

Chemical Analysis Report

SO-DIST-2023-07-12-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

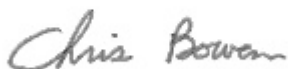
Event Description: **2023 SMP: Later Gator**
Request ID: **RQ-2023-07-03-51**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: Monica Jaeger

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 24-JUL-2023 11:13



NON-CONFORMANCE REPORT INCLUDED

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 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: TELEGRAPH SWAMP SOUTH SITE

Collection Date/Time: 07/06/2023 09:20

Field ID: G3SD0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2423272	EPA 8321B	2,4-D	0.0020	UY	ug/L	P432236	
		Acesulfame K	0.10	UYQ	ug/L	P432521	
		2,4,5-T	0.0040	UY	ug/L	P432236	
		AMPA	0.17	IYQ	ug/L	P432521	
		Acetaminophen	0.0080	UY	ug/L	P432236	
		Acetamiprid	0.0020	UY	ug/L	P432236	
		Endothall	0.25	UYQ	ug/L	P432521	
		Glufosinate	0.10	UYQ	ug/L	P432521	
		Glyphosate	0.17	IYQ	ug/L	P432521	
		Afidopyropen	0.0020	UY	ug/L	P432236	
		Bentazon	0.0028	IY	ug/L	P432236	
		Sucralose	0.010	UYQ	ug/L	P432521	
		Benzovindiflupyr	0.0020	UY	ug/L	P432236	
		Carbamazepine	8.0E-04	UY	ug/L	P432236	
		Clothianidin	0.0020	UY	ug/L	P432236	
		Dinotefuran	0.0020	UY	ug/L	P432236	
		Diuron	0.0020	UY	ug/L	P432236	MS
		Fenuron	0.032	UY	ug/L	P432236	
		Fluridone	8.0E-04	UY	ug/L	P432236	
		Imazapyr	0.15	Y	ug/L	P432236	
		Hydrocodone	0.0020	UY	ug/L	P432236	
		Ibuprofen	0.080	UY	ug/L	P432236	
		Imidacloprid	0.0020	UY	ug/L	P432236	
		Linuron	0.0040	UY	ug/L	P432236	
		Mandestrobin	0.0020	UY	ug/L	P432236	
		MCPP	0.0038	IY	ug/L	P432236	
		Naproxen	0.0080	UY	ug/L	P432236	
		Primidone	0.0040	UY	ug/L	P432236	
		Pyraclostrobin	0.0020	UY	ug/L	P432236	
		Silvex	0.0040	UY	ug/L	P432236	
		Thiamethoxam	0.0020	UY	ug/L	P432236	
		Tolfenpyrad	0.0020	UY	ug/L	P432236	
		Triclopyr	0.0040	UY	ug/L	P432236	
2423275	EPA 200.7 Rev. 4.4	Calcium	46.9		mg/L	P432417	
		Iron	1.57E+03		ug/L	P432417	
		Magnesium	8.05		mg/L	P432417	
		Potassium	2.9		mg/L	P432417	
		Sodium	44.1		mg/L	P432417	
		Strontium	2.02E+03		ug/L	P432417	
		Tin	4.1	I	ug/L	P432417	
		Titanium	0.83	I	ug/L	P432417	
		Vanadium	2.0	U	ug/L	P432417	
		Zinc	5.0	U	ug/L	P432417	
	EPA 200.8 Rev. 5.4	Aluminum	63		ug/L	P432417	

Field ID: G3SD0100

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2423275	EPA 200.8 Rev. 5.4	Antimony	0.063	I	ug/L	P432417	
		Arsenic	1.38		ug/L	P432417	
		Barium	19.1		ug/L	P432417	
		Beryllium	0.014	I	ug/L	P432417	
		Boron	41.7		ug/L	P432417	
		Cadmium	0.020	U	ug/L	P432417	
		Chromium	1.1	I	ug/L	P432417	
		Cobalt	0.234		ug/L	P432417	
		Copper	0.40	U	ug/L	P432417	
		Lead	0.20	U	ug/L	P432417	
		Manganese	55.3		ug/L	P432417	
		Molybdenum	0.16	I	ug/L	P432417	
		Nickel	0.50	U	ug/L	P432417	
		Selenium	0.33	I	ug/L	P432417	
		Silver	0.010	U	ug/L	P432512	
	SM 2340 B-2011	Thallium	0.10	U	ug/L	P432417	
		Hardness	150		mg/L	P432417	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample. Y - Sample was received with inadequate sample preservation; see NCR report.

EPA 8321B: Sample expired upon receipt. Y - Sample was received with inadequate sample preservation; see NCR report.

