

Chemical Analysis Report

CEN-DIST-2022-06-29-02

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

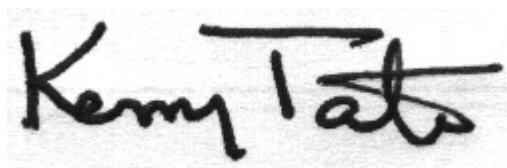
Event Description: **LAKE MINNEHAHA - LVI**
Request ID: **RQ-2022-06-27-16**
Customer: **CEN-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 20-JUL-2022 11:35

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Lake Minnehaha @ Center of Lake

Collection Date/Time: 06/28/2022 14:55

Field ID: G1CE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337857	DEP SOP: NU-094-1	Color (true)	110		PCU	P415985	
	EPA 180.1 Rev. 2.0	Turbidity	1.2		NTU	P415989	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P416149	
		Sulfate	2.8		mg SO4/L	P416152	
	SM 2320 B-2011	Total Alkalinity	4.3		mg CaCO3/L	P416321	
	SM 2540 C-2011	TDS	81		mg/L	P416197	
	SM 2540 D-2011	TSS	2	U	mg/L	P416166	
	SM 4500-F- C-2011	Fluoride	0.075	I	mg F/L	P416325	
2337858	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P416263	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P416182	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P416428	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P416139	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P416106	
2337859	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P415980	
2337861	EPA 8321B	2,4-D	0.010		ug/L	P416117	
		Acesulfame K	0.10	U	ug/L	P415853	
		2,4,5-T	0.0040	U	ug/L	P416117	
		AMPA	0.10	U	ug/L	P415853	
		Acetaminophen	0.0080	U	ug/L	P416117	
		Acetamiprid	0.0020	U	ug/L	P416117	
		Endothall	0.25	U	ug/L	P415853	
		Glufosinate	0.10	U	ug/L	P415853	
		Glyphosate	0.10	U	ug/L	P415853	
		Afidopyropen	0.0020	U	ug/L	P416117	
		Bentazon	0.0013	I	ug/L	P416117	
		Sucralose	0.063		ug/L	P415853	
		Benzovindiflupyr	0.0020	U	ug/L	P416117	
		Carbamazepine	8.0E-04	U	ug/L	P416117	
		Clothianidin	0.0020	U	ug/L	P416117	
		Dinotefuran	0.0020	U	ug/L	P416117	
		Diuron	0.0020	U	ug/L	P416117	
		Fenuron	0.032	U	ug/L	P416117	
		Fluridone	8.0E-04	U	ug/L	P416117	
		Imazapyr	0.022		ug/L	P416117	
		Hydrocodone	0.0020	U	ug/L	P416117	
		Ibuprofen	0.080	U	ug/L	P416117	
		Imidacloprid	0.0020	UJ	ug/L	P416117	LCS, MS
		Linuron	0.0040	U	ug/L	P416117	
		Mandestrobin	0.0020	U	ug/L	P416117	
		MCP	0.0040	U	ug/L	P416117	
		Naproxen	0.0080	U	ug/L	P416117	
		Primidone	0.0040	U	ug/L	P416117	
		Pyraclostrobin	0.0020	U	ug/L	P416117	

Field ID: G1CE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337861	EPA 8321B	Silvex	0.0040	U	ug/L	P416117	
		Thiamethoxam	0.0020	U	ug/L	P416117	
		Tolfenpyrad	0.0020	U	ug/L	P416117	
		Triclopyr	0.0040	U	ug/L	P416117	
2337862	EPA 200.7 Rev. 4.4	Calcium	4.50		mg/L	P416003	
		Iron	410		ug/L	P416003	
		Magnesium	1.82		mg/L	P416003	
		Potassium	0.96	I	mg/L	P416003	
		Sodium	8.0		mg/L	P416003	
		Strontium	19.0		ug/L	P416003	
		Tin	3.0	U	ug/L	P416003	
		Titanium	1.3	I	ug/L	P416003	
		Vanadium	2.0	U	ug/L	P416003	
		Zinc	5.0	U	ug/L	P416003	
	EPA 200.8 Rev. 5.4	Aluminum	166		ug/L	P416003	
		Antimony	0.074	I	ug/L	P416003	
		Arsenic	0.96		ug/L	P416003	
		Barium	10.1		ug/L	P416003	
		Beryllium	0.018	I	ug/L	P416003	
		Boron	36.2		ug/L	P416003	
		Cadmium	0.020	U	ug/L	P416003	
		Chromium	0.44	I	ug/L	P416003	
		Cobalt	0.073	I	ug/L	P416003	
		Copper	1.62		ug/L	P416003	
		Lead	0.56		ug/L	P416003	
		Manganese	6.29		ug/L	P416003	
		Molybdenum	0.15	U	ug/L	P416003	
		Nickel	0.50	U	ug/L	P416003	
		Selenium	0.20	U	ug/L	P416003	
		Silver	0.010	U	ug/L	P416003	
		Thallium	0.10	U	ug/L	P416003	
	SM 2340 B-2011	Hardness	18.8		mg/L	P416003	
2337863	EPA 8270E	Oxybenzone**	9.5	U	ng/L	P415865	
		Acetochlor	0.24	U	ng/L	P415865	
		Octinoxate**	19	U	ng/L	P415865	RPD
		Alachlor	0.24	U	ng/L	P415865	
		Avobenzone**	95	U	ng/L	P415865	RPD
		Ametryn	0.57	U	ng/L	P415865	
		Atrazine	0.24	U	ng/L	P415865	
		PBDE-47**	3.8	U	ng/L	P415865	RPD
		Atrazine Desethyl	1.4	U	ng/L	P415865	
		PBDE-99**	4.8	U	ng/L	P415865	RPD
		Azinphos Methyl	1.9	U	ng/L	P415865	
		Tri-o-cresyl Phosphate**	5.7	U	ng/L	P415865	
		Azoxystrobin	0.48	U	ng/L	P415865	

Field ID: G1CE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337863	EPA 8270E	Bromacil	0.48	U	ng/L	P415865	
		2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)**	11	U	ng/L	P415865	RPD
		Butylate	0.38	U	ng/L	P415865	
		Caffeine**	7.1	U	ng/L	P415865	
		Carbophenothion	0.19	U	ng/L	P415865	
		Carfentrazone Ethyl	0.095	U	ng/L	P415865	
		Chlorfenapyr	0.17	U	ng/L	P415865	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P415865	
		Chlorpyrifos Methyl	0.048	U	ng/L	P415865	
		Coumaphos	0.48	U	ng/L	P415865	
		Cyanazine	3.1	U	ng/L	P415865	
		Cyprodinil	0.095	U	ng/L	P415865	
		Demeton	1.4	U	ng/L	P415865	
		Diazinon	0.12	U	ng/L	P415865	
		Difenoconazole	0.57	U	ng/L	P415865	
		Dimethenamid	0.095	UJ	ng/L	P415865	LCS
		Dimethomorph	0.17	U	ng/L	P415865	
		Disulfoton	0.48	U	ng/L	P415865	
		Dithiopyr	0.17	U	ng/L	P415865	
		EPTC	1.2	U	ng/L	P415865	
		Ethion	0.14	UJ	ng/L	P415865	LCS
		Ethoprop	0.095	U	ng/L	P415865	
		Etridiazole	0.14	U	ng/L	P415865	
		Fenamiphos	0.48	U	ng/L	P415865	
		Fenbuconazole	0.12	U	ng/L	P415865	
		Fipronil	0.24	U	ng/L	P415865	
		Fipronil Desulfinyl**	0.12	U	ng/L	P415865	
		Fipronil Sulfide	0.14	U	ng/L	P415865	
		Fipronil Sulfone	0.14	U	ng/L	P415865	
		Fluazifop-P-butyl	0.095	U	ng/L	P415865	
		Fludioxonil	0.12	U	ng/L	P415865	
		Flumioxazin	1.7	U	ng/L	P415865	
		Flutolanil	0.095	U	ng/L	P415865	
		Fluxapyroxad	0.095	U	ng/L	P415865	
		Fonofos	0.19	U	ng/L	P415865	
		Hexazinone	8.6		ng/L	P415865	
		Imazalil	0.71	U	ng/L	P415865	
		Iprodione	0.57	U	ng/L	P415865	MS
		Loratadine**	0.095	U	ng/L	P415865	
		Malathion	0.33	U	ng/L	P415865	
		Metalaxyl	0.71	U	ng/L	P415865	
		Metolachlor	0.33	U	ng/L	P415865	
		Metribuzin	2.4	U	ng/L	P415865	
		Mevinphos	1.0	U	ng/L	P415865	

