

Chemical Analysis Report

WAS-SECT-2019-07-17-01

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

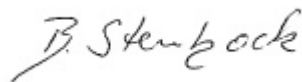
Event Description: **Wakulla BMAP**
Request ID: **RQ-2019-07-15-23**
Customer: **WAS-SECT**
Project ID: **BMAP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 08-AUG-2019 18:32



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: Wakulla River at boat tram

Collection Date/Time: 07/17/2019 11:46

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104099	EPA 180.1 Rev. 2.0	Turbidity	0.35		NTU	P367527	
	EPA 300.0 Rev. 2.1	Chloride	8.5		mg Cl/L	P367665	
		Sulfate	11		mg SO4/L	P367667	
	SM 2120 B	Color (true)	4.3	I	PCU	P367402	
	SM 2320 B-97	Total Alkalinity	142		mg CaCO3/L	P367932	
	SM 2540 C-97	TDS	174	Q	mg/L	P368359	
	SM 2540 D-97	TSS	2	U	mg/L	P367656	
	SM 4500 F-C-97	Fluoride	0.13		mg F/L	P367935	
2104100	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P368179	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P368013	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.39		mg N/L	P367683	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P367608	
	SM 5310 B-00	Organic Carbon	0.55	I	mg C/L	P367726	
2104101	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.028		mg P/L	P367465	
2104105	EPA 8321B	Acesulfame K**	0.10	U	ug/L	P367668	
		2,4-D	0.0020	U	ug/L	P367331	MS
		AMPA**	0.10	U	ug/L	P367668	
		Sucralose**	0.047		ug/L	P367668	
		Acetaminophen**	0.0080	U	ug/L	P367331	
		Endothall**	0.25	U	ug/L	P367668	
		Acetamiprid**	0.0020	UJ	ug/L	P367331	
		Glufosinate**	0.10	U	ug/L	P367668	
		Glyphosate**	0.10	U	ug/L	P367668	
		Afidopyropen**	0.0020	UJ	ug/L	P367331	
		Bentazon	8.0E-04	U	ug/L	P367331	
		Benzovindiflupyr**	0.0020	UJ	ug/L	P367331	
		Carbamazepine**	8.0E-04	U	ug/L	P367331	
		Clothianidin**	0.0020	UJ	ug/L	P367331	
		Dinotefuran**	0.0020	UJ	ug/L	P367331	
		Diuron	0.0020	U	ug/L	P367331	
		Fenuron	0.016	U	ug/L	P367331	
		Fluridone**	8.0E-04	U	ug/L	P367331	
		Imazapyr**	0.0040	U	ug/L	P367331	
		Hydrocodone**	0.0020	U	ug/L	P367331	
		Ibuprofen**	0.020	U	ug/L	P367331	
		Imidacloprid	0.0020	U	ug/L	P367331	
		Linuron	0.0040	U	ug/L	P367331	
		Mandestrobin**	0.0020	UJ	ug/L	P367331	
		MCP	0.0020	U	ug/L	P367331	MS
		Naproxen**	0.0080	U	ug/L	P367331	
		Primidone**	0.0040	U	ug/L	P367331	
		Pyraclostrobin**	0.0020	U	ug/L	P367331	
		Thiamethoxam**	0.0020	UJ	ug/L	P367331	MS

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104105	EPA 8321B	Tolfenpyrad**	0.0020	UJ	ug/L	P367331	
		Triclopyr**	0.0040	U	ug/L	P367331	MS
2104106	EPA 200.7 Rev. 4.4	Barium	11.2		ug/L	P367530	
		Calcium	45.9		mg/L	P367530	
		Iron	30	U	ug/L	P367530	
		Magnesium	10.5		mg/L	P367530	
		Potassium	0.69	I	mg/L	P367530	
		Sodium	6.0		mg/L	P367530	
		Zinc	5.0	U	ug/L	P367530	
	EPA 200.8 Rev. 5.4	Aluminum	8.6	I	ug/L	P367530	
		Antimony	0.050	U	ug/L	P367530	
		Arsenic	0.67		ug/L	P367530	
		Boron**	18.0		ug/L	P367530	
		Cadmium	0.020	U	ug/L	P367530	
		Chromium	0.78	I	ug/L	P367530	
		Copper	0.40	U	ug/L	P367530	
		Lead	0.20	U	ug/L	P367530	
		Nickel	0.50	U	ug/L	P367530	
		Selenium	0.44	I	ug/L	P367530	
		Silver	0.010	U	ug/L	P367530	
		Thallium	0.10	U	ug/L	P367530	
2104107	EPA 8270E	Acetochlor	0.26	U	ng/L	P367660	
		Alachlor	0.26	U	ng/L	P367660	
		Ametryn	0.62	U	ng/L	P367660	
		Atrazine	0.84	I	ng/L	P367660	
		Atrazine Desethyl	3.1	I	ng/L	P367660	
		Azinphos Methyl	5.1	U	ng/L	P367660	
		Bromacil	0.51	U	ng/L	P367660	
		Butylate	0.41	U	ng/L	P367660	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P367660	
		Chlorpyrifos Methyl	0.10	U	ng/L	P367660	
		Cyanazine	3.3	U	ng/L	P367660	
		Demeton	7.2	UJ	ng/L	P367660	RPD
		Diazinon	0.13	U	ng/L	P367660	
		Dimethenamid**	0.10	U	ng/L	P367660	
		Disulfoton	0.51	UJ	ng/L	P367660	LCS, RPD
		Dithiopyr**	0.10	U	ng/L	P367660	
		EPTC	1.3	U	ng/L	P367660	
		Ethion	0.15	UJ	ng/L	P367660	RPD
		Ethoprop	0.10	U	ng/L	P367660	
		Fenamiphos	0.51	U	ng/L	P367660	
		Fipronil	0.26	U	ng/L	P367660	
		Fipronil Desulfinyl**	0.13	U	ng/L	P367660	
		Fipronil Sulfide	0.15	U	ng/L	P367660	
		Fipronil Sulfone	0.15	U	ng/L	P367660	