Sample Location: MYRTLE SLOUGH AT SR 31

Collection Date/Time: 07/06/2023 10:20

Field ID: G3SD0097

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2423274	EPA 8321B	Acesulfame K	0.10	UYQ	ug/L	P432521	
		2,4-D	0.0030	IY	ug/L	P432316	
		AMPA	0.59	YQ	ug/L	P432521	
		2,4,5-T	0.0040	UY	ug/L	P432316	
		Acetaminophen	0.0080	UY	ug/L	P432316	MS
		Endothall	0.25	UYQ	ug/L	P432521	
		Acetamiprid	0.0020	UY	ug/L	P432316	
		Glufosinate	0.10	UYQ	ug/L	P432521	
		Glyphosate	0.97	YQ	ug/L	P432521	
		Afidopyropen	0.0020	UY	ug/L	P432316	MS, RPD
		Sucralose	0.010	UYQ	ug/L	P432521	
		Bentazon	0.013	Y	ug/L	P432316	
		Benzovindiflupyr	0.0020	UY	ug/L	P432316	
		Carbamazepine	8.0E-04	UY	ug/L	P432316	
		Clothianidin	0.0069	IY	ug/L	P432316	
		Dinotefuran	0.0020	UY	ug/L	P432316	
		Diuron	0.0038	UY	ug/L	P432316	
		Fenuron	0.032	UY	ug/L	P432316	
		Fluridone	0.0039	Y	ug/L	P432316	
		Imazapyr	0.0040	UY	ug/L	P432316	
		Hydrocodone	0.0020	UY	ug/L	P432316	
		Ibuprofen	0.080	UY	ug/L	P432316	
		Imidacloprid	0.064	Y	ug/L	P432316	
		Linuron	0.0040	UY	ug/L	P432316	
		Mandestrobin	0.0020	UY	ug/L	P432316	
		MCPP	0.0020	UY	ug/L	P432316	
		Naproxen	0.0080	UY	ug/L	P432316	
		Primidone	0.0040	UY	ug/L	P432316	
		Pyraclostrobin	0.0020	UY	ug/L	P432316	
		Silvex	0.0040	UY	ug/L	P432316	
		Thiamethoxam	0.0023	IY	ug/L	P432316	
		Tolfenpyrad	0.0020	UY	ug/L	P432316	
		Triclopyr	0.0040	UY	ug/L	P432316	

Ref. Method and Comment:

EPA 8321B: Sample expired upon receipt. Y - Sample was received with inadequate sample preservation; see NCR report.

EPA 8321B: Y - Sample was received with inadequate sample preservation; see NCR report.

Sample Location: ALLIGATOR NORTH AT JONES LOOP RD

Collection Date/Time: 07/06/2023 11:15

Field ID: G2SD0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2423273	EPA 8321B	Acesulfame K	0.20	IYQ	ug/L	P432521	
		2,4-D	0.0020	UY	ug/L	P432316	
		AMPA	0.10	UYQ	ug/L	P432521	
		2,4,5-T	0.0040	UY	ug/L	P432316	
		Acetaminophen	0.0080	UY	ug/L	P432316	MS
		Endothall	0.25	UYQ	ug/L	P432521	
		Acetamiprid	0.0020	UY	ug/L	P432316	
		Glufosinate	0.10	UYQ	ug/L	P432521	
		Glyphosate	0.10	UYQ	ug/L	P432521	
		Afidopyropen	0.0020	UY	ug/L	P432316	MS, RPD
		Sucralose	0.27	YQ	ug/L	P432521	
		Bentazon	0.0015	IY	ug/L	P432316	
		Benzovindiflupyr	0.0020	UY	ug/L	P432316	
		Carbamazepine	0.0016	IY	ug/L	P432316	
		Clothianidin	0.0020	UY	ug/L	P432316	
		Dinotefuran	0.0020	UY	ug/L	P432316	
		Diuron	0.0020	UY	ug/L	P432316	
		Fenuron	0.032	UY	ug/L	P432316	
		Fluridone	8.0E-04	UY	ug/L	P432316	
		Imazapyr	0.074	Y	ug/L	P432316	
		Hydrocodone	0.0020	UY	ug/L	P432316	
		Ibuprofen	0.080	UY	ug/L	P432316	
		Imidacloprid	0.0020	UY	ug/L	P432316	
		Linuron	0.0040	UY	ug/L	P432316	
		Mandestrobin	0.0020	UY	ug/L	P432316	
		MCPP	0.0020	UY	ug/L	P432316	
		Naproxen	0.0080	UY	ug/L	P432316	
		Primidone	0.0040	UY	ug/L	P432316	
		Pyraclostrobin	0.0020	UY	ug/L	P432316	
		Silvex	0.0040	UY	ug/L	P432316	
		Thiamethoxam	0.0020	UY	ug/L	P432316	
		Tolfenpyrad	0.0020	UY	ug/L	P432316	
		Triclopyr	0.0040	UY	ug/L	P432316	
2423276	EPA 200.7 Rev. 4.4	Calcium	108		mg/L	P432417	
		Iron	310		ug/L	P432417	
		Magnesium	7.34		mg/L	P432417	
		Potassium	1.0	I	mg/L	P432417	
		Sodium	36.5		mg/L	P432417	
		Strontium	733		ug/L	P432417	
		Tin	3.0	U	ug/L	P432417	
		Titanium	0.75	U	ug/L	P432417	
		Vanadium	2.0	U	ug/L	P432417	
		Zinc	5.0	U	ug/L	P432417	
	EPA 200.8 Rev. 5.4	Aluminum	8.2	I	ug/L	P432417	

Field ID: G2SD0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2423276	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P432417	
		Arsenic	0.87		ug/L	P432417	
		Barium	32.7		ug/L	P432417	
		Beryllium	0.010	U	ug/L	P432417	
		Boron	50.7		ug/L	P432417	
		Cadmium	0.020	U	ug/L	P432417	
		Chromium	0.40	U	ug/L	P432417	
		Cobalt	0.058	I	ug/L	P432417	
		Copper	0.40	U	ug/L	P432417	
		Lead	0.20	U	ug/L	P432417	
		Manganese	14.0		ug/L	P432417	
		Molybdenum	3.73		ug/L	P432417	
		Nickel	0.50	U	ug/L	P432417	
		Selenium	0.20	U	ug/L	P432417	
		Silver	0.010	U	ug/L	P432512	
		Thallium	0.10	U	ug/L	P432417	
	SM 2340 B-2011	Hardness	301		mg/L	P432417	

Ref. Method and Comment:
EPA 8321B: Sample expired upon receipt. Y - Sample was received with inadequate sample preservation; see NCR report.
EPA 8321B: Y - Sample was received with inadequate sample preservation; see NCR report.