Field ID: G1CE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2337863	EPA 8270E	Molinate	0.29	U	ng/L	P415865	
		Myclobutanil	0.24	U	ng/L	P415865	
		Naled	1.4	U	ng/L	P415865	
		Napropamide	0.38	U	ng/L	P415865	
		Norflurazon	0.48	U	ng/L	P415865	
		Oxadiazon	0.29	U	ng/L	P415865	
		Oxyfluorfen	0.14	U	ng/L	P415865	
		Parathion Ethyl	0.24	U	ng/L	P415865	
		Parathion Methyl	0.52	U	ng/L	P415865	
		Pendimethalin	0.95	U	ng/L	P415865	
		Phenytol**	3.3	U	ng/L	P415865	MS
		Phorate	0.50	U	ng/L	P415865	
		Prodiamine	0.17	U	ng/L	P415865	
		Prometon	0.86	U	ng/L	P415865	
		Prometryn	0.19	U	ng/L	P415865	
		Pronamide	0.14	U	ng/L	P415865	
		Propanil	0.12	U	ng/L	P415865	
		Propargite	1.4	U	ng/L	P415865	
		Propiconazole	0.48	U	ng/L	P415865	
		Pyraflufen Ethyl	0.24	U	ng/L	P415865	
		Pyridaben	0.43	U	ng/L	P415865	
		Pyriproxyfen	0.12	U	ng/L	P415865	RPD
		Simazine	0.48	U	ng/L	P415865	
		Stirophos	0.12	U	ng/L	P415865	
		Sulfentrazone	0.48	U	ng/L	P415865	MS
		Tebuconazole	0.48	U	ng/L	P415865	
		Terbufos	0.095	U	ng/L	P415865	
		Terbutylazine	0.40	U	ng/L	P415865	
		Thiobencarb	0.57	U	ng/L	P415865	
		Triadimefon	0.24	U	ng/L	P415865	

Ref. Method and Comment:

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

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 07/01/2022.

EPA 8270E: MS accuracy for multiple parameters not assessed due to high content of these parameters in the sample spiked. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P415985

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416003

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: P416003

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: P416149

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416263

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416182

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415980

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

Reference Method: EPA 8270E
Batch ID: P415865

Component	Result	Code	Units
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	12	U	ng/L
Acetochlor	0.25	U	ng/L
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Avobenzone	100	U	ng/L
Avobenzone	100	U	ng/L
Azinphos Methyl	2.0	U	ng/L
Azinphos Methyl	2.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415865

Component	Result	Code	Units
Azoxystrobin	0.50	U	ng/L
Azoxystrobin	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Butylate	0.40	U	ng/L
Caffeine	7.5	U	ng/L
Caffeine	7.5	U	ng/L
Carbophenothion	0.20	U	ng/L
Carbophenothion	0.20	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Carfentrazone Ethyl	0.10	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorfenapyr	0.18	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Chlorpyrifos Methyl	0.050	U	ng/L
Coumaphos	0.50	U	ng/L
Coumaphos	0.50	U	ng/L
Cyanazine	3.2	U	ng/L
Cyanazine	3.2	U	ng/L
Cyprodinil	0.10	U	ng/L
Cyprodinil	0.10	U	ng/L
Demeton	1.5	U	ng/L
Demeton	1.5	U	ng/L
Diazinon	0.12	U	ng/L
Diazinon	0.12	U	ng/L
Difenoconazole	0.60	U	ng/L
Difenoconazole	0.60	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethenamid	0.10	U	ng/L
Dimethomorph	0.18	U	ng/L
Dimethomorph	0.18	U	ng/L
Disulfoton	0.50	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.18	U	ng/L
Dithiopyr	0.18	U	ng/L
EPTC	1.2	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Ethoprop	0.10	U	ng/L
Etridiazole	0.15	U	ng/L
Etridiazole	0.15	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenamiphos	0.50	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fenbuconazole	0.12	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil	0.25	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415865

Component	Result	Code	Units
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fluazifop-P-butyl	0.10	U	ng/L
Fludioxonil	0.12	U	ng/L
Fludioxonil	0.12	U	ng/L
Flumioxazin	1.8	U	ng/L
Flumioxazin	1.8	U	ng/L
Flutolanil	0.10	U	ng/L
Flutolanil	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fluxapyroxad	0.10	U	ng/L
Fonofos	0.20	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Hexazinone	0.50	U	ng/L
Imazalil	0.75	U	ng/L
Imazalil	0.75	U	ng/L
Iprodione	0.60	U	ng/L
Iprodione	0.60	U	ng/L
Loratadine	0.10	U	ng/L
Loratadine	0.10	U	ng/L
Malathion	0.35	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.75	U	ng/L
Metaxyl	0.75	U	ng/L
Metolachlor	0.35	U	ng/L
Metolachlor	0.35	U	ng/L
Metribuzin	2.5	U	ng/L
Metribuzin	2.5	U	ng/L
Mevinphos	1.0	U	ng/L
Mevinphos	1.0	U	ng/L
Molinate	0.30	U	ng/L
Molinate	0.30	U	ng/L
Myclobutanil	0.25	U	ng/L
Myclobutanil	0.25	U	ng/L
Naled	1.5	U	ng/L
Naled	1.5	U	ng/L
Napropamide	0.40	U	ng/L
Napropamide	0.40	U	ng/L
Norflurazon	0.50	U	ng/L
Norflurazon	0.50	U	ng/L
Octinoxate	20	U	ng/L
Octinoxate	20	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxadiazon	0.30	U	ng/L
Oxybenzone	10	U	ng/L
Oxybenzone	10	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415865

Component	Result	Code	Units
Oxyfluorfen	0.15	U	ng/L
Oxyfluorfen	0.15	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Parathion Methyl	0.55	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-47	4.0	U	ng/L
PBDE-99	5.0	U	ng/L
PBDE-99	5.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Pendimethalin	1.0	U	ng/L
Phenytol	3.5	U	ng/L
Phenytol	3.5	U	ng/L
Phorate	0.52	U	ng/L
Phorate	0.52	U	ng/L
Prodiatone	0.18	U	ng/L
Prodiatone	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Prometryn	0.20	U	ng/L
Pronamide	0.15	U	ng/L
Pronamide	0.15	U	ng/L
Propanil	0.12	U	ng/L
Propanil	0.12	U	ng/L
Propargite	1.5	U	ng/L
Propargite	1.5	U	ng/L
Propiconazole	0.50	U	ng/L
Propiconazole	0.50	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyraflufen Ethyl	0.25	U	ng/L
Pyridaben	0.45	U	ng/L
Pyridaben	0.45	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Pyriproxyfen	0.12	U	ng/L
Simazine	0.50	U	ng/L
Simazine	0.50	U	ng/L
Stirophos	0.12	U	ng/L
Stirophos	0.12	U	ng/L
Sulfentrazone	0.50	U	ng/L
Sulfentrazone	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L
Terbutylazine	0.42	U	ng/L
Thiobencarb	0.60	U	ng/L
Thiobencarb	0.60	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L
Tri-o-cresyl Phosphate	6.0	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E

Batch ID: P415865

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

Reference Method: EPA 8321B

Batch ID: P415853

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: P416117

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

Reference Method: SM 2320 B-2011

Batch ID: P416321

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P416197

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P416166

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P416106

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P415985

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.1		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	95.8		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	100		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	103		P	85 - 115
Sodium	104		P	85 - 115
Strontium	106		P	85 - 115
Tin	106		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	97.4		P	85 - 115
Arsenic	96.4		P	85 - 115
Barium	102		P	85 - 115
Beryllium	92.7		P	85 - 115
Boron	109		P	85 - 115
Cadmium	96.4		P	85 - 115
Chromium	96.2		P	85 - 115
Cobalt	99.1		P	85 - 115
Copper	96.9		P	85 - 115
Lead	97.6		P	85 - 115
Manganese	97.2		P	85 - 115
Molybdenum	97.2		P	85 - 115
Nickel	98.3		P	85 - 115
Selenium	96.1		P	85 - 115
Silver	97.5		P	85 - 115
Thallium	98.1		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416263