Field ID: 44059

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2104107	EPA 8270E	Fonofos	0.21	U	ng/L	P367660	
		Hexazinone	1.2	I	ng/L	P367660	
		Malathion	0.36	U	ng/L	P367660	
		Metaxyl	0.31	U	ng/L	P367660	
		Metolachlor	0.51	U	ng/L	P367660	
		Metribuzin	0.77	UJ	ng/L	P367660	LCS
		Mevinphos	0.51	U	ng/L	P367660	
		Molinate	0.31	U	ng/L	P367660	
		Norflurazon	0.51	U	ng/L	P367660	
		Oxadiazon**	0.10	U	ng/L	P367660	
		Parathion Ethyl	0.26	U	ng/L	P367660	
		Parathion Methyl	0.56	U	ng/L	P367660	
		Pendimethalin	1.0	U	ng/L	P367660	
		Phorate	0.26	U	ng/L	P367660	
		Prodiamine**	0.18	U	ng/L	P367660	
		Prometon	0.92	U	ng/L	P367660	
		Prometryn	0.21	U	ng/L	P367660	
		Simazine	2.5	J	ng/L	P367660	
		Tebuconazole**	0.51	U	ng/L	P367660	
		Terbufos	0.10	U	ng/L	P367660	
		Terbuthylazine	0.44	U	ng/L	P367660	

Ref. Method and Comment:

SM 2540 C-97: Sample reanalyzed out of holding time because of analytical difficulties.

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

EPA 8321B: J - second source check standards for some analytes were not available for analysis. MS accuracy for some analytes is not available due to high concentration of parameter in the spiked sample.

EPA 8270E: MS accuracy for atrazine not assessed due to high content of this parameter in the sample spiked. Estimated value for simazine due to internal standard recovery exceeding control limits. Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P367527

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P367530

Component	Result	Code	Units
Barium	1.0	U	ug/L
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P367530

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	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: P367665

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367667

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P368179

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368013

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367683

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367608

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367465

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

Reference Method: EPA 8270E
Batch ID: P367660

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270E**Batch ID: P367660**

Component	Result	Code	Units
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8321B**Batch ID: P367331**

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

Reference Method: EPA 8321B**Batch ID: P367668**

Component	Result	Code	Units
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Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P367668

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: SM 2120 B
Batch ID: P367402

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P367932

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

Reference Method: SM 2540 C-97
Batch ID: P368359

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P367656

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P367935

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P367726

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P367530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	98.9		P	85 - 115
Calcium	104		P	85 - 115
Iron	101		P	85 - 115
Magnesium	107		P	85 - 115
Potassium	101		P	85 - 115
Sodium	100		P	85 - 115
Zinc	96.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P367530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	104		P	85 - 115
Boron	100		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	102		P	85 - 115
Copper	101		P	85 - 115
Lead	91.0		P	85 - 115
Nickel	102		P	85 - 115
Selenium	104		P	85 - 115
Silver	105		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367665

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

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367667

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.6		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P368179

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

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P368013

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P367683

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

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P367608

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P367465

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

Reference Method: EPA 8270E

Batch ID: P367660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	98.1	102	P/P	69 - 122
Alachlor	93.4	96.4	P/P	71 - 120
Ametryn	86.5	93.0	P/P	47 - 138
Atrazine	102	105	P/P	74 - 124
Atrazine Desethyl	128	124	P/P	38 - 138
Azinphos Methyl	98.9	92.7	P/P	69 - 154
Bromacil	74.4	72.2	P/P	39 - 121
Butylate	65.6	57.4	P/P	27 - 87.0
Chlorpyrifos Ethyl	90.2	101	P/P	69 - 118
Chlorpyrifos Methyl	98.7	106	P/P	70 - 120
Cyanazine	178	185	P/P	20 - 250
Demeton	41.4	61.3	P/P	39 - 118
Diazinon	112	108	P/P	68 - 127
Dimethenamid	86.2	93.3	P/P	66 - 125
Disulfoton	46.6	71.3	F/P	52 - 126
Dithiopyr	101	102	P/P	67 - 127
EPTC	67.6	52.5	P/P	24 - 88.0
Ethion	55.0	79.3	P/P	51 - 132
Ethoprop	96.3	96.3	P/P	58 - 117
Fenamiphos	76.5	90.0	P/P	38 - 139
Fipronil	93.0	94.9	P/P	61 - 124
Fipronil Desulfinyl	85.9	87.0	P/P	47 - 120
Fipronil Sulfide	82.4	87.2	P/P	56 - 119
Fipronil Sulfone	69.6	82.3	P/P	50 - 117
Fonofos	99.9	98.4	P/P	60 - 121
Hexazinone	98.8	108	P/P	55 - 137
Malathion	87.2	94.9	P/P	66 - 126
Metalaxyl	94.5	96.5	P/P	33 - 140
Metolachlor	86.7	89.7	P/P	69 - 119
Metribuzin	235	239	P/F	31 - 238
Mevinphos	79.9	88.6	P/P	42 - 113
Molinate	77.1	69.2	P/P	32 - 96.0
Norflurazon	92.0	93.9	P/P	54 - 123
Oxadiazon	87.6	89.5	P/P	63 - 128

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E

Batch ID: P367660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Parathion Ethyl	92.3	95.4	P/P	72 - 111
Parathion Methyl	99.7	107	P/P	74 - 126
Pendimethalin	97.4	99.5	P/P	61 - 131
Phorate	74.3	82.4	P/P	51 - 115
Prodiamine	46.1	43.3	P/P	38 - 144
Prometon	72.0	82.0	P/P	54 - 119
Prometryn	81.1	87.8	P/P	63 - 120
Simazine	106	114	P/P	75 - 126
Tebuconazole	57.0	67.4	P/P	20 - 119
Terbufos	90.0	92.2	P/P	64 - 116
Terbuthylazine	93.7	97.4	P/P	73 - 117

