodione	96.9	111	153	129	13.3	16.4
	Malathion	126	133	133	130	5.06	2.05
	Metalaxyl	82.8	86.1	84.9	84.6	4.01	0.453
	Metolachlor	88.9	93.2	102	98.0	4.73	3.24
	Metribuzin	89.9	97.0	86.7	104	7.57	18.1
	Mevinphos	89.3	88.8	94.4	96.5	0.601	2.23
	Molinate	68.4	72.0	67.2	71.7	5.09	6.56
	Myclobutanil	86.7	90.6	91.2	91.6	4.39	0.495
	Naled	31.4	33.9	26.1	26.8	7.65	2.62
	Norflurazon	79.0	83.1	78.6	79.9	5.05	1.64
	Oxadiazon	76.4	79.2	76.4	75.2	3.61	1.55
	Oxyfluorfen	71.5	81.8	92.2	94.7	13.4	2.74
	Parathion Ethyl	91.1	90.9	91.7	91.9	0.198	0.244
	Parathion Methyl	103	108	116	109	5.48	6.15
	Pendimethalin	78.3	71.7	79.6	75.5	8.77	5.24
	Phorate	85.2	84.1	83.6	81.9	1.32	1.98
	Prodiamine	56.0	61.4	101	93.1	9.18	7.92
	Prometon	92.2	94.2	92.2	91.3	2.20	0.932
	Prometryn	79.8	86.4	84.4	86.3	7.86	2.14
	Pronamide	88.0	93.4	103	110	5.92	6.28
	Propiconazole	86.0	89.2	90.9	90.5	3.64	0.423
	Pyriproxyfen	32.6	59.9	42.7	40.1	59.1	6.33
	Simazine	85.5	86.3	84.3	78.7	0.862	3.91
	Sulfentrazone	107	114	130	116	6.70	10.8
	Tebuconazole	91.9	96.5	96.2	96.9	4.82	0.563
	Terbufos	103	103	112	113	0.688	1.05
	Terbuthylazine	85.8	89.0	87.0	84.7	3.64	2.70
EPA 8321B	2,4-D	128		129	129		0.0340
	2,4,5-T	123		127	138		8.19
	Acesulfame K	98.9		91.9	135		36.7
	Acetaminophen	89.6		102	114		11.0
	Acetamiprid	100		104	107		2.65
	Afidopyropen	81.4		86.0	96.9		11.9
	AMPA	94.8		56.4	55.9		0.801
	Bentazon	98.3					6.64

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Benzovindiflupyr	98.1	79.5	79.3			0.205
	Carbamazepine	112	97.6	110			11.1
	Clothianidin	94.7	108	108			0.776
	Dinotefuran	93.3	119	125			4.50
	Diuron	97.1	66.9	68.6			2.18
	Endothall	59.9	84.0	89.9			6.83
	Fenuron	109	87.0	95.3			9.07
	Fluridone	105	72.8	89.3			11.1
	Glufosinate	109	77.7	68.6			12.4
	Glyphosate	85.4	32.6	39.3			7.77
	Hydrocodone	96.2	100	107			6.39
	Ibuprofen	77.9	77.3	68.1			12.6
	Imazapyr	106					7.50
	Imidacloprid	108	194	211			7.58
	Linuron	111	87.7	94.4			7.27
	Mandestrobin	103	82.7	85.3			3.01
	MCPP	124	128	135			5.13
	Naproxen	70.6	84.2	83.7			0.519
	Primidone	91.7	66.9	122			54.0
	Pyraclostrobin	90.4	74.6	79.8			6.78
	Sucralose	91.8	95.6	92.5			2.65
	Thiamethoxam	108	157	170			7.69
	Tolfenpyrad	58.9	52.3	56.2			7.11
	Triclopyr	105	112	126			12.0
SM 2120 B-2011	Color (true)	99.8				1.26	
SM 2320 B-2011	Total Alkalinity	100				1.88	
SM 2540 C-2011	TDS					3.95	
SM 4500 F-C-2011	Fluoride	99.2	99.1	98.5			0.495
SM 5310 B-2011	Organic Carbon	98.5	96.2	95.9			0.149

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2285000
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2285007
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2285007
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2285000
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2285000
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2285001
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2285001
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2285001
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2285001
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2285002
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2285008
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2285006
SM 2120 B-2011	True Color measured at 450 nm (not valid for NPDES monitoring)	2285000
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2285000
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2285007
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2285000
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2285000

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2285000
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2285001

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	10/20/2021			10/20/2021 17:04	Khloe J Berg	2285000
EPA 200.7 Rev. 4.4	10/20/2021	10/21/2021 10:00	Emily M Philpot	10/27/2021 19:33	Josef B Mick	2285007
	10/20/2021	10/21/2021 10:00	Emily M Philpot	10/28/2021 20:07	Josef B Mick	2285007
EPA 200.8 Rev. 5.4	10/20/2021	10/21/2021 10:00	Emily M Philpot	10/22/2021 18:03	Alexander Thompson	2285007
	10/20/2021	10/21/2021 10:00	Emily M Philpot	10/25/2021 14:24	Alexander Thompson	2285007
EPA 300.0 Rev. 2.1	10/20/2021			10/22/2021 13:42	Roberta Tatti	2285000
EPA 350.1 Rev. 2.0	10/20/2021			10/28/2021 15:02	Ping Hua	2285001
EPA 351.2 Rev. 2.0	10/20/2021	10/26/2021 09:10	Benjamin T. Nordmann	10/27/2021 14:22	Alexandra J Mattheus	2285001
EPA 353.2 Rev. 2.0	10/20/2021			10/27/2021 09:41	Beverly Y. Sanders	2285001
EPA 365.1 Rev. 2.0	10/20/2021	10/22/2021 12:26	Simonne.V. Calhoun	10/25/2021 14:51	Lipi Saha	2285001
EPA 365.1 Rev. 2.0 dissolved	10/20/2021			10/20/2021 14:21	James L Waggeberby	2285002
EPA 8270E	10/20/2021	10/20/2021 12:30	Fe-Val Siddell	10/22/2021 20:18	Michael Poppell	2285008
EPA 8321B	10/20/2021	10/21/2021 09:30	Juyoung Kim	10/21/2021 16:33	Juyoung Kim	2285006
	10/20/2021	10/21/2021 09:30	Juyoung Kim	10/22/2021 16:20	Manjita Shrestha	2285006
	10/20/2021	10/26/2021 11:00	Hoor Shaik	10/28/2021 09:39	Juyoung Kim	2285006
SM 2120 B-2011	10/20/2021			10/20/2021 15:39	Sarah A Nixon	2285000
SM 2320 B-2011	10/20/2021			10/22/2021 23:37	Dale L. Simmons	2285000
SM 2340B	10/20/2021			10/27/2021 19:33	Josef B Mick	2285007
SM 2540 C-2011	10/20/2021			10/22/2021 15:35	Yijie Li	2285000
SM 2540 D-2011	10/20/2021			10/22/2021 15:35	Yijie Li	2285000
SM 4500 F-C-2011	10/20/2021			10/22/2021 23:37	Dale L. Simmons	2285000
SM 5310 B-2011	10/20/2021			10/26/2021 07:47	Khloe J Berg	2285001