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416182

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	102		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415980

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

Reference Method: EPA 8270E
Batch ID: P415865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	97.9		P	50 - 150
Acetochlor	91.0		P	70 - 121
Alachlor	85.1		P	68 - 119
Ametryn	77.7		P	64 - 139
Atrazine	88.7		P	76 - 120
Atrazine Desethyl	64.5		P	44 - 126
Avobenzone	88.9		P	76 - 212
Azinphos Methyl	124		P	43 - 192
Azoxystrobin	114		P	36 - 224
Bromacil	71.1		P	52 - 121
Butylate	51.1		P	28 - 91.0
Caffeine	70.7		P	50 - 134
Carbophenothion	92.4		P	56 - 129
Carfentrazone Ethyl	94.2		P	60 - 141
Chlorfenapyr	76.4		P	56 - 115
Chlorpyrifos Ethyl	79.9		P	60 - 118

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P415865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlorpyrifos Methyl	77.0		P	68 - 119
Coumaphos	80.5		P	18 - 250
Cyanazine	79.7		P	61 - 250
Cyprodinil	77.2		P	55 - 145
Demeton	73.5		P	30 - 159
Diazinon	91.5		P	70 - 123
Difenoconazole	89.3		P	49 - 204
Dimethenamid	58.4		F	64 - 115
Dimethomorph	159		P	12 - 219
Disulfoton	79.1		P	44 - 125
Dithiopyr	84.1		P	64 - 115
EPTC	45.2		P	28 - 86.0
Ethion	28.5		F	33 - 125
Ethoprop	78.9		P	64 - 116
Etridiazole	59.0		P	34 - 91.0
Fenamiphos	71.4		P	12 - 127
Fenbuconazole	87.8		P	59 - 151
Fipronil	85.3		P	67 - 129
Fipronil Desulfinyl	85.0		P	65 - 127
Fipronil Sulfide	64.7		P	61 - 116
Fipronil Sulfone	94.3		P	55 - 117
Fluazifop-P-butyl	92.4		P	62 - 127
Fludioxonil	70.8		P	62 - 128
Flumioxazin	99.2		P	33 - 250
Flutolanil	74.4		P	56 - 127
Fluxapyroxad	63.4		P	45 - 128
Fonofos	68.2		P	62 - 111
Hexazinone	68.2		P	46 - 139
Imazalil	79.9		P	38 - 142
Iprodione	77.3		P	47 - 135
Loratadine	164		P	10 - 244
Malathion	91.4		P	61 - 139
Metaxyl	86.0		P	10 - 119
Metolachlor	82.9		P	65 - 118
Metribuzin	88.1		P	51 - 250
Mevinphos	71.5		P	53 - 121
Molinate	59.1		P	42 - 96.0
Myclobutanil	78.8		P	55 - 128
Naled	78.5		P	10 - 98.0
Napropamide	54.1		P	49 - 121
Norflurazon	74.6		P	61 - 126
Octinoxate	86.1		P	30 - 159
Oxadiazon	72.2		P	59 - 116
Oxybenzone	78.6		P	61 - 139
Oxyfluorfen	109		P	64 - 137
Parathion Ethyl	80.5		P	70 - 112
Parathion Methyl	106		P	76 - 133
PBDE-47	84.7		P	50 - 150
PBDE-99	84.9		P	50 - 150
Pendimethalin	90.1		P	52 - 117
Phenytoin	15.7		P	10 - 199
Phorate	74.2		P	48 - 121

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P415865

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prodiamine	53.2		P	26 - 142
Prometon	64.0		P	43 - 123
Prometryn	74.6		P	66 - 127
Pronamide	95.9		P	75 - 121
Propanil	77.7		P	45 - 150
Propargite	43.3		P	42 - 208
Propiconazole	74.2		P	60 - 125
Pyraflufen Ethyl	82.8		P	70 - 138
Pyridaben	73.1		P	35 - 245
Pyriproxyfen	70.6		P	30 - 149
Simazine	80.3		P	72 - 125
Stiophos	36.7		P	29 - 164
Sulfentrazone	82.2		P	21 - 139
Tebuconazole	30.7		P	10 - 115
Terbufos	91.2		P	60 - 123
Terbuthylazine	89.0		P	72 - 115
Thiobencarb	87.5		P	31 - 139
Tri-o-cresyl Phosphate	82.3		P	50 - 150
Triadimefon	65.6		P	65 - 116

Reference Method: EPA 8321B

Batch ID: P415853

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	98.8		P	40 - 150
AMPA	102		P	40 - 150
Endothall	94.6		P	40 - 150
Glufosinate	95.1		P	40 - 150
Glyphosate	102		P	40 - 150
Sucralose	98.5		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.6		P	40 - 150
2,4,5-T	50.0		P	40 - 150
Acetaminophen	93.8		P	30 - 150
Acetamiprid	109		P	40 - 150
Afidopyropen	59.1		P	30 - 150
Bentazon	54.3		P	30 - 150
Benzovindiflupyr	87.6		P	40 - 150
Carbamazepine	84.8		P	40 - 150
Clothianidin	90.4		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	63.5		P	40 - 150
Fenuron	99.0		P	40 - 150
Fluridone	82.0		P	40 - 150
Hydrocodone	94.8		P	40 - 150
Ibuprofen	66.9		P	40 - 150
Imazapyr	114		P	40 - 150
Imidacloprid	158		F	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P416117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Linuron	63.0		P	40 - 150
Mandestrobin	82.6		P	40 - 150
MCPPP	80.4		P	40 - 150
Naproxen	59.7		P	40 - 150
Primidone	99.8		P	40 - 150
Pyraclostrobin	83.5		P	40 - 150
Silvex	58.2		P	40 - 150
Thiamethoxam	106		P	40 - 150
Tolfenpyrad	39.0		P	30 - 150
Triclopyr	60.5		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P416321

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

Reference Method: SM 4500-F- C-2011

Batch ID: P416325

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.4		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P416106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337973	Calcium	103	105	P/P	80 - 120
2337973	Iron	101	104	P/P	80 - 120
2337973	Magnesium	103	105	P/P	80 - 120
2337973	Potassium	106	109	P/P	80 - 120
2337973	Sodium	106	99.6	P/P	80 - 120
2337973	Strontium	105	106	P/P	80 - 120
2337973	Tin	106	107	P/P	80 - 120
2337973	Titanium	106	107	P/P	80 - 120
2337973	Vanadium	99.1	99.3	P/P	80 - 120
2337973	Zinc	104	104	P/P	80 - 120
2338026	Calcium	99.2		P	80 - 120
2338026	Iron	101		P	80 - 120
2338026	Magnesium	101		P	80 - 120
2338026	Potassium	101		P	80 - 120
2338026	Sodium	106		P	80 - 120
2338026	Strontium	106		P	80 - 120
2338026	Tin	105		P	80 - 120
2338026	Titanium	106		P	80 - 120
2338026	Vanadium	98.8		P	80 - 120
2338026	Zinc	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337973	Aluminum	102	98.5	P/P	80 - 120
2337973	Antimony	98.0	96.1	P/P	80 - 120
2337973	Arsenic	97.2	94.8	P/P	80 - 120
2337973	Barium	101	98.8	P/P	80 - 120
2337973	Beryllium	97.4	94.4	P/P	80 - 120
2337973	Boron	108	103	P/P	80 - 120
2337973	Cadmium	97.0	93.9	P/P	80 - 120
2337973	Chromium	96.2	92.8	P/P	80 - 120
2337973	Cobalt	97.8	95.2	P/P	80 - 120
2337973	Copper	97.2	94.6	P/P	80 - 120
2337973	Lead	96.8	94.3	P/P	80 - 120
2337973	Manganese	96.8	93.5	P/P	80 - 120
2337973	Molybdenum	96.9	95.0	P/P	80 - 120
2337973	Nickel	98.5	96.1	P/P	80 - 120
2337973	Selenium	95.8	93.9	P/P	80 - 120
2337973	Silver	95.9	95.4	P/P	80 - 120
2337973	Thallium	97.3	96.1	P/P	80 - 120
2338026	Aluminum	98.0		P	80 - 120
2338026	Antimony	97.2		P	80 - 120
2338026	Arsenic	97.3		P	80 - 120
2338026	Barium	100		P	80 - 120
2338026	Beryllium	95.0		P	80 - 120
2338026	Boron	104		P	80 - 120
2338026	Cadmium	96.2		P	80 - 120
2338026	Chromium	95.8		P	80 - 120
2338026	Cobalt	98.1		P	80 - 120
2338026	Copper	99.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338026	Lead	96.3		P	80 - 120
2338026	Manganese	96.7		P	80 - 120
2338026	Molybdenum	96.8		P	80 - 120
2338026	Nickel	98.4		P	80 - 120
2338026	Selenium	94.7		P	80 - 120
2338026	Silver	95.0		P	80 - 120
2338026	Thallium	97.4		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Chloride	98.4		P	90 - 110
2337733	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337729	Sulfate	98.8		P	90 - 110
2337733	Sulfate	100		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416263