Reference Method: EPA 8321B

Batch ID: P367331

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	149		P	40 - 150
Acetaminophen	92.8		P	30 - 150
Acetamiprid	105		P	40 - 150
Afidopyropen	97.4		P	40 - 150
Bentazon	102		P	30 - 150
Benzovindiflupyr	95.9		P	40 - 150
Carbamazepine	111		P	40 - 150
Clothianidin	110		P	40 - 150
Dinotefuran	114		P	40 - 150
Diuron	101		P	40 - 150
Fenuron	116		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	107		P	40 - 150
Ibuprofen	90.5		P	30 - 150
Imazapyr	107		P	40 - 150
Imidacloprid	106		P	40 - 150
Linuron	93.7		P	40 - 150
Mandestrobin	109		P	40 - 150
MCPP	148		P	40 - 150
Naproxen	115		P	40 - 150
Primidone	105		P	40 - 150
Pyraclostrobin	100		P	30 - 150
Thiamethoxam	114		P	40 - 150
Tolfenpyrad	64.1		P	40 - 150
Triclopyr	139		P	30 - 150

Reference Method: EPA 8321B

Batch ID: P367668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	71.3		P	40 - 150
AMPA	102		P	40 - 150
Endothall	111		P	40 - 150
Glufosinate	90.0		P	40 - 150
Glyphosate	98.5		P	40 - 140
Sucralose	98.1		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2120 B
Batch ID: P367402

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

Reference Method: SM 2320 B-97
Batch ID: P367932

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P367935

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.1		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P367726

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P367530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103738	Barium	98.6	98.0	P/P	80 - 120
2103738	Calcium	103	102	P/P	80 - 120
2103738	Iron	101	100	P/P	80 - 120
2103738	Magnesium	107	104	P/P	80 - 120
2103738	Potassium	98.1	98.2	P/P	80 - 120
2103738	Sodium	98.3		P	80 - 120
2103738	Zinc	97.3	96.0	P/P	80 - 120
2103882	Barium	99.9		P	80 - 120
2103882	Calcium	103		P	80 - 120
2103882	Iron	102		P	80 - 120
2103882	Magnesium	107		P	80 - 120
2103882	Potassium	98.0		P	80 - 120
2103882	Sodium	99.3		P	80 - 120
2103882	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P367530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103738	Aluminum	99.6	98.3	P/P	80 - 120
2103738	Antimony	99.9	99.0	P/P	80 - 120
2103738	Arsenic	102	103	P/P	80 - 120
2103738	Boron	99.7	100	P/P	80 - 120
2103738	Cadmium	99.1	100	P/P	80 - 120
2103738	Chromium	98.4	99.5	P/P	80 - 120
2103738	Copper	100	101	P/P	80 - 120
2103738	Lead	90.7	90.2	P/P	80 - 120
2103738	Nickel	100	101	P/P	80 - 120
2103738	Selenium	102	103	P/P	80 - 120
2103738	Silver	102	103	P/P	80 - 120
2103738	Thallium	104	104	P/P	80 - 120
2103882	Aluminum	98.1		P	80 - 120
2103882	Antimony	97.8		P	80 - 120
2103882	Arsenic	102		P	80 - 120
2103882	Boron	99.5		P	80 - 120
2103882	Cadmium	99.7		P	80 - 120
2103882	Chromium	99.3		P	80 - 120
2103882	Copper	101		P	80 - 120
2103882	Lead	89.4		P	80 - 120
2103882	Nickel	101		P	80 - 120
2103882	Selenium	104		P	80 - 120
2103882	Silver	101		P	80 - 120
2103882	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103891	Chloride	101	103	P/P	90 - 110
2104099	Chloride	99.6		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P367667

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103891	Sulfate	99.5	101	P/P	90 - 110
2104099	Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368179

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103902	Ammonia-N	99.6	99.6	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367683

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104100	NO2NO3-N	97.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367608

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104123	Total-P	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367465

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103875	O-Phosphate-P	96.5	97.0	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P367660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103355	Acetochlor	87.4	89.2	P/P	63 - 129
2103355	Alachlor	83.9	85.9	P/P	65 - 127
2103355	Ametryn	93.9	105	P/P	40 - 164
2103355	Atrazine Desethyl	93.6	116	P/P	14 - 157
2103355	Azinphos Methyl	86.2	85.9	P/P	49 - 180
2103355	Bromacil	71.7	71.4	P/P	48 - 130
2103355	Butylate	51.8	63.5	P/P	10 - 94.0
2103355	Chlorpyrifos Ethyl	86.7	88.4	P/P	58 - 123
2103355	Chlorpyrifos Methyl	89.6	96.7	P/P	58 - 125
2103355	Cyanazine	142	170	P/P	24 - 253
2103355	Demeton	67.6	71.1	P/P	25 - 149
2103355	Diazinon	95.3	105	P/P	59 - 144
2103355	Dimethenamid	75.5	76.7	P/P	46 - 139
2103355	Disulfoton	78.1	83.3	P/P	54 - 132
2103355	Dithiopyr	87.9	90.8	P/P	64 - 130
2103355	EPTC	54.5	61.7	P/P	10 - 92.0
2103355	Ethion	52.0	50.2	P/P	30 - 148
2103355	Ethoprop	90.5	94.8	P/P	50 - 130
2103355	Fenamiphos	74.0	80.8	P/P	49 - 142
2103355	Fipronil	92.2	91.3	P/P	46 - 140
2103355	Fipronil Desulfynil	79.1	78.5	P/P	30 - 121