Non-Conformance Report

NCR ID: 9964

<u>Event(s)</u>	<u>Job(s)</u>	<u>Sample(s)</u>	<u>Test(s)</u>
SO-DIST-2023-07-12-01	TLH-2023-07-12-90	2423272	
SO-DIST-2023-07-12-01	TLH-2023-07-12-90	2423273	
SO-DIST-2023-07-12-01	TLH-2023-07-12-90	2423274	

NCR Type: SHIPPING/RECEIVING

NCR Category: Samples arrived late

Observation: Samples arrived late, samples received outside the acceptable temperature range.

Resolution: Samples will be qualified as appropriate.

Customer contacted, email correspondence attached to sample submittal forms.

Authorized by/Date: Kyle Klug 7/12/2023

The Non-Conformance Report details exceptions or problems encountered with the events/jobs/samples/test.
Please address questions to:

Chemistry	Colin Wright	(850) 245-8085
Biology	Cheryl Swanson	(850) 245-8177

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P432417

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: P432417

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
Thallium	0.10	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432512

Component	Result	Code	Units
Silver	0.010	U	ug/L

Reference Method: EPA 8321B

Batch ID: P432236

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P432236

Component	Result	Code	Units
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	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: EPA 8321B

Batch ID: P432316

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B
Batch ID: P432521

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P432417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	103		P	85 - 115
Iron	106		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	101		P	85 - 115
Sodium	102		P	85 - 115
Strontium	99.5		P	85 - 115
Tin	101		P	85 - 115
Titanium	101		P	85 - 115
Vanadium	99.8		P	85 - 115
Zinc	98.3		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432417

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.1		P	85 - 115
Antimony	98.2		P	85 - 115
Arsenic	99.6		P	85 - 115
Barium	99.9		P	85 - 115
Beryllium	98.0		P	85 - 115
Boron	98.8		P	85 - 115
Cadmium	96.9		P	85 - 115
Chromium	95.0		P	85 - 115
Cobalt	97.1		P	85 - 115
Copper	97.9		P	85 - 115
Lead	90.5		P	85 - 115
Manganese	96.1		P	85 - 115
Molybdenum	96.4		P	85 - 115
Nickel	98.7		P	85 - 115
Selenium	99.3		P	85 - 115
Thallium	96.2		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432512

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Silver	98.3		P	85 - 115

Reference Method: EPA 8321B

Batch ID: P432236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	92.7		P	40 - 150
2,4,5-T	87.2		P	40 - 150
Acetaminophen	65.5		P	30 - 150
Acetamiprid	73.2		P	40 - 150
Afidopyropen	54.3		P	30 - 150
Bentazon	121		P	30 - 150
Benzovindiflupyr	75.6		P	40 - 150
Carbamazepine	72.2		P	40 - 150
Clothianidin	87.9		P	40 - 150
Dinotefuran	95.0		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P432236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Diuron	81.8		P	40 - 150
Fenuron	85.3		P	40 - 150
Fluridone	82.7		P	40 - 150
Hydrocodone	89.1		P	40 - 150
Ibuprofen	67.0		P	40 - 150
Imazapyr	76.8		P	40 - 150
Imidacloprid	83.5		P	40 - 150
Linuron	72.1		P	40 - 150
Mandestrobin	88.2		P	40 - 150
MCPP	96.6		P	40 - 150
Naproxen	68.0		P	40 - 150
Primidone	75.6		P	40 - 150
Pyraclostrobin	68.0		P	40 - 150
Silvex	97.7		P	40 - 150
Thiamethoxam	67.7		P	40 - 150
Tolfenpyrad	42.2		P	30 - 150
Triclopyr	89.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P432316

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.5		P	40 - 150
2,4,5-T	87.2		P	40 - 150
Acetaminophen	77.0		P	30 - 150
Acetamiprid	79.9		P	40 - 150
Afidopyropen	60.1		P	30 - 150
Bentazon	127		P	30 - 150
Benzovindiflupyr	92.7		P	40 - 150
Carbamazepine	80.9		P	40 - 150
Clothianidin	94.2		P	40 - 150
Dinotefuran	97.3		P	40 - 150
Diuron	41.9		P	40 - 150
Fenuron	95.1		P	40 - 150
Fluridone	94.6		P	40 - 150
Hydrocodone	96.2		P	40 - 150
Ibuprofen	85.5		P	40 - 150
Imazapyr	86.1		P	40 - 150
Imidacloprid	91.6		P	40 - 150
Linuron	81.9		P	40 - 150
Mandestrobin	89.7		P	40 - 150
MCPP	99.8		P	40 - 150
Naproxen	92.0		P	40 - 150
Primidone	79.0		P	40 - 150
Pyraclostrobin	81.9		P	40 - 150
Silvex	99.3		P	40 - 150
Thiamethoxam	84.0		P	40 - 150
Tolfenpyrad	55.8		P	30 - 150
Triclopyr	91.3		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P432521