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337715	Ammonia-N	98.0	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416182

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338271	Kjeldahl Nitrogen	108	93.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337646	NO2NO3-N	98.5	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337909	Total-P	102	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415980

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337859	O-Phosphate-P	98.8	99.0	P/P	90 - 110

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P415865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337570	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	86.6	122	P/P	50 - 150
2337570	Acetochlor	92.9	96.2	P/P	65 - 124
2337570	Alachlor	93.6	115	P/P	61 - 121
2337570	Ametryn	95.7	106	P/P	52 - 216
2337570	Atrazine	107	117	P/P	68 - 133
2337570	Atrazine Desethyl	48.0	56.3	P/P	15 - 160
2337570	Avobenzone	78.4	109	P/P	59 - 206
2337570	Azinphos Methyl	97.9	155	P/P	40 - 292
2337570	Azoxystrobin	126	126	P/P	12 - 242
2337570	Butylate	57.4	49.4	P/P	14 - 94.0
2337570	Caffeine	71.7	75.0	P/P	10 - 226
2337570	Carbophenothion	109	107	P/P	49 - 122
2337570	Carfentrazone Ethyl	107	101	P/P	53 - 138
2337570	Chlorfenapyr	108	107	P/P	50 - 150
2337570	Chlorpyrifos Ethyl	85.7	96.4	P/P	52 - 122
2337570	Chlorpyrifos Methyl	88.2	90.8	P/P	66 - 117
2337570	Coumaphos	76.3	79.6	P/P	50 - 220
2337570	Cyanazine	83.3	77.9	P/P	43 - 245
2337570	Cyprodinil	98.2	84.3	P/P	50 - 150
2337570	Demeton	104	104	P/P	43 - 188
2337570	Diazinon	87.8	103	P/P	69 - 131
2337570	Dimethenamid	64.4	73.0	P/P	55 - 118
2337570	Dimethomorph	106	102	P/P	50 - 150
2337570	Disulfoton	86.6	92.4	P/P	38 - 141
2337570	Dithiopyr	80.7	80.7	P/P	42 - 116
2337570	EPTC	55.3	53.2	P/P	18 - 85.0
2337570	Ethion	23.6	36.0	P/P	10 - 131
2337570	Ethoprop	93.0	99.9	P/P	65 - 129
2337570	Etridiazole	67.3	62.7	P/P	50 - 150
2337570	Fenamiphos	92.6	94.5	P/P	31 - 137
2337570	Fenbuconazole	81.3	85.0	P/P	57 - 160
2337570	Fipronil	88.8	83.0	P/P	62 - 132
2337570	Fipronil Desulfinyl	83.7	92.6	P/P	57 - 131
2337570	Fipronil Sulfide	90.4	80.4	P/P	15 - 138
2337570	Fipronil Sulfone	123	126	P/P	21 - 134
2337570	Fluazifop-P-butyl	117	129	P/P	54 - 133
2337570	Fludioxonil	89.8	92.4	P/P	58 - 127
2337570	Flumioxazin	88.4	111	P/P	33 - 300
2337570	Flutolanil	95.0	103	P/P	42 - 130
2337570	Fluxapyroxad	81.5	104	P/P	23 - 141
2337570	Fonofos	88.7	100	P/P	58 - 119
2337570	Hexazinone	82.8	91.1	P/P	68 - 172
2337570	Imazalil	185	160	P/P	48 - 283
2337570	Iprodione	131	148	P/F	38 - 140
2337570	Loratadine	99.1	93.5	P/P	50 - 150
2337570	Malathion	103	106	P/P	40 - 137
2337570	Metolachlor	91.7	91.2	P/P	55 - 122
2337570	Metribuzin	105	112	P/P	38 - 187
2337570	Mevinphos	84.8	79.5	P/P	54 - 134
2337570	Molinate	73.6	72.1	P/P	41 - 97.0
2337570	Myclobutanil	96.0	91.6	P/P	56 - 125
2337570	Naled	90.2	91.2	P/P	10 - 108

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P415865

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337570	Napropamide	68.4	56.7	P/P	50 - 150
2337570	Octinoxate	83.3	114	P/P	25 - 150
2337570	Oxadiazon	104	94.6	P/P	40 - 119
2337570	Oxybenzone	81.5	101	P/P	59 - 147
2337570	Oxyfluorfen	119	123	P/P	61 - 153
2337570	Parathion Ethyl	92.5	94.0	P/P	59 - 130
2337570	Parathion Methyl	122	132	P/P	65 - 155
2337570	PBDE-47	78.0	110	P/P	50 - 150
2337570	PBDE-99	75.0	108	P/P	50 - 150
2337570	Pendimethalin	119	115	P/P	49 - 138
2337570	Phenytol	25.3	29.5	F/F	50 - 200
2337570	Phorate	92.8	95.1	P/P	54 - 161
2337570	Prodiamine	62.3	66.7	P/P	33 - 161
2337570	Prometon	79.8	80.2	P/P	48 - 140
2337570	Prometryn	76.4	71.6	P/P	55 - 134
2337570	Pronamide	102	86.4	P/P	66 - 137
2337570	Propanil	76.1	74.4	P/P	50 - 150
2337570	Propargite	50.4	66.2	P/P	50 - 200
2337570	Propiconazole	71.8	71.7	P/P	36 - 150
2337570	Pyraflufen Ethyl	84.2	89.4	P/P	50 - 150
2337570	Pyridaben	73.3	79.5	P/P	50 - 200
2337570	Pyriproxyfen	45.5	85.3	P/P	10 - 165
2337570	Stiropfos	74.4	86.3	P/P	50 - 150
2337570	Sulfentrazone	186	224	F/F	34 - 140
2337570	Tebuconazole	41.4	43.3	P/P	10 - 127
2337570	Terbufos	99.6	110	P/P	59 - 138
2337570	Terbuthylazine	93.3	105	P/P	68 - 119
2337570	Thiobencarb	87.7	83.2	P/P	50 - 150
2337570	Tri-o-cresyl Phosphate	81.0	103	P/P	50 - 150
2337570	Triadimefon	63.3	63.8	P/P	50 - 150