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: EPA 8270E

Batch ID: P367660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103355	Fipronil Sulfide	81.0	93.3	P/P	31 - 136
2103355	Fipronil Sulfone	75.7	70.6	P/P	16 - 136
2103355	Fonofos	93.0	101	P/P	55 - 129
2103355	Hexazinone	89.2	97.4	P/P	56 - 141
2103355	Malathion	82.5	89.7	P/P	56 - 135
2103355	Metalaxyl	83.9	87.6	P/P	54 - 135
2103355	Metolachlor	78.0	80.7	P/P	51 - 140
2103355	Metribuzin	219	233	P/P	45 - 254
2103355	Mevinphos	83.2	86.4	P/P	33 - 131
2103355	Molinate	66.1	78.8	P/P	14 - 98.0
2103355	Norflurazon	79.5	79.3	P/P	34 - 136
2103355	Oxadiazon	72.7	80.8	P/P	67 - 116
2103355	Parathion Ethyl	84.2	85.3	P/P	66 - 118
2103355	Parathion Methyl	92.2	102	P/P	64 - 136
2103355	Pendimethalin	85.7	94.6	P/P	59 - 144
2103355	Phorate	69.2	74.9	P/P	42 - 130
2103355	Prodiamine	53.3	48.1	P/P	42 - 148
2103355	Prometon	86.4	88.8	P/P	59 - 134
2103355	Prometryn	75.8	80.5	P/P	54 - 135
2103355	Simazine	99.3	107	P/P	53 - 156
2103355	Tebuconazole	54.7	49.6	P/P	10 - 131
2103355	Terbufos	87.1	95.6	P/P	57 - 131
2103355	Terbutylazine	87.4	91.0	P/P	68 - 125

Reference Method: EPA 8321B

Batch ID: P367331

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103044	2,4-D	171	151	F/F	40 - 150
2103044	Acetaminophen	104	94.4	P/P	30 - 150
2103044	Acetamiprid	116	100	P/P	40 - 150
2103044	Afidopyropen	111	93.7	P/P	40 - 150
2103044	Benzovindiflupyr	105	92.8	P/P	40 - 150
2103044	Carbamazepine	94.3	85.5	P/P	40 - 150
2103044	Clothianidin	112	98.2	P/P	40 - 150
2103044	Dinotefuran	136	123	P/P	40 - 150
2103044	Diuron	91.9	80.9	P/P	40 - 150
2103044	Fenuron	92.9	77.6	P/P	40 - 150
2103044	Fluridone	96.9	59.0	P/P	40 - 150
2103044	Hydrocodone	111	95.9	P/P	40 - 150
2103044	Ibuprofen	102	93.8	P/P	30 - 150
2103044	Linuron	88.8	84.2	P/P	40 - 150
2103044	Mandestrobin	112	102	P/P	40 - 150
2103044	MCP	184	165	F/F	40 - 150
2103044	Naproxen	102	109	P/P	40 - 150
2103044	Primidone	110	100	P/P	40 - 150
2103044	Pyraclostrobin	112	96.8	P/P	30 - 150
2103044	Thiamethoxam	159	137	F/P	40 - 150
2103044	Tolfenpyrad	78.1	75.3	P/P	40 - 150
2103044	Triclopyr	155	162	F/F	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P367668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104164	Acesulfame K	69.4	80.8	P/P	40 - 150
2104164	AMPA	98.2	99.3	P/P	40 - 150
2104164	Endothall	110	113	P/P	40 - 150
2104164	Glufosinate	91.3	95.2	P/P	40 - 150
2104164	Glyphosate	92.7	94.4	P/P	40 - 140
2104164	Sucralose	92.1	91.7	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P367935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2103751	Fluoride	96.3	96.9	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P367726

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2104124	Organic Carbon	98.7	98.3	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P367527

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104119	Turbidity	5.64	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P367530

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103738	Barium	0.591	Spike	P	0 - 20
2103738	Calcium	0.145	Spike	P	0 - 20
2103738	Iron	1.07	Spike	P	0 - 20
2103738	Magnesium	2.10	Spike	P	0 - 20
2103738	Potassium	0.130	Spike	P	0 - 20
2103738	Sodium	1.19	Spike	P	0 - 20
2103738	Zinc	1.33	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P367530

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103738	Aluminum	1.18	Spike	P	0 - 20
2103738	Antimony	0.857	Spike	P	0 - 20
2103738	Arsenic	0.791	Spike	P	0 - 20
2103738	Boron	0.482	Spike	P	0 - 20
2103738	Cadmium	1.12	Spike	P	0 - 20
2103738	Chromium	1.13	Spike	P	0 - 20
2103738	Copper	1.15	Spike	P	0 - 20
2103738	Lead	0.532	Spike	P	0 - 20
2103738	Nickel	1.01	Spike	P	0 - 20
2103738	Selenium	0.161	Spike	P	0 - 20
2103738	Silver	1.50	Spike	P	0 - 20
2103738	Thallium	0.603	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367665

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103891	Chloride	1.38	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P367667

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103891	Sulfate	1.63	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368179

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103902	Ammonia-N	0.0538	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368013

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2105587	Kjeldahl Nitrogen	3.64	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P367683

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104100	NO2NO3-N	0.170	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P367608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104123	Total-P	0.326	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P367465

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103875	O-Phosphate-P	0.517	Spike	P	0 - 20