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	106		P	40 - 150
AMPA	136		P	40 - 150
Endothall	108		P	40 - 150
Glufosinate	102		P	40 - 150
Glyphosate	104		P	40 - 150
Sucralose	92.8		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P432417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422230	Calcium	100		P	80 - 120
2422230	Iron	106	106	P/P	80 - 120
2422230	Magnesium	103	103	P/P	80 - 120
2422230	Potassium	101	100	P/P	80 - 120
2422230	Sodium	101	99.2	P/P	80 - 120
2422230	Strontium	99.2	98.7	P/P	80 - 120
2422230	Tin	99.2	102	P/P	80 - 120
2422230	Titanium	102	104	P/P	80 - 120
2422230	Vanadium	101	103	P/P	80 - 120
2422230	Zinc	95.3	96.2	P/P	80 - 120
2423337	Calcium	104		P	80 - 120
2423337	Iron	106		P	80 - 120
2423337	Magnesium	104		P	80 - 120
2423337	Potassium	102		P	80 - 120
2423337	Sodium	99.8		P	80 - 120
2423337	Strontium	99.8		P	80 - 120
2423337	Tin	100		P	80 - 120
2423337	Titanium	101		P	80 - 120
2423337	Vanadium	100		P	80 - 120
2423337	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P432417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422230	Aluminum	99.8	99.8	P/P	80 - 120
2422230	Antimony	101	102	P/P	80 - 120
2422230	Arsenic	101	100	P/P	80 - 120
2422230	Barium	103	103	P/P	80 - 120
2422230	Beryllium	96.4	95.8	P/P	80 - 120
2422230	Boron	101	102	P/P	80 - 120
2422230	Cadmium	100	102	P/P	80 - 120
2422230	Chromium	97.1	97.3	P/P	80 - 120
2422230	Cobalt	95.4	95.4	P/P	80 - 120
2422230	Copper	94.8	95.3	P/P	80 - 120
2422230	Lead	92.0	92.3	P/P	80 - 120
2422230	Manganese	97.9	98.1	P/P	80 - 120
2422230	Molybdenum	99.9	99.6	P/P	80 - 120
2422230	Nickel	97.3	97.1	P/P	80 - 120
2422230	Selenium	102	99.0	P/P	80 - 120
2422230	Thallium	100	101	P/P	80 - 120
2423337	Aluminum	99.7		P	80 - 120
2423337	Antimony	99.9		P	80 - 120
2423337	Arsenic	98.8		P	80 - 120
2423337	Barium	101		P	80 - 120
2423337	Beryllium	94.1		P	80 - 120
2423337	Boron	102		P	80 - 120
2423337	Cadmium	102		P	80 - 120
2423337	Chromium	98.4		P	80 - 120
2423337	Cobalt	95.7		P	80 - 120
2423337	Copper	98.0		P	80 - 120
2423337	Lead	92.6		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432417

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2423337	Manganese	98.7		P	80 - 120
2423337	Molybdenum	99.9		P	80 - 120
2423337	Nickel	97.9		P	80 - 120
2423337	Selenium	98.3		P	80 - 120
2423337	Thallium	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432512

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421707	Silver	99.3	106	P/P	80 - 120
2423336	Silver	103		P	80 - 120

Reference Method: EPA 8321B
Batch ID: P432236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421664	2,4-D	81.0	89.8	P/P	40 - 150
2421664	2,4,5-T	101	94.0	P/P	40 - 150
2421664	Acetaminophen	66.6	64.0	P/P	30 - 150
2421664	Acetamiprid	62.4	61.8	P/P	40 - 150
2421664	Afidopyropen	62.5	65.2	P/P	30 - 150
2421664	Benzovindiflupyr	77.1	79.8	P/P	40 - 150
2421664	Carbamazepine	50.2	49.1	P/P	40 - 150
2421664	Clothianidin	77.5	75.2	P/P	40 - 150
2421664	Dinotefuran	79.0	73.2	P/P	40 - 150
2421664	Diuron	31.8	34.4	F/F	40 - 150
2421664	Fenuron	65.9	63.8	P/P	40 - 150
2421664	Hydrocodone	65.5	62.3	P/P	40 - 150
2421664	Ibuprofen	66.1	56.4	P/P	40 - 150
2421664	Imidacloprid	110	106	P/P	40 - 150
2421664	Linuron	57.5	54.7	P/P	40 - 150
2421664	Mandestrobin	83.7	81.6	P/P	40 - 150
2421664	MCPD	99.3	103	P/P	40 - 150
2421664	Naproxen	96.0	98.4	P/P	40 - 150
2421664	Primidone	76.2	73.4	P/P	40 - 150
2421664	Pyraclostrobin	80.3	79.6	P/P	40 - 150
2421664	Silvex	88.9	83.2	P/P	40 - 150
2421664	Thiamethoxam	56.7	55.3	P/P	40 - 150
2421664	Tolfenpyrad	48.5	47.3	P/P	30 - 150
2421664	Triclopyr	102	91.5	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P432316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421698	2,4-D	111	102	P/P	40 - 150
2421698	2,4,5-T	90.5	104	P/P	40 - 150
2421698	Acetaminophen	24.9	26.0	F/F	30 - 150
2421698	Acetamiprid	76.9	71.5	P/P	40 - 150
2421698	Afidopyropen	67.1	27.2	P/F	30 - 150
2421698	Bentazon	135	123	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P432316