Reference Method: EPA 8321B

Batch ID: P415853

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337358	Acesulfame K	101	101	P/P	40 - 150
2337358	AMPA	95.0	97.0	P/P	40 - 150
2337358	Endothall	96.0	96.6	P/P	40 - 150
2337358	Glufosinate	87.6	85.2	P/P	40 - 150
2337358	Glyphosate	78.8	84.4	P/P	40 - 150
2337358	Sucralose	101	101	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338388	2,4-D	79.1	96.3	P/P	40 - 150
2338388	2,4,5-T	56.8	58.6	P/P	40 - 150
2338388	Acetaminophen	92.5	92.6	P/P	30 - 150
2338388	Acetamiprid	92.7	100	P/P	40 - 150
2338388	Afidopyropen	65.7	68.2	P/P	30 - 150
2338388	Bentazon	51.8	55.5	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P416117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338388	Benzovindiflupyr	89.5	102	P/P	40 - 150
2338388	Carbamazepine	82.7	88.4	P/P	40 - 150
2338388	Clothianidin	99.9	111	P/P	40 - 150
2338388	Dinotefuran	128	132	P/P	40 - 150
2338388	Diuron	66.7	65.1	P/P	40 - 150
2338388	Fenuron	97.3	105	P/P	40 - 150
2338388	Fluridone	81.8	90.2	P/P	40 - 150
2338388	Hydrocodone	101	107	P/P	40 - 150
2338388	Ibuprofen	71.8	87.8	P/P	40 - 150
2338388	Imazapyr	95.0	112	P/P	40 - 150
2338388	Imidacloprid	164	175	F/F	40 - 150
2338388	Linuron	76.4	76.2	P/P	40 - 150
2338388	Mandestrobin	87.0	95.0	P/P	40 - 150
2338388	MCP	86.1	91.6	P/P	40 - 150
2338388	Naproxen	74.4	67.9	P/P	40 - 150
2338388	Primidone	121	111	P/P	40 - 150
2338388	Pyraclostrobin	91.0	95.4	P/P	40 - 150
2338388	Silvex	51.0	63.0	P/P	40 - 150
2338388	Thiamethoxam	116	126	P/P	40 - 150
2338388	Tolfenpyrad	50.8	55.3	P/P	30 - 150
2338388	Triclopyr	65.0	68.0	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P416325

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338014	Fluoride	99.2	99.2	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P416106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337911	Organic Carbon	100	100	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P415985

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337846	Color (true)	1.23	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P415989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337973	Calcium	1.54	Spike	P	0 - 20
2337973	Iron	2.27	Spike	P	0 - 20
2337973	Magnesium	1.79	Spike	P	0 - 20
2337973	Potassium	2.95	Spike	P	0 - 20
2337973	Sodium	4.36	Spike	P	0 - 20
2337973	Strontium	0.295	Spike	P	0 - 20
2337973	Tin	0.949	Spike	P	0 - 20
2337973	Titanium	0.467	Spike	P	0 - 20
2337973	Vanadium	0.214	Spike	P	0 - 20
2337973	Zinc	0.275	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337973	Aluminum	3.33	Spike	P	0 - 20
2337973	Antimony	1.96	Spike	P	0 - 20
2337973	Arsenic	2.45	Spike	P	0 - 20
2337973	Barium	2.34	Spike	P	0 - 20
2337973	Beryllium	3.16	Spike	P	0 - 20
2337973	Boron	3.97	Spike	P	0 - 20
2337973	Cadmium	3.25	Spike	P	0 - 20
2337973	Chromium	3.59	Spike	P	0 - 20
2337973	Cobalt	2.62	Spike	P	0 - 20
2337973	Copper	2.75	Spike	P	0 - 20
2337973	Lead	2.61	Spike	P	0 - 20
2337973	Manganese	3.15	Spike	P	0 - 20
2337973	Molybdenum	1.91	Spike	P	0 - 20
2337973	Nickel	2.50	Spike	P	0 - 20
2337973	Selenium	1.91	Spike	P	0 - 20
2337973	Silver	0.577	Spike	P	0 - 20
2337973	Thallium	1.31	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Chloride	0.118	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P416152

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	Sulfate	0.0320	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P416263

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337715	Ammonia-N	2.32	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P416182

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338271	Kjeldahl Nitrogen	8.81	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P416428

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337646	NO2NO3-N	0.966	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P416139

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337909	Total-P	1.60	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P415980

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337859	O-Phosphate-P	0.202	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P415865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337570	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	33.7	Spike	F	0 - 30
2337570	Acetochlor	3.47	Spike	P	0 - 27

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P415865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337570	Alachlor	20.7	Spike	P	0 - 27
2337570	Ametryn	9.78	Spike	P	0 - 34
2337570	Atrazine	6.56	Spike	P	0 - 41
2337570	Atrazine Desethyl	15.8	Spike	P	0 - 38
2337570	Avobenzone	32.7	Spike	F	0 - 30
2337570	Azinphos Methyl	45.0	Spike	P	0 - 62
2337570	Azoxystrobin	0.119	Spike	P	0 - 32
2337570	Bromacil	8.50	Spike	P	0 - 30
2337570	Butylate	14.9	Spike	P	0 - 59
2337570	Caffeine	4.51	Spike	P	0 - 60
2337570	Carbophenothion	1.59	Spike	P	0 - 25
2337570	Carfentrazone Ethyl	5.92	Spike	P	0 - 26
2337570	Chlorfenapyr	0.771	Spike	P	0 - 30
2337570	Chlorpyrifos Ethyl	11.8	Spike	P	0 - 27
2337570	Chlorpyrifos Methyl	2.82	Spike	P	0 - 26
2337570	Coumaphos	4.35	Spike	P	0 - 30
2337570	Cyanazine	6.71	Spike	P	0 - 58
2337570	Cyprodinil	15.2	Spike	P	0 - 30
2337570	Demeton	0.277	Spike	P	0 - 25
2337570	Diazinon	15.8	Spike	P	0 - 29
2337570	Difenoconazole	7.19	Spike	P	0 - 25
2337570	Dimethenamid	12.5	Spike	P	0 - 30
2337570	Dimethomorph	3.42	Spike	P	0 - 30
2337570	Disulfoton	6.42	Spike	P	0 - 33
2337570	Dithiopyr	0.0108	Spike	P	0 - 22
2337570	EPTC	3.82	Spike	P	0 - 38
2337570	Ethion	41.6	Spike	P	0 - 79
2337570	Ethoprop	7.07	Spike	P	0 - 23
2337570	Etridiazole	7.02	Spike	P	0 - 30
2337570	Fenamiphos	2.07	Spike	P	0 - 58
2337570	Fenbuconazole	3.99	Spike	P	0 - 37
2337570	Fipronil	6.85	Spike	P	0 - 33
2337570	Fipronil Desulfinyl	10.0	Spike	P	0 - 26
2337570	Fipronil Sulfide	11.7	Spike	P	0 - 37
2337570	Fipronil Sulfone	2.71	Spike	P	0 - 50
2337570	Fluazifop-P-butyl	9.56	Spike	P	0 - 24
2337570	Fludioxonil	2.67	Spike	P	0 - 26
2337570	Flumioxazin	22.7	Spike	P	0 - 37
2337570	Flutolanil	8.03	Spike	P	0 - 26
2337570	Fluxapyroxad	24.1	Spike	P	0 - 34
2337570	Fonofos	12.1	Spike	P	0 - 27
2337570	Hexazinone	9.60	Spike	P	0 - 36
2337570	Imazalil	14.6	Spike	P	0 - 65
2337570	Iprodione	12.4	Spike	P	0 - 33
2337570	Loratadine	5.78	Spike	P	0 - 30
2337570	Malathion	3.06	Spike	P	0 - 44
2337570	Metalaxyl	2.99	Spike	P	0 - 38
2337570	Metolachlor	0.365	Spike	P	0 - 36
2337570	Metribuzin	5.98	Spike	P	0 - 63
2337570	Mevinphos	6.39	Spike	P	0 - 26
2337570	Molinate	2.00	Spike	P	0 - 40