Reference Method: EPA 8270E
Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103355	Acetochlor	2.06	Spike	P	0 - 30
2103355	Alachlor	2.36	Spike	P	0 - 30
2103355	Ametryn	11.2	Spike	P	0 - 30
2103355	Atrazine	5.41	Spike	P	0 - 30
2103355	Atrazine Desethyl	15.1	Spike	P	0 - 30
2103355	Azinphos Methyl	0.312	Spike	P	0 - 30
2103355	Bromacil	0.420	Spike	P	0 - 30
2103355	Butylate	20.3	Spike	P	0 - 30
2103355	Chlorpyrifos Ethyl	1.90	Spike	P	0 - 30
2103355	Chlorpyrifos Methyl	7.58	Spike	P	0 - 30
2103355	Cyanazine	18.0	Spike	P	0 - 30
2103355	Demeton	4.99	Spike	P	0 - 30
2103355	Diazinon	9.42	Spike	P	0 - 30
2103355	Dimethenamid	1.60	Spike	P	0 - 30
2103355	Disulfoton	6.41	Spike	P	0 - 30
2103355	Dithiopyr	3.12	Spike	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103355	EPTC	12.4	Spike	P	0 - 30
2103355	Ethion	3.65	Spike	P	0 - 30
2103355	Ethoprop	4.60	Spike	P	0 - 30
2103355	Fenamiphos	8.68	Spike	P	0 - 30
2103355	Fipronil	0.967	Spike	P	0 - 30
2103355	Fipronil Desulfinyl	0.756	Spike	P	0 - 30
2103355	Fipronil Sulfide	11.0	Spike	P	0 - 30
2103355	Fipronil Sulfone	2.92	Spike	P	0 - 30
2103355	Fonofos	7.83	Spike	P	0 - 30
2103355	Hexazinone	8.73	Spike	P	0 - 30
2103355	Malathion	8.42	Spike	P	0 - 30
2103355	Metaxyl	4.43	Spike	P	0 - 30
2103355	Metolachlor	3.40	Spike	P	0 - 30
2103355	Metribuzin	6.45	Spike	P	0 - 30
2103355	Mevinphos	3.78	Spike	P	0 - 30
2103355	Molinate	17.6	Spike	P	0 - 30
2103355	Norflurazon	0.308	Spike	P	0 - 30
2103355	Oxadiazon	10.5	Spike	P	0 - 30
2103355	Parathion Ethyl	1.30	Spike	P	0 - 30
2103355	Parathion Methyl	10.1	Spike	P	0 - 30
2103355	Pendimethalin	9.91	Spike	P	0 - 30
2103355	Phorate	7.93	Spike	P	0 - 30
2103355	Prodiamine	10.2	Spike	P	0 - 30
2103355	Prometon	2.74	Spike	P	0 - 30
2103355	Prometryn	6.08	Spike	P	0 - 30
2103355	Simazine	5.63	Spike	P	0 - 30
2103355	Tebuconazole	9.64	Spike	P	0 - 30
2103355	Terbufos	9.28	Spike	P	0 - 30
2103355	Terbutylazine	4.02	Spike	P	0 - 30
LFB	Acetochlor	4.30	LCS	P	0 - 30
LFB	Alachlor	3.26	LCS	P	0 - 30
LFB	Ametryn	7.27	LCS	P	0 - 30
LFB	Atrazine	2.60	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.58	LCS	P	0 - 30
LFB	Azinphos Methyl	6.51	LCS	P	0 - 30
LFB	Bromacil	2.99	LCS	P	0 - 30
LFB	Butylate	13.3	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	11.3	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	6.95	LCS	P	0 - 30
LFB	Cyanazine	4.19	LCS	P	0 - 30
LFB	Demeton	38.7	LCS	F	0 - 30
LFB	Diazinon	3.11	LCS	P	0 - 30
LFB	Dimethenamid	7.95	LCS	P	0 - 30
LFB	Disulfoton	41.9	LCS	F	0 - 30
LFB	Dithiopyr	0.965	LCS	P	0 - 30
LFB	EPTC	25.2	LCS	P	0 - 30
LFB	Ethion	36.1	LCS	F	0 - 30
LFB	Ethoprop	0.0493	LCS	P	0 - 30
LFB	Fenamiphos	16.1	LCS	P	0 - 30
LFB	Fipronil	1.99	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	1.32	LCS	P	0 - 30

Quality Assurance Report

Precision

Reference Method: EPA 8270E

Batch ID: P367660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Fipronil Sulfide	5.76	LCS	P	0 - 30
LFB	Fipronil Sulfone	16.8	LCS	P	0 - 30
LFB	Fonofos	1.48	LCS	P	0 - 30
LFB	Hexazinone	8.67	LCS	P	0 - 30
LFB	Malathion	8.52	LCS	P	0 - 30
LFB	Metalaxyl	2.05	LCS	P	0 - 30
LFB	Metolachlor	3.34	LCS	P	0 - 30
LFB	Metribuzin	1.66	LCS	P	0 - 30
LFB	Mevinphos	10.3	LCS	P	0 - 30
LFB	Molinate	10.7	LCS	P	0 - 30
LFB	Norflurazon	2.00	LCS	P	0 - 30
LFB	Oxadiazon	2.22	LCS	P	0 - 30
LFB	Parathion Ethyl	3.29	LCS	P	0 - 30
LFB	Parathion Methyl	6.87	LCS	P	0 - 30
LFB	Pendimethalin	2.15	LCS	P	0 - 30
LFB	Phorate	10.3	LCS	P	0 - 30
LFB	Prodiamine	6.33	LCS	P	0 - 30
LFB	Prometon	13.0	LCS	P	0 - 30
LFB	Prometryn	7.98	LCS	P	0 - 30
LFB	Simazine	7.29	LCS	P	0 - 30
LFB	Tebuconazole	16.8	LCS	P	0 - 30
LFB	Terbufos	2.47	LCS	P	0 - 30
LFB	Terbuthylazine	3.78	LCS	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P367331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103044	2,4-D	11.8	Spike	P	0 - 30
2103044	Acetaminophen	9.75	Spike	P	0 - 30
2103044	Acetamiprid	14.6	Spike	P	0 - 30
2103044	Afidopyropen	17.0	Spike	P	0 - 30
2103044	Bentazon	17.8	Spike	P	0 - 30
2103044	Benzovindiflupyr	12.6	Spike	P	0 - 30
2103044	Carbamazepine	8.07	Spike	P	0 - 30
2103044	Clothianidin	10.1	Spike	P	0 - 30
2103044	Dinotefuran	10.4	Spike	P	0 - 30
2103044	Diuron	12.8	Spike	P	0 - 30
2103044	Fenuron	18.0	Spike	P	0 - 30
2103044	Fluridone	10.8	Spike	P	0 - 30
2103044	Hydrocodone	14.2	Spike	P	0 - 30
2103044	Ibuprofen	8.33	Spike	P	0 - 30
2103044	Imazapyr	12.7	Spike	P	0 - 30
2103044	Imidacloprid	4.60	Spike	P	0 - 30
2103044	Linuron	5.33	Spike	P	0 - 30
2103044	Mandestrobin	9.07	Spike	P	0 - 30
2103044	MCP	9.78	Spike	P	0 - 30
2103044	Naproxen	7.17	Spike	P	0 - 30
2103044	Primidone	8.02	Spike	P	0 - 30
2103044	Pyraclostrobin	14.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P367331