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2421698	Benzovindiflupyr	81.5	82.5	P/P	40 - 150
2421698	Carbamazepine	75.3	76.5	P/P	40 - 150
2421698	Clothianidin	84.2	89.8	P/P	40 - 150
2421698	Dinotefuran	67.7	69.8	P/P	40 - 150
2421698	Diuron	55.2	66.1	P/P	40 - 150
2421698	Fenuron	80.1	85.4	P/P	40 - 150
2421698	Fluridone	90.5	89.3	P/P	40 - 150
2421698	Hydrocodone	87.9	83.5	P/P	40 - 150
2421698	Ibuprofen	82.8	84.0	P/P	40 - 150
2421698	Imazapyr	85.0	89.8	P/P	40 - 150
2421698	Imidacloprid	101	106	P/P	40 - 150
2421698	Linuron	63.5	73.8	P/P	40 - 150
2421698	Mandestrobin	83.5	90.6	P/P	40 - 150
2421698	MCPP	111	111	P/P	40 - 150
2421698	Naproxen	90.2	74.4	P/P	40 - 150
2421698	Primidone	75.3	80.0	P/P	40 - 150
2421698	Pyraclostrobin	81.3	87.9	P/P	40 - 150
2421698	Silvex	88.5	96.2	P/P	40 - 150
2421698	Thiamethoxam	78.6	75.9	P/P	40 - 150
2421698	Tolfenpyrad	51.8	56.7	P/P	30 - 150
2421698	Triclopyr	93.8	98.8	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P432521

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2422833	Acesulfame K	104	106	P/P	40 - 150
2422833	AMPA	122	123	P/P	40 - 150
2422833	Endothall	102	101	P/P	40 - 150
2422833	Glufosinate	98.5	100	P/P	40 - 150
2422833	Glyphosate	83.8	87.5	P/P	40 - 150
2422833	Sucralose	95.5	87.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P432417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422230	Calcium	0.620	Spike	P	0 - 20
2422230	Iron	0.337	Spike	P	0 - 20
2422230	Magnesium	0.163	Spike	P	0 - 20
2422230	Potassium	0.992	Spike	P	0 - 20
2422230	Sodium	0.886	Spike	P	0 - 20
2422230	Strontium	0.479	Spike	P	0 - 20
2422230	Tin	2.37	Spike	P	0 - 20
2422230	Titanium	1.56	Spike	P	0 - 20
2422230	Vanadium	1.38	Spike	P	0 - 20
2422230	Zinc	0.939	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432417

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422230	Aluminum	0.0107	Spike	P	0 - 20
2422230	Antimony	0.687	Spike	P	0 - 20
2422230	Arsenic	0.464	Spike	P	0 - 20
2422230	Barium	0.375	Spike	P	0 - 20
2422230	Beryllium	0.565	Spike	P	0 - 20
2422230	Boron	0.247	Spike	P	0 - 20
2422230	Cadmium	1.58	Spike	P	0 - 20
2422230	Chromium	0.227	Spike	P	0 - 20
2422230	Cobalt	0.0555	Spike	P	0 - 20
2422230	Copper	0.430	Spike	P	0 - 20
2422230	Lead	0.362	Spike	P	0 - 20
2422230	Manganese	0.167	Spike	P	0 - 20
2422230	Molybdenum	0.247	Spike	P	0 - 20
2422230	Nickel	0.262	Spike	P	0 - 20
2422230	Selenium	2.76	Spike	P	0 - 20
2422230	Thallium	0.512	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P432512

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421707	Silver	6.34	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P432236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421664	2,4-D	6.91	Spike	P	0 - 30
2421664	2,4,5-T	7.63	Spike	P	0 - 30
2421664	Acetaminophen	3.97	Spike	P	0 - 30
2421664	Acetamiprid	0.884	Spike	P	0 - 30
2421664	Afidopyropen	4.14	Spike	P	0 - 30
2421664	Bentazon	10.5	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P432236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421664	Benzovindiflupyr	3.42	Spike	P	0 - 30
2421664	Carbamazepine	1.74	Spike	P	0 - 30
2421664	Clothianidin	2.80	Spike	P	0 - 30
2421664	Dinotefuran	6.98	Spike	P	0 - 30
2421664	Diuron	6.69	Spike	P	0 - 30
2421664	Fenuron	3.32	Spike	P	0 - 30
2421664	Fluridone	3.71	Spike	P	0 - 30
2421664	Hydrocodone	5.12	Spike	P	0 - 30
2421664	Ibuprofen	15.8	Spike	P	0 - 30
2421664	Imazapyr	4.16	Spike	P	0 - 30
2421664	Imidacloprid	3.58	Spike	P	0 - 30
2421664	Linuron	4.93	Spike	P	0 - 30
2421664	Mandestrobin	2.53	Spike	P	0 - 30
2421664	MCP	3.44	Spike	P	0 - 30
2421664	Naproxen	2.47	Spike	P	0 - 30
2421664	Primidone	3.28	Spike	P	0 - 30
2421664	Pyraclostrobin	0.854	Spike	P	0 - 30
2421664	Silvex	6.71	Spike	P	0 - 30
2421664	Thiamethoxam	2.02	Spike	P	0 - 30
2421664	Tolfenpyrad	2.54	Spike	P	0 - 30
2421664	Triclopyr	10.5	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P432316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421698	2,4-D	8.87	Spike	P	0 - 30
2421698	2,4,5-T	13.5	Spike	P	0 - 30
2421698	Acetaminophen	4.33	Spike	P	0 - 30
2421698	Acetamiprid	7.27	Spike	P	0 - 30
2421698	Afidopyropen	84.7	Spike	F	0 - 30
2421698	Bentazon	5.66	Spike	P	0 - 30
2421698	Benzovindiflupyr	0.995	Spike	P	0 - 30
2421698	Carbamazepine	1.57	Spike	P	0 - 30
2421698	Clothianidin	6.42	Spike	P	0 - 30
2421698	Dinotefuran	1.68	Spike	P	0 - 30
2421698	Diuron	17.9	Spike	P	0 - 30
2421698	Fenuron	6.47	Spike	P	0 - 30
2421698	Fluridone	1.33	Spike	P	0 - 30
2421698	Hydrocodone	5.13	Spike	P	0 - 30
2421698	Ibuprofen	1.44	Spike	P	0 - 30
2421698	Imazapyr	5.54	Spike	P	0 - 30
2421698	Imidacloprid	4.25	Spike	P	0 - 30
2421698	Linuron	15.0	Spike	P	0 - 30
2421698	Mandestrobin	8.15	Spike	P	0 - 30
2421698	MCP	0.0875	Spike	P	0 - 30
2421698	Naproxen	19.3	Spike	P	0 - 30
2421698	Primidone	6.03	Spike	P	0 - 30
2421698	Pyraclostrobin	7.84	Spike	P	0 - 30
2421698	Silvex	8.31	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P432316