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P415865

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337570	Myclobutanil	4.78	Spike	P	0 - 21
2337570	Naled	1.14	Spike	P	0 - 26
2337570	Napropamide	18.8	Spike	P	0 - 30
2337570	Norflurazon	12.6	Spike	P	0 - 24
2337570	Octinoxate	30.8	Spike	F	0 - 30
2337570	Oxadiazon	9.79	Spike	P	0 - 27
2337570	Oxybenzone	21.8	Spike	P	0 - 30
2337570	Oxyfluorfen	3.55	Spike	P	0 - 24
2337570	Parathion Ethyl	1.65	Spike	P	0 - 28
2337570	Parathion Methyl	7.75	Spike	P	0 - 27
2337570	PBDE-47	34.2	Spike	F	0 - 30
2337570	PBDE-99	36.4	Spike	F	0 - 30
2337570	Pendimethalin	3.57	Spike	P	0 - 31
2337570	Phenytoin	15.1	Spike	P	0 - 30
2337570	Phorate	2.47	Spike	P	0 - 27
2337570	Prodiamine	6.91	Spike	P	0 - 52
2337570	Prometon	0.572	Spike	P	0 - 31
2337570	Prometryn	6.45	Spike	P	0 - 28
2337570	Pronamide	16.4	Spike	P	0 - 26
2337570	Propanil	2.29	Spike	P	0 - 30
2337570	Propargite	27.1	Spike	P	0 - 30
2337570	Propiconazole	0.0425	Spike	P	0 - 31
2337570	Pyraflufen Ethyl	5.97	Spike	P	0 - 30
2337570	Pyridaben	8.11	Spike	P	0 - 30
2337570	Pyriproxyfen	60.9	Spike	F	0 - 50
2337570	Simazine	6.40	Spike	P	0 - 29
2337570	Stirophos	14.8	Spike	P	0 - 30
2337570	Sulfentrazone	14.2	Spike	P	0 - 33
2337570	Tebuconazole	4.58	Spike	P	0 - 44
2337570	Terbufos	9.66	Spike	P	0 - 29
2337570	Terbuthylazine	11.4	Spike	P	0 - 27
2337570	Thiobencarb	5.16	Spike	P	0 - 30
2337570	Tri-o-cresyl Phosphate	24.1	Spike	P	0 - 30
2337570	Triadimefon	0.818	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P415853

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337358	Acesulfame K	0.243	Spike	P	0 - 30
2337358	AMPA	2.06	Spike	P	0 - 30
2337358	Endothall	0.564	Spike	P	0 - 30
2337358	Glufosinate	2.77	Spike	P	0 - 30
2337358	Glyphosate	6.86	Spike	P	0 - 30
2337358	Sucralose	0.137	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P416117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338388	2,4-D	19.6	Spike	P	0 - 30
2338388	2,4,5-T	3.02	Spike	P	0 - 30
2338388	Acetaminophen	0.113	Spike	P	0 - 30
2338388	Acetamiprid	7.82	Spike	P	0 - 30
2338388	Afidopyropen	3.78	Spike	P	0 - 30
2338388	Bentazon	6.96	Spike	P	0 - 30
2338388	Benzovindiflupyr	13.1	Spike	P	0 - 30
2338388	Carbamazepine	6.64	Spike	P	0 - 30
2338388	Clothianidin	10.1	Spike	P	0 - 30
2338388	Dinotefuran	3.21	Spike	P	0 - 30
2338388	Diuron	2.48	Spike	P	0 - 30
2338388	Fenuron	7.92	Spike	P	0 - 30
2338388	Fluridone	9.84	Spike	P	0 - 30
2338388	Hydrocodone	5.86	Spike	P	0 - 30
2338388	Ibuprofen	20.0	Spike	P	0 - 30
2338388	Imazapyr	16.9	Spike	P	0 - 30
2338388	Imidacloprid	6.43	Spike	P	0 - 30
2338388	Linuron	0.160	Spike	P	0 - 30
2338388	Mandestrobin	8.76	Spike	P	0 - 30
2338388	MCPP	6.21	Spike	P	0 - 30
2338388	Naproxen	9.06	Spike	P	0 - 30
2338388	Primidone	8.28	Spike	P	0 - 30
2338388	Pyraclostrobin	4.72	Spike	P	0 - 30
2338388	Silvex	21.1	Spike	P	0 - 30
2338388	Thiamethoxam	7.56	Spike	P	0 - 30
2338388	Tolfenpyrad	8.52	Spike	P	0 - 30
2338388	Triclopyr	4.57	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P416321

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338014	Total Alkalinity	0.255	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011

Batch ID: P416197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	TDS	0.0	Sample	P	0 - 10

Reference Method: SM 2540 D-2011

Batch ID: P416166

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337729	TSS	6.67	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P416325

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338014	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P416106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337911	Organic Carbon	0.0628	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2337861
Field Sample ID: G1CE0072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	77.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	111	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.8	P	30 - 160
EPA 8321B	Diuron-d6	50.6	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	85.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	69.7	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	106	P	30 - 160

Lab Sample ID: 2337863
Field Sample ID: G1CE0072

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Caffeine-d9	44.2	P	20 - 200
EPA 8270E	Simazine-d10	87.3	P	71 - 140
EPA 8270E	Terbufos-d10	103	P	62 - 131
EPA 8270E	Terphenyl-d14	94.6	P	52 - 141

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A113156

Included Lab Sample IDs: 2337857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.7	100	P/P	90 - 110
Sulfate	99.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A113168

Included Lab Sample IDs: 2337859

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.7	100	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A113169

Included Lab Sample IDs: 2337857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	96.7	98.7	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A113170

Included Lab Sample IDs: 2337857

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

Reference Method: EPA 8321B

Run ID: A113181

Included Lab Sample IDs: 2337861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	103	P/P	60 - 160
Sucralose	103	99.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113183

Included Lab Sample IDs: 2337861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	97.3	103	P/P	60 - 160
Endothall	84.7	88.5	P/P	60 - 160
Glufosinate	64.9	75.4	P/P	60 - 160
Glyphosate	90.3	99.9	P/P	60 - 160

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113218

Included Lab Sample IDs: 2337862

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	102	P/P	90 - 110
Antimony	99.0	97.0	P/P	90 - 110
Arsenic	100	98.1	P/P	90 - 110
Barium	99.7	98.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113218

Included Lab Sample IDs: 2337862

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Beryllium	98.2	96.2	P/P	90 - 110
Boron	103	103	P/P	90 - 110
Cadmium	98.2	97.2	P/P	90 - 110
Chromium	98.3	98.2	P/P	90 - 110
Cobalt	99.5	100	P/P	90 - 110
Copper	101	100	P/P	90 - 110
Lead	96.7	95.7	P/P	90 - 110
Manganese	98.6	98.7	P/P	90 - 110
Molybdenum	98.7	96.8	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Selenium	99.4	97.1	P/P	90 - 110
Silver	100	99.2	P/P	90 - 110
Thallium	97.0	95.3	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A113244

Included Lab Sample IDs: 2337858

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

Reference Method: EPA 8321B

Run ID: A113301

Included Lab Sample IDs: 2337861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.7	106	P/P	50 - 150
2,4,5-T	105	110	P/P	50 - 150
Acetaminophen	107	106	P/P	60 - 160
Acetamiprid	116	109	P/P	50 - 150
Afidopyropen	99.5	107	P/P	50 - 150
Bentazon	105	109	P/P	50 - 160
Benzovindiflupyr	111	106	P/P	50 - 150
Carbamazepine	108	108	P/P	60 - 150
Clothianidin	103	111	P/P	60 - 150
Dinotefuran	105	105	P/P	50 - 150
Diuron	108	112	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	108	110	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Ibuprofen	74.9	96.5	P/P	50 - 160
Imazapyr	111	110	P/P	50 - 150
Imidacloprid	99.3	99.1	P/P	60 - 150
Linuron	117	109	P/P	60 - 150
Mandestrobin	105	108	P/P	50 - 150
MCPP	105	112	P/P	50 - 150
Naproxen	137	124	P/P	50 - 160
Primidone	110	106	P/P	60 - 150
Pyraclostrobin	108	108	P/P	60 - 150
Silvex	109	87.2	P/P	50 - 150
Thiamethoxam	103	104	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113301
Included Lab Sample IDs: 2337861

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tolfenpyrad	97.6	91.5	P/P	60 - 150
Triclopyr	107	99.6	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A113317
Included Lab Sample IDs: 2337862

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.2	97.6	P/P	90 - 110
Iron	97.1	98.0	P/P	90 - 110
Magnesium	97.3	97.7	P/P	90 - 110
Potassium	99.2	98.8	P/P	90 - 110
Sodium	98.4	99.3	P/P	90 - 110
Strontium	103	104	P/P	90 - 110
Tin	101	102	P/P	90 - 110
Titanium	100	102	P/P	90 - 110
Vanadium	102	102	P/P	90 - 110
Zinc	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A113332
Included Lab Sample IDs: 2337858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.6	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A113361
Included Lab Sample IDs: 2337858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A113365
Included Lab Sample IDs: 2337857

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A113365
Included Lab Sample IDs: 2337857