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103044	Thiamethoxam	12.7	Spike	P	0 - 30
2103044	Tolfenpyrad	3.66	Spike	P	0 - 30
2103044	Triclopyr	4.60	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P367668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104164	Acesulfame K	15.2	Spike	P	0 - 30
2104164	AMPA	1.08	Spike	P	0 - 30
2104164	Endothall	2.51	Spike	P	0 - 30
2104164	Glufosinate	4.24	Spike	P	0 - 30
2104164	Glyphosate	1.79	Spike	P	0 - 30
2104164	Sucralose	0.474	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P367402

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103898	Color (true)	0.727	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P367932

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103751	Total Alkalinity	0.180	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P368359

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2106280	TDS	0.684	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P367935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2103751	Fluoride	0.467	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P367726

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2104124	Organic Carbon	0.303	Spike	P	0 - 20

Quality Assurance Report

Precision

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 2104105

Field Sample ID: 44059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	95.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	82.0	P	30 - 160
EPA 8321B	Diuron-d6	91.5	P	30 - 160
EPA 8321B	Endothall-d6	71.4	P	30 - 160
EPA 8321B	Endothall-d6	71.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.9	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.9	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.6	P	30 - 160
EPA 8321B	Primidone-d5	93.1	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	30 - 160

Lab Sample ID: 2104107

Field Sample ID: 44059

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	102	P	68 - 130
EPA 8270E	Terbufos-d10	100	P	61 - 136

Quality Assurance Report

Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A92796

Included Lab Sample IDs: 2104099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.8	98.0	P/P	90 - 110
Sulfate	97.9	97.9	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A92835

Included Lab Sample IDs: 2104099

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

Reference Method: EPA 8321B

Run ID: A92848

Included Lab Sample IDs: 2104105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	97.3	99.2	P/P	50 - 150
Acetaminophen	113	112	P/P	60 - 160
Acetamiprid	120	121	P/P	50 - 150
Afidopyropen	124	99.9	P/P	50 - 150
Bentazon	94.2	86.4	P/P	50 - 160
Benzovindiflupyr	128	125	P/P	50 - 150
Carbamazepine	126	123	P/P	60 - 150
Clothianidin	127	131	P/P	60 - 150
Dinotefuran	128	116	P/P	50 - 150
Diuron	129	123	P/P	60 - 150
Fenuron	128	125	P/P	60 - 150
Fluridone	127	119	P/P	60 - 160
Hydrocodone	113	110	P/P	60 - 150
Ibuprofen	107	91.4	P/P	50 - 160
Imazapyr	103	94.2	P/P	50 - 150
Imidacloprid	106	109	P/P	60 - 150
Linuron	125	126	P/P	60 - 150
Mandestrobin	131	132	P/P	50 - 150
MCPP	113	104	P/P	50 - 150
Naproxen	120	123	P/P	50 - 160
Primidone	121	114	P/P	60 - 150
Pyraclostrobin	129	119	P/P	60 - 150
Thiamethoxam	119	122	P/P	50 - 150
Tolfenpyrad	109	115	P/P	60 - 150
Triclopyr	96.8	101	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A92852

Included Lab Sample IDs: 2104101

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.9	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A92878

Included Lab Sample IDs: 2104099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A92916

Included Lab Sample IDs: 2104106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	101	102	P/P	90 - 110
Calcium	99.8	99.4	P/P	90 - 110
Iron	99.1	98.9	P/P	90 - 110
Magnesium	99.5	99.1	P/P	90 - 110
Potassium	99.0	97.8	P/P	90 - 110
Sodium	99.2	97.6	P/P	90 - 110
Zinc	100	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A92931

Included Lab Sample IDs: 2104100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A92937

Included Lab Sample IDs: 2104100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	98.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A92945

Included Lab Sample IDs: 2104100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	98.0	98.8	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A92984

Included Lab Sample IDs: 2104105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	139	98.4	P/P	60 - 160
Endothall	93.8	99.0	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A92986

Included Lab Sample IDs: 2104105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	103	P/P	60 - 160
Glufosinate	87.8	86.9	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A92986
Included Lab Sample IDs: 2104105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	90.9	93.7	P/P	60 - 160

Reference Method: SM 2320 B-97
Run ID: A93032
Included Lab Sample IDs: 2104099

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

Reference Method: SM 4500 F-C-97
Run ID: A93032
Included Lab Sample IDs: 2104099

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	P/P	90 - 110

Reference Method: EPA 8270E
Run ID: A93092
Included Lab Sample IDs: 2104107

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	104		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	97.2		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	93.4		P	80 - 120
Azinphos Methyl	94.8		P	80 - 120
Bromacil	99.1		P	80 - 120
Butylate	96.1		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	102		P	80 - 120
Cyanazine	101		P	80 - 120
Demeton	91.9		P	80 - 120
Diazinon	99.4		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	99.3		P	80 - 120
Dithiopyr	102		P	80 - 120
EPTC	99.2		P	80 - 120
Ethion	99.6		P	80 - 120
Ethoprop	99.4		P	80 - 120
Fenamiphos	95.7		P	80 - 120
Fipronil	98.0		P	80 - 120
Fipronil Desulfinyl	101		P	80 - 120
Fipronil Sulfide	98.7		P	80 - 120
Fipronil Sulfone	98.9		P	80 - 120
Fonofos	95.5		P	80 - 120
Hexazinone	99.8		P	80 - 120
Malathion	98.5		P	80 - 120
Metalaxyl	99.2		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	102		P	80 - 120