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2421698	Thiamethoxam	3.48	Spike	P	0 - 30
2421698	Tolfenpyrad	9.11	Spike	P	0 - 30
2421698	Triclopyr	5.16	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P432521

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2422833	Acesulfame K	2.31	Spike	P	0 - 30
2422833	AMPA	0.438	Spike	P	0 - 30
2422833	Endothall	0.412	Spike	P	0 - 30
2422833	Glufosinate	1.81	Spike	P	0 - 30
2422833	Glyphosate	4.34	Spike	P	0 - 30
2422833	Sucralose	8.23	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2423272
Field Sample ID: G3SD0100

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	75.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	61.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	40.6	P	30 - 160
EPA 8321B	Diuron-d6	33.1	P	30 - 160
EPA 8321B	Endothall-d6	109	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	61.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	58.9	P	30 - 160
EPA 8321B	Primidone-d5	46.8	P	30 - 160
EPA 8321B	Sucralose-d6	100	P	30 - 160

Lab Sample ID: 2423273
Field Sample ID: G2SD0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	103	P	30 - 160
EPA 8321B	Acetaminophen-d4	70.6	P	30 - 160
EPA 8321B	Carbamazepine-d10	59.2	P	30 - 160
EPA 8321B	Diuron-d6	46.1	P	30 - 160
EPA 8321B	Endothall-d6	94.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	66.0	P	30 - 160
EPA 8321B	Primidone-d5	76.7	P	30 - 160
EPA 8321B	Sucralose-d6	97.2	P	30 - 160

Lab Sample ID: 2423274
Field Sample ID: G3SD0097

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	96.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	57.5	P	30 - 160
EPA 8321B	Diuron-d6	41.8	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	65.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.5	P	30 - 160
EPA 8321B	Primidone-d5	79.8	P	30 - 160
EPA 8321B	Sucralose-d6	77.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120407

Included Lab Sample IDs: 2423275, 2423276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	100	99.7	P/P	90 - 110
Antimony	98.8	97.7	P/P	90 - 110
Arsenic	98.9	97.1	P/P	90 - 110
Barium	99.4	98.9	P/P	90 - 110
Beryllium	96.4	95.3	P/P	90 - 110
Boron	98.9	96.7	P/P	90 - 110
Cadmium	99.1	99.4	P/P	90 - 110
Chromium	99.1	99.0	P/P	90 - 110
Cobalt	96.1	94.6	P/P	90 - 110
Copper	97.8	95.9	P/P	90 - 110
Lead	91.2	90.7	P/P	90 - 110
Manganese	101	100	P/P	90 - 110
Molybdenum	98.5	97.5	P/P	90 - 110
Nickel	97.9	95.9	P/P	90 - 110
Selenium	99.6	98.3	P/P	90 - 110
Thallium	98.8	98.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A120414

Included Lab Sample IDs: 2423275, 2423276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	102	P/P	90 - 110
Iron	104	103	P/P	90 - 110
Magnesium	103	102	P/P	90 - 110
Potassium	100	99.8	P/P	90 - 110
Sodium	96.8	97.7	P/P	90 - 110
Strontium	100	100	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Titanium	99.5	101	P/P	90 - 110
Vanadium	98.7	100	P/P	90 - 110
Zinc	97.7	100	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A120416

Included Lab Sample IDs: 2423272, 2423273, 2423274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	88.3	82.5	P/P	60 - 160
AMPA	98.8	88.3	P/P	60 - 160
Endothall	88.7	90.9	P/P	60 - 160
Endothall	97.4	88.7	P/P	60 - 160
Glufosinate	89.9	77.0	P/P	60 - 160
Glufosinate	97.8	89.9	P/P	60 - 160
Glyphosate	93.5	89.7	P/P	60 - 160
Glyphosate	99.7	93.5	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A120424