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
Run ID: A113366
Included Lab Sample IDs: 2337863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	104		P	80 - 120
Ametryn	111		P	80 - 120
Atrazine	102		P	80 - 120
Atrazine Desethyl	109		P	80 - 120
Azinphos Methyl	110		P	80 - 120
Azoxystrobin	98.7		P	80 - 120
Bromacil	107		P	80 - 120
Butylate	96.5		P	80 - 120
Caffeine	106		P	80 - 120
Carbophenothion	116		P	80 - 120
Carfentrazone Ethyl	111		P	80 - 120
Chlorfenapyr	106		P	80 - 120
Chlorpyrifos Ethyl	106		P	80 - 120
Chlorpyrifos Methyl	104		P	80 - 120
Coumaphos	101		P	80 - 120
Cyanazine	111		P	80 - 120
Cyprodinil	99.9		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	103		P	80 - 120
Difenoconazole	104		P	80 - 120
Dimethenamid	108		P	80 - 120
Dimethomorph	107		P	80 - 120
Disulfoton	96.4		P	80 - 120
Dithiopyr	110		P	80 - 120
EPTC	100		P	80 - 120
Ethion	103		P	80 - 120
Ethoprop	102		P	80 - 120
Etridiazole	107		P	80 - 120
Fenamiphos	107		P	80 - 120
Fenbuconazole	107		P	80 - 120
Fipronil	107		P	80 - 120
Fipronil Desulfinyl	105		P	80 - 120
Fipronil Sulfide	102		P	80 - 120
Fipronil Sulfone	117		P	80 - 120
Fluazifop-P-butyl	109		P	80 - 120
Fludioxonil	113		P	80 - 120
Flumioxazin	105		P	80 - 120
Flutolanil	104		P	80 - 120
Fluxapyroxad	101		P	80 - 120
Fonofos	97.6		P	80 - 120
Hexazinone	104		P	80 - 120
Imazalil	108		P	80 - 120
Iprodione	98.2		P	80 - 120
Loratadine	119		P	80 - 120
Malathion	107		P	80 - 120
Metalaxyl	109		P	80 - 120
Metolachlor	108		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	107		P	80 - 120
Molinate	97.7		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E
 Run ID: A113366
 Included Lab Sample IDs: 2337863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Myclobutanil	106		P	80 - 120
Naled	106		P	80 - 120
Napropamide	115		P	80 - 120
Norflurazon	111		P	80 - 120
Oxadiazon	109		P	80 - 120
Oxyfluorfen	114		P	80 - 120
Parathion Ethyl	99.0		P	80 - 120
Parathion Methyl	95.3		P	80 - 120
Pendimethalin	92.0		P	80 - 120
Phenytoin	104		P	80 - 120
Phorate	106		P	80 - 120
Prodiamine	112		P	80 - 120
Prometon	95.1		P	80 - 120
Prometryn	103		P	80 - 120
Pronamide	101		P	80 - 120
Propanil	101		P	80 - 120
Propargite	113		P	80 - 120
Propiconazole	110		P	80 - 120
Pyraflufen Ethyl	117		P	80 - 120
Pyridaben	101		P	80 - 120
Pyriproxyfen	108		P	80 - 120
Simazine	97.1		P	80 - 120
Stirophos	116		P	80 - 120
Sulfentrazone	118		P	80 - 120
Tebuconazole	114		P	80 - 120
Terbufos	98.5		P	80 - 120
Terbutylazine	97.8		P	80 - 120
Thiobencarb	101		P	80 - 120
Triadimefon	110		P	80 - 120

Reference Method: EPA 8270E
 Run ID: A113400
 Included Lab Sample IDs: 2337863

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	103		P	80 - 120
Avobenzene	94.8		P	80 - 120
Octinoxate	95.4		P	80 - 120
Oxybenzone	96.5		P	80 - 120
PBDE-47	99.8		P	80 - 120
PBDE-99	102		P	80 - 120
Tri-o-cresyl Phosphate	98.5		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0
 Run ID: A113420
 Included Lab Sample IDs: 2337858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	103	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A113474

Included Lab Sample IDs: 2337858

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	97.4	104	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			Precision SMP	MS
			LCS				
DEP SOP: NU-094-1	Color (true)	96.1				1.23	
EPA 180.1 Rev. 2.0	Turbidity	95.8				0.0	
EPA 200.7 Rev. 4.4	Calcium	104	103	105	99.2		1.54
	Iron	100	101	104	101		2.27
	Magnesium	101	103	105	101		1.79
	Potassium	103	106	109	101		2.95
	Sodium	104	106	99.6	106		4.36
	Strontium	106	105	106	106		0.295
	Tin	106	106	107	105		0.949
	Titanium	106	106	107	106		0.467
	Vanadium	98.5	99.1	99.3	98.8		0.214
	Zinc	104	104	104	103		0.275
EPA 200.8 Rev. 5.4	Aluminum	103	102	98.5	98.0		3.33
	Antimony	97.4	98.0	96.1	97.2		1.96
	Arsenic	96.4	97.2	94.8	97.3		2.45
	Barium	102	101	98.8	100		2.34
	Beryllium	92.7	97.4	94.4	95.0		3.16
	Boron	109	108	103	104		3.97
	Cadmium	96.4	97.0	93.9	96.2		3.25
	Chromium	96.2	96.2	92.8	95.8		3.59
	Cobalt	99.1	97.8	95.2	98.1		2.62
	Copper	96.9	97.2	94.6	99.2		2.75
	Lead	97.6	96.8	94.3	96.3		2.61
	Manganese	97.2	96.8	93.5	96.7		3.15
	Molybdenum	97.2	96.8	96.9	95.0		1.91
	Nickel	98.3	98.5	96.1	98.4		2.50
	Selenium	96.1	95.8	93.9	94.7		1.91
	Silver	97.5	95.9	95.4	95.0		0.577
	Thallium	98.1	97.3	96.1	97.4		1.31
EPA 300.0 Rev. 2.1	Chloride	101	98.4	99.4		0.118	
	Sulfate	101	98.8	100		0.0320	
EPA 350.1 Rev. 2.0	Ammonia-N	95.2	98.0	95.4			2.32
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	108	93.3			8.81
EPA 353.2 Rev. 2.0	NO2NO3-N	102	98.5	100			0.966
EPA 365.1 Rev. 2.0	Total-P	102	102	104			1.60
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.7	98.8	99.0			0.202
EPA 8270E	2-Ethylhexyl 2,3,4,5-tetrabromobenzoate (EHTBB)	97.9	86.6	122			33.7
	Acetochlor	91.0	92.9	96.2			3.47
	Alachlor	85.1	93.6	115			20.7
	Ametryn	77.7	95.7	106			9.78
	Atrazine	88.7	107	117			6.56
	Atrazine Desethyl	64.5	48.0	56.3			15.8
	Avobenzone	88.9	78.4	109			32.7
	Azinphos Methyl	124	97.9	155			45.0
	Azoxystrobin	114	126	126			0.119
	Bromacil	71.1					8.50
	Butylate	51.1	57.4	49.4			14.9
	Caffeine	70.7	71.7	75.0			4.51
	Carbophenothion	92.4	109	107			1.59
	Carfentrazone Ethyl	94.2	107	101			5.92
	Chlorfenapyr	76.4	108	107			0.771
	Chlorpyrifos Ethyl	79.9	85.7	96.4			11.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision SMP	MS
			LCS			
EPA 8270E	Chlorpyrifos Methyl	77.0	88.2	90.8		2.82
	Coumaphos	80.5	76.3	79.6		4.35
	Cyanazine	79.7	83.3	77.9		6.71
	Cyprodinil	77.2	98.2	84.3		15.2
	Demeton	73.5	104	104		0.277
	Diazinon	91.5	87.8	103		15.8
	Difenoconazole	89.3				7.19
	Dimethenamid	58.4	64.4	73.0		12.5
	Dimethomorph	159	106	102		3.42
	Disulfoton	79.1	86.6	92.4		6.42
	Dithiopyr	84.1	80.7	80.7		0.0108
	EPTC	45.2	55.3	53.2		3.82
	Ethion	28.5	23.6	36.0		41.6
	Ethoprop	78.9	93.0	99.9		7.07
	Etridiazole	59.0	67.3	62.7		7.02
	Fenamiphos	71.4	92.6	94.5		2.07
	Fenbuconazole	87.8	81.3	85.0		3.99
	Fipronil	85.3	88.8	83.0		6.85
	Fipronil Desulfinyl	85.0	83.7	92.6		10.0
	Fipronil Sulfide	64.7	90.4	80.4		11.7
	Fipronil Sulfone	94.3	123	126		2.71
	Fluazifop-P-butyl	92.4	117	129		9.56
	Fludioxonil	70.8	89.8	92.4		2.67
	Flumioxazin	99.2	88.4	111		22.7
	Flutolanil	74.4	95.0	103		8.03
	Fluxapyroxad	63.4	81.5	104		24.1
	Fonofos	68.2	88.7	100		12.1
	Hexazinone	68.2	82.8	91.1		9.60
	Imazalil	79.9	185	160		14.6
	Iprodione	77.3	131	148		12.4
	Loratadine	164	99.1	93.5		5.78
	Malathion	91.4	103	106		3.06
	Metalaxyl	86.0				2.99
	Metolachlor	82.9	91.7	91.2		0.365
	Metribuzin	88.1	105	112		5.98
	Mevinphos	71.5	84.8	79.5		6.39
	Molinate	59.1	73.6	72.1		2.00
	Myclobutanil	78.8	96.0	91.6		4.78
	Naled	78.5	90.2	91.2		1.14
	Napropamide	54.1	68.4	56.7		18.8
	Norflurazon	74.6				12.6
	Octinoxate	86.1	83.3	114		30.8
	Oxadiazon	72.2	104	94.6		9.79
	Oxybenzone	78.6	81.5	101		21.8
	Oxyfluorfen	109	119	123		3.55
	Parathion Ethyl	80.5	92.5	94.0		1.65
	Parathion Methyl	106	122	132		7.75
	PBDE-47	84.7	78.0	110		34.2
	PBDE-99	84.9	75.0	108		36.4
	Pendimethalin	90.1	119	115		3.57
	Phenytoin	15.7	25.3	29.5		15.1
	Phorate	74.2	92.8	95.1		2.47
	Prodiamine	53.2	62.3	66.7		6.91
	Prometon	64.0	79.8	80.2		0.572