Quality Assurance Report

Calibration Verification

Reference Method: EPA 8270E

Run ID: A93092

Included Lab Sample IDs: 2104107

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mevinphos	104		P	80 - 120
Molinate	99.7		P	80 - 120
Norflurazon	99.7		P	80 - 120
Oxadiazon	81.9		P	80 - 120
Parathion Ethyl	94.3		P	80 - 120
Parathion Methyl	97.2		P	80 - 120
Pendimethalin	94.6		P	80 - 120
Phorate	95.0		P	80 - 120
Prodiamine	95.8		P	80 - 120
Prometon	98.1		P	80 - 120
Prometryn	97.2		P	80 - 120
Simazine	100		P	80 - 120
Tebuconazole	98.6		P	80 - 120
Terbufos	98.4		P	80 - 120
Terbuthylazine	98.3		P	80 - 120

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93116

Included Lab Sample IDs: 2104100

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.2	96.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93121

Included Lab Sample IDs: 2104106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	98.6	97.4	P/P	90 - 110
Selenium	101	100	P/P	90 - 110
Silver	95.0	94.9	P/P	90 - 110
Thallium	93.5	91.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93145

Included Lab Sample IDs: 2104100

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93176

Included Lab Sample IDs: 2104106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	104	P/P	90 - 110
Antimony	95.2	94.9	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Boron	104	107	P/P	90 - 110
Cadmium	102	101	P/P	90 - 110
Chromium	101	101	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A93176

Included Lab Sample IDs: 2104106

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	104	105	P/P	90 - 110
Nickel	103	104	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A93230

Included Lab Sample IDs: 2104105

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	89.1	99.9	P/P	60 - 160

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							5.64	
EPA 200.7 Rev. 4.4	Barium	98.9		98.6	98.0	99.9			0.591
	Calcium	104		103	102	103			0.145
	Iron	101		101	100	102			1.07
	Magnesium	107		107	104	107			2.10
	Potassium	101		98.1	98.2	98.0			0.130
	Sodium	100		98.3	99.3				1.19
	Zinc	96.0		97.3	96.0	100			1.33
EPA 200.8 Rev. 5.4	Aluminum	101		99.6	98.3	98.1			1.18
	Antimony	100		99.9	99.0	97.8			0.857
	Arsenic	104		102	103	102			0.791
	Boron	100		99.7	100	99.5			0.482
	Cadmium	101		99.1	100	99.7			1.12
	Chromium	102		98.4	99.5	99.3			1.13
	Copper	101		100	101	101			1.15
	Lead	91.0		90.7	90.2	89.4			0.532
	Nickel	102		100	101	101			1.01
	Selenium	104		102	103	104			0.161
	Silver	105		102	103	101			1.50
	Thallium	102		104	104	104			0.603
EPA 300.0 Rev. 2.1	Chloride	99.7		101	103	99.6			1.38
	Sulfate	98.6		99.5	101	97.3			1.63
EPA 350.1 Rev. 2.0	Ammonia-N	101		99.6	99.6				0.0538
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105							3.64
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		97.5					0.170
EPA 365.1 Rev. 2.0	Total-P	99.0		100	101				0.326
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	101		96.5	97.0				0.517
EPA 8270E	Acetochlor	98.1	102	87.4	89.2		4.30		2.06
	Alachlor	93.4	96.4	83.9	85.9		3.26		2.36
	Ametryn	93.0	86.5	93.9	105		7.27		11.2
	Atrazine	105	102				2.60		5.41
	Atrazine Desethyl	124	128	93.6	116		2.58		15.1
	Azinphos Methyl	92.7	98.9	86.2	85.9		6.51		0.312
	Bromacil	72.2	74.4	71.7	71.4		2.99		0.420
	Butylate	57.4	65.6	51.8	63.5		13.3		20.3
	Chlorpyrifos Ethyl	101	90.2	86.7	88.4		11.3		1.90
	Chlorpyrifos Methyl	98.7	106	89.6	96.7		6.95		7.58
	Cyanazine	178	185	142	170		4.19		18.0
	Demeton	41.4	61.3	67.6	71.1		38.7		4.99
	Diazinon	112	108	95.3	105		3.11		9.42
	Dimethenamid	86.2	93.3	75.5	76.7		7.95		1.60
	Disulfoton	71.3	46.6	78.1	83.3		41.9		6.41
	Dithiopyr	101	102	87.9	90.8		0.965		3.12
	EPTC	67.6	52.5	54.5	61.7		25.2		12.4
	Ethion	55.0	79.3	52.0	50.2		36.1		3.65
	Ethoprop	96.3	96.3	90.5	94.8		0.0493		4.60
	Fenamiphos	76.5	90.0	74.0	80.8		16.1		8.68
	Fipronil	93.0	94.9	92.2	91.3		1.99		0.967
	Fipronil Desulfinyl	85.9	87.0	79.1	78.5		1.32		0.756
	Fipronil Sulfide	82.4	87.2	81.0	93.3		5.76		11.0
	Fipronil Sulfone	82.3	69.6	75.7	70.6		16.8		2.92
	Fonofos	98.4	99.9	93.0	101		1.48		7.83
	Hexazinone	108	98.8	89.2	97.4		8.67		8.73
	Malathion	94.9	87.2	82.5	89.7		8.52		8.42