Included Lab Sample IDs: 2423272, 2423273, 2423274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	114	115	P/P	60 - 160
Acesulfame K	95.6	114	P/P	60 - 160
Sucralose	87.0	92.2	P/P	60 - 160
Sucralose	88.7	87.0	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A120441

Included Lab Sample IDs: 2423275, 2423276

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	99.0	99.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A120445

Included Lab Sample IDs: 2423272, 2423273, 2423274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	91.6	90.2	P/P	50 - 150
2,4-D	91.7	89.1	P/P	50 - 150
2,4,5-T	92.7	90.2	P/P	50 - 150
2,4,5-T	97.3	92.7	P/P	50 - 150
Acetaminophen	84.8	83.5	P/P	60 - 160
Acetaminophen	89.6	91.5	P/P	60 - 160
Acetamiprid	107	111	P/P	50 - 150
Acetamiprid	116	113	P/P	50 - 150
Afidopyropen	119	113	P/P	50 - 150
Afidopyropen	94.1	103	P/P	50 - 150
Bentazon	124	130	P/P	50 - 160
Bentazon	130	133	P/P	50 - 160
Benzovindiflupyr	112	115	P/P	50 - 150
Benzovindiflupyr	116	109	P/P	50 - 150
Carbamazepine	117	111	P/P	60 - 150
Carbamazepine	120	105	P/P	60 - 150
Clothianidin	108	119	P/P	60 - 150
Clothianidin	97.8	104	P/P	60 - 150
Dinotefuran	113	115	P/P	50 - 150
Dinotefuran	116	122	P/P	50 - 150
Diuron	120	131	P/P	60 - 160
Diuron	126	128	P/P	60 - 160
Fenuron	109	110	P/P	60 - 150
Fenuron	110	111	P/P	60 - 150
Fluridone	110	119	P/P	60 - 160
Fluridone	111	112	P/P	60 - 160
Hydrocodone	115	121	P/P	60 - 150
Hydrocodone	117	122	P/P	60 - 150
Ibuprofen	105	84.2	P/P	50 - 160
Ibuprofen	88.2	111	P/P	50 - 160
Imazapyr	93.0	96.0	P/P	50 - 150
Imazapyr	96.0	93.3	P/P	50 - 150
Imidacloprid	103	93.9	P/P	60 - 150
Imidacloprid	108	104	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A120445

Included Lab Sample IDs: 2423272, 2423273, 2423274

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Linuron	111	107	P/P	60 - 150
Linuron	112	144	P/P	60 - 150
Mandestrobin	111	107	P/P	50 - 150
Mandestrobin	114	113	P/P	50 - 150
MCPP	92.5	102	P/P	50 - 150
MCPP	92.8	101	P/P	50 - 150
Naproxen	109	125	P/P	50 - 160
Naproxen	118	106	P/P	50 - 160
Primidone	106	100	P/P	60 - 150
Primidone	96.3	104	P/P	60 - 150
Pyraclostrobin	115	118	P/P	60 - 150
Pyraclostrobin	118	120	P/P	60 - 150
Silvex	104	110	P/P	50 - 150
Silvex	99.2	98.4	P/P	50 - 150
Thiamethoxam	93.0	90.8	P/P	50 - 150
Thiamethoxam	94.5	102	P/P	50 - 150
Tolfenpyrad	104	95.7	P/P	60 - 150
Tolfenpyrad	106	108	P/P	60 - 150
Triclopyr	88.8	97.8	P/P	50 - 150
Triclopyr	90.0	110	P/P	50 - 150

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision	
			LCS	SMP	MS		
EPA 200.7 Rev. 4.4	Calcium	103	100	104		0.620	
	Iron	106	106	106	106	0.337	
	Magnesium	106	103	103	104	0.163	
	Potassium	101	101	100	102	0.992	
	Sodium	102	101	99.2	99.8	0.886	
	Strontium	99.5	99.2	98.7	99.8	0.479	
	Tin	101	99.2	102	100	2.37	
	Titanium	101	102	104	101	1.56	
	Vanadium	99.8	101	103	100	1.38	
	Zinc	98.3	95.3	96.2	100	0.939	
EPA 200.8 Rev. 5.4	Aluminum	99.1	99.8	99.8	99.7	0.0107	
	Antimony	98.2	101	102	99.9	0.687	
	Arsenic	99.6	101	100	98.8	0.464	
	Barium	99.9	103	103	101	0.375	
	Beryllium	98.0	96.4	95.8	94.1	0.565	
	Boron	98.8	101	102	102	0.247	
	Cadmium	96.9	100	102	102	1.58	
	Chromium	95.0	97.1	97.3	98.4	0.227	
	Cobalt	97.1	95.4	95.4	95.7	0.0555	
	Copper	97.9	94.8	95.3	98.0	0.430	
	Lead	90.5	92.0	92.3	92.6	0.362	
	Manganese	96.1	97.9	98.1	98.7	0.167	
	Molybdenum	96.4	99.9	99.6	99.9	0.247	
	Nickel	98.7	97.3	97.1	97.9	0.262	
	Selenium	99.3	102	99.0	98.3	2.76	
	Silver	98.3	99.3	106	103	6.34	
	Thallium	96.2	100	101	100	0.512	
	2,4-D	92.7	81.0	89.8		6.91	
	2,4-D	89.5	111	102		8.87	
	2,4,5-T	87.2	101	94.0		7.63	
	2,4,5-T	87.2	90.5	104		13.5	
EPA 8321B	Acesulfame K	106	104	106		2.31	
	Acetaminophen	65.5	66.6	64.0		3.97	
	Acetaminophen	77.0	24.9	26.0		4.33	
	Acetamiprid	73.2	62.4	61.8		0.884	
	Acetamiprid	79.9	76.9	71.5		7.27	
	Afidopyropen	54.3	62.5	65.2		4.14	
	Afidopyropen	60.1	67.1	27.2		84.7	
	AMPA	136	122	123		0.438	
	Bentazon	121				10.5	
	Bentazon	127	135	123		5.66	
	Benzovindiflupyr	75.6	77.1	79.8		3.42	
	Benzovindiflupyr	92.7	81.5	82.5		0.995	
	Carbamazepine	72.2	50.2	49.1		1.74	
	Carbamazepine	80.9	75.3	76.5		1.57	
	Clothianidin	87.9	77.5	75.2		2.80	
	Clothianidin	94.2	84.2	89.8		6.42	
	Dinotefuran	95.0	79.0	73.2		6.98	
	Dinotefuran	97.3	67.7	69.8		1.68	
	Diuron	81.8	31.8	34.4		6.69	
	Diuron	41.9	55.2	66.1		17.9	
	Endothall	108	102	101		0.412	
	Fenuron	85.3	65.9	63.8		3.32	
	Fenuron	95.1	80.1	85.4		6.47	