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8270E	Prometryn	74.6	76.4	71.6			6.45
	Pronamide	95.9	102	86.4			16.4
	Propanil	77.7	76.1	74.4			2.29
	Propargite	43.3	50.4	66.2			27.1
	Propiconazole	74.2	71.8	71.7			0.0425
	Pyraflufen Ethyl	82.8	84.2	89.4			5.97
	Pyridaben	73.1	73.3	79.5			8.11
	Pyriproxyfen	70.6	45.5	85.3			60.9
	Simazine	80.3					6.40
	Stirophos	36.7	74.4	86.3			14.8
	Sulfentrazone	82.2	186	224			14.2
	Tebuconazole	30.7	41.4	43.3			4.58
	Terbufos	91.2	99.6	110			9.66
	Terbuthylazine	89.0	93.3	105			11.4
	Thiobencarb	87.5	87.7	83.2			5.16
	Tri-o-cresyl Phosphate	82.3	81.0	103			24.1
	Triadimefon	65.6	63.3	63.8			0.818
EPA 8321B	2,4-D	82.6	79.1	96.3			19.6
	2,4,5-T	50.0	56.8	58.6			3.02
	Acesulfame K	98.8	101	101			0.243
	Acetaminophen	93.8	92.5	92.6			0.113
	Acetamiprid	109	92.7	100			7.82
	Afidopyropen	59.1	65.7	68.2			3.78
	AMPA	102	95.0	97.0			2.06
	Bentazon	54.3	51.8	55.5			6.96
	Benzovindiflupyr	87.6	89.5	102			13.1
	Carbamazepine	84.8	82.7	88.4			6.64
	Clothianidin	90.4	99.9	111			10.1
	Dinotefuran	108	128	132			3.21
	Diuron	63.5	66.7	65.1			2.48
	Endothall	94.6	96.0	96.6			0.564
	Fenuron	99.0	97.3	105			7.92
	Fluridone	82.0	81.8	90.2			9.84
	Glufosinate	95.1	87.6	85.2			2.77
	Glyphosate	102	78.8	84.4			6.86
	Hydrocodone	94.8	101	107			5.86
	Ibuprofen	66.9	71.8	87.8			20.0
	Imazapyr	114	95.0	112			16.9
	Imidacloprid	158	164	175			6.43
	Linuron	63.0	76.4	76.2			0.160
	Mandestrobin	82.6	87.0	95.0			8.76
	MCPP	80.4	86.1	91.6			6.21
	Naproxen	59.7	74.4	67.9			9.06
	Primidone	99.8	121	111			8.28
	Pyraclostrobin	83.5	91.0	95.4			4.72
	Silvex	58.2	51.0	63.0			21.1
	Sucralose	98.5	101	101			0.137
	Thiamethoxam	106	116	126			7.56
	Tolfenpyrad	39.0	50.8	55.3			8.52
	Triclopyr	60.5	65.0	68.0			4.57
SM 2320 B-2011	Total Alkalinity	99.2				0.255	
SM 2540 C-2011	TDS					0.0	
SM 2540 D-2011	TSS					6.67	
SM 4500-F- C-2011	Fluoride	98.4	99.2	99.2			0.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery	LCS	Precision SMP	MS
SM 5310 B-2011	Organic Carbon	97.4	100 100			0.0628

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2337857
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2337857
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2337862
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2337862
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2337857
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2337857
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2337858
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2337858
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2337858
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2337858
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2337859
EPA 8270E	Analysis of Sunscreen Compounds in Water by GC/MS-SIM	2337863
EPA 8270E	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2337863
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2337861
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2337857
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2337862
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2337857
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2337857
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2337857
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2337858

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/29/2022			06/29/2022 15:35	Anna M. Plaviak	2337857
EPA 180.1 Rev. 2.0	06/29/2022			06/29/2022 14:09	Khloe J Berg	2337857
EPA 200.7 Rev. 4.4	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/06/2022 19:11	McKinley C Carter	2337862
EPA 200.8 Rev. 5.4	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	06/30/2022 14:55	Alexander Thompson	2337862
EPA 300.0 Rev. 2.1	06/29/2022			07/02/2022 04:18	Anna M. Plaviak	2337857
EPA 350.1 Rev. 2.0	06/29/2022			07/07/2022 11:13	Ping Hua	2337858
EPA 351.2 Rev. 2.0	06/29/2022	07/12/2022 12:13	Simonne.V. Calhoun	07/13/2022 12:06	Alexandra J Mattheus	2337858
EPA 353.2 Rev. 2.0	06/29/2022			07/11/2022 12:53	Judith K. Clark	2337858
EPA 365.1 Rev. 2.0	06/29/2022	07/06/2022 16:30	Adam P Silver	07/07/2022 17:14	James L Waggerby	2337858
EPA 365.1 Rev. 2.0 dissolved	06/29/2022			06/29/2022 14:06	Chandler E Cox	2337859
EPA 8270E	06/29/2022	06/30/2022 07:30	Fe-Val Siddell	07/03/2022 21:25	Michael Poppell	2337863
	06/29/2022	06/30/2022 07:30	Fe-Val Siddell	07/07/2022 23:08	Lipi Saha	2337863
EPA 8321B	06/29/2022	06/29/2022 11:30	Umesh Chiluwal	06/29/2022 20:05	Umesh Chiluwal	2337861
	06/29/2022	06/29/2022 11:30	Umesh Chiluwal	06/30/2022 07:35	Umesh Chiluwal	2337861
	06/29/2022	07/05/2022 09:00	June Rhew	07/05/2022 18:32	Juyoung Kim	2337861
SM 2320 B-2011	06/29/2022			07/06/2022 21:04	Dale L. Simmons	2337857
SM 2340 B-2011	06/29/2022			07/06/2022 19:11	McKinley C Carter	2337862
SM 2540 C-2011	06/29/2022			07/01/2022 14:10	Ping Hua	2337857
SM 2540 D-2011	06/29/2022			07/01/2022 14:10	Ping Hua	2337857
SM 4500-F- C-2011	06/29/2022			07/06/2022 21:04	Dale L. Simmons	2337857
SM 5310 B-2011	06/29/2022			06/30/2022 20:03	Khloe J Berg	2337858