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Fluridone	82.7					3.71
	Fluridone	94.6	90.5	89.3			1.33
	Glufosinate	102	98.5	100			1.81
	Glyphosate	104	83.8	87.5			4.34
	Hydrocodone	89.1	65.5	62.3			5.12
	Hydrocodone	96.2	87.9	83.5			5.13
	Ibuprofen	67.0	66.1	56.4			15.8
	Ibuprofen	85.5	82.8	84.0			1.44
	Imazapyr	76.8					4.16
	Imazapyr	86.1	85.0	89.8			5.54
	Imidacloprid	83.5	110	106			3.58
	Imidacloprid	91.6	101	106			4.25
	Linuron	72.1	57.5	54.7			4.93
	Linuron	81.9	63.5	73.8			15.0
	Mandestrobin	88.2	83.7	81.6			2.53
	Mandestrobin	89.7	83.5	90.6			8.15
	MCPP	96.6	99.3	103			3.44
	MCPP	99.8	111	111			0.0875
	Naproxen	68.0	96.0	98.4			2.47
	Naproxen	92.0	90.2	74.4			19.3
	Primidone	75.6	76.2	73.4			3.28
	Primidone	79.0	75.3	80.0			6.03
	Pyraclostrobin	68.0	80.3	79.6			0.854
	Pyraclostrobin	81.9	81.3	87.9			7.84
	Silvex	97.7	88.9	83.2			6.71
	Silvex	99.3	88.5	96.2			8.31
	Sucralose	92.8	95.5	87.9			8.23
	Thiamethoxam	67.7	56.7	55.3			2.02
	Thiamethoxam	84.0	78.6	75.9			3.48
	Tolfenpyrad	42.2	48.5	47.3			2.54
	Tolfenpyrad	55.8	51.8	56.7			9.11
	Triclopyr	89.6	102	91.5			10.5
	Triclopyr	91.3	93.8	98.8			5.16

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2423275, 2423276
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2423275, 2423276
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2423272, 2423273, 2423274
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2423275, 2423276

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	07/12/2023	07/13/2023 12:25	George D Taylor	07/14/2023 16:10	Samatha Luckman	2423275
	07/12/2023	07/13/2023 12:25	George D Taylor	07/14/2023 16:18	Samatha Luckman	2423276
EPA 200.8 Rev. 5.4	07/12/2023	07/13/2023 12:25	George D Taylor	07/14/2023 20:19	Emily M Philpot	2423275
	07/12/2023	07/13/2023 12:25	George D Taylor	07/14/2023 20:29	Emily M Philpot	2423276
	07/12/2023	07/14/2023 12:55	George D Taylor	07/17/2023 16:00	Conrad Hartmann	2423275
	07/12/2023	07/14/2023 12:55	George D Taylor	07/17/2023 16:06	Conrad Hartmann	2423276
	07/12/2023	07/12/2023 14:00	Hoor Shaik	07/17/2023 19:45	Juyoung Kim	2423273
EPA 8321B	07/12/2023	07/12/2023 14:00	Hoor Shaik	07/17/2023 20:03	Juyoung Kim	2423274
	07/12/2023	07/12/2023 14:00	Hoor Shaik	07/18/2023 04:50	Juyoung Kim	2423272
	07/12/2023	07/15/2023 10:00	Hana Lee	07/15/2023 18:54	Tae K Lee	2423272
	07/12/2023	07/15/2023 10:00	Hana Lee	07/15/2023 19:08	Tae K Lee	2423273
	07/12/2023	07/15/2023 10:00	Hana Lee	07/15/2023 19:34	Tae K Lee	2423274
	07/12/2023	07/15/2023 10:00	Hana Lee	07/16/2023 20:05	Tae K Lee	2423272
	07/12/2023	07/15/2023 10:00	Hana Lee	07/16/2023 20:19	Tae K Lee	2423273
	07/12/2023	07/15/2023 10:00	Hana Lee	07/16/2023 20:47	Tae K Lee	2423274
SM 2340 B-2011	07/12/2023			07/14/2023 16:10	Samatha Luckman	2423275
	07/12/2023			07/14/2023 16:18	Samatha Luckman	2423276