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270E	Metalaxyl	96.5	94.5	83.9	87.6	2.05	4.43
	Metolachlor	89.7	86.7	78.0	80.7	3.34	3.40
	Metribuzin	239	235	219	233	1.66	6.45
	Mevinphos	88.6	79.9	83.2	86.4	10.3	3.78
	Molinate	69.2	77.1	66.1	78.8	10.7	17.6
	Norflurazon	93.9	92.0	79.5	79.3	2.00	0.308
	Oxadiazon	89.5	87.6	72.7	80.8	2.22	10.5
	Parathion Ethyl	95.4	92.3	84.2	85.3	3.29	1.30
	Parathion Methyl	107	99.7	92.2	102	6.87	10.1
	Pendimethalin	99.5	97.4	85.7	94.6	2.15	9.91
	Phorate	82.4	74.3	69.2	74.9	10.3	7.93
	Prodiamine	43.3	46.1	53.3	48.1	6.33	10.2
	Prometon	82.0	72.0	86.4	88.8	13.0	2.74
	Prometryn	87.8	81.1	75.8	80.5	7.98	6.08
	Simazine	114	106	99.3	107	7.29	5.63
	Tebuconazole	67.4	57.0	54.7	49.6	16.8	9.64
	Terbufos	92.2	90.0	87.1	95.6	2.47	9.28
	Terbuthylazine	97.4	93.7	87.4	91.0	3.78	4.02
EPA 8321B	2,4-D	149		171	151		11.8
	Acesulfame K	71.3		69.4	80.8		15.2
	Acetaminophen	92.8		104	94.4		9.75
	Acetamiprid	105		116	100		14.6
	Afidopyropen	97.4		111	93.7		17.0
	AMPA	102		98.2	99.3		1.08
	Bentazon	102					17.8
	Benzovindiflupyr	95.9		105	92.8		12.6
	Carbamazepine	111		94.3	85.5		8.07
	Clothianidin	110		112	98.2		10.1
	Dinotefuran	114		136	123		10.4
	Diuron	101		91.9	80.9		12.8
	Endothall	111		110	113		2.51
	Fenuron	116		92.9	77.6		18.0
	Fluridone	105		96.9	59.0		10.8
	Glufosinate	90.0		91.3	95.2		4.24
	Glyphosate	98.5		92.7	94.4		1.79
	Hydrocodone	107		111	95.9		14.2
	Ibuprofen	90.5		102	93.8		8.33
	Imazapyr	107					12.7
	Imidacloprid	106					4.60
	Linuron	93.7		88.8	84.2		5.33
	Mandestrobin	109		112	102		9.07
	MCPP	148		184	165		9.78
	Naproxen	115		102	109		7.17
	Primidone	105		110	100		8.02
	Pyraclostrobin	100		112	96.8		14.3
	Sucralose	98.1		92.1	91.7		0.474
	Thiamethoxam	114		159	137		12.7
	Tolfenpyrad	64.1		78.1	75.3		3.66
	Triclopyr	139		155	162		4.60
SM 2120 B	Color (true)	102				0.727	
SM 2320 B-97	Total Alkalinity	104				0.180	
SM 2540 C-97	TDS					0.684	
SM 4500 F-C-97	Fluoride	98.1		96.3	96.9		0.467
SM 5310 B-00	Organic Carbon	98.6		98.7	98.3		0.303

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2104099
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2104106
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2104106
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2104099
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2104099
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2104100
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2104100
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2104100
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2104100
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2104101
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2104107
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2104105
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2104105
SM 2120 B / E31780	True Color measured at 450 nm	2104099
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2104099
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2104099
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2104099
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2104099
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2104100

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	07/17/2019			07/18/2019 15:51	Rosalyn Ballman	2104099
EPA 200.7 Rev. 4.4	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/19/2019 21:46	Betina Topolski	2104106
EPA 200.8 Rev. 5.4	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/30/2019 00:53	Robert K Palmer	2104106
	07/17/2019	07/18/2019 18:10	Elliott D. Healy	07/31/2019 00:52	Robert K Palmer	2104106
EPA 300.0 Rev. 2.1	07/17/2019			07/19/2019 18:39	Jhamieka S. Greenwood	2104099
EPA 350.1 Rev. 2.0	07/17/2019			07/30/2019 14:57	Virginia P. Brown	2104100
EPA 351.2 Rev. 2.0	07/17/2019	07/26/2019 13:00	Adrian Shelby	07/29/2019 15:17	Joseph Suarez	2104100
EPA 353.2 Rev. 2.0	07/17/2019			07/22/2019 09:35	Beverly Y. Sanders	2104100
EPA 365.1 Rev. 2.0	07/17/2019	07/19/2019 12:30	Sima Feizi	07/22/2019 11:31	Lipi Saha	2104100
EPA 365.1 Rev. 2.0 dissolved	07/17/2019			07/17/2019 17:35	Jhamieka S. Greenwood	2104101
EPA 8270E	07/17/2019	07/19/2019 08:30	Rasheda Ghaffari	07/23/2019 17:48	Vandana T. Nagar	2104107
EPA 8321B	07/17/2019	07/18/2019 10:00	Hoor Shaik	07/19/2019 08:51	Juyoung Kim	2104105
	07/17/2019	07/22/2019 10:00	Rebecca Ware	07/22/2019 12:08	Rebecca Ware	2104105
	07/17/2019	07/22/2019 10:00	Rebecca Ware	07/23/2019 11:51	Rebecca Ware	2104105
	07/17/2019	07/22/2019 10:00	Rebecca Ware	08/02/2019 00:39	Rebecca Ware	2104105
SM 2120 B	07/17/2019			07/17/2019 16:13	Blanca Fach	2104099
SM 2320 B-97	07/17/2019			07/24/2019 11:47	Dale L. Simmons	2104099
SM 2540 C-97	07/17/2019			07/29/2019 19:37	Rosalyn Ballman	2104099
SM 2540 D-97	07/17/2019			07/19/2019 14:53	Rosalyn Ballman	2104099
SM 4500 F-C-97	07/17/2019			07/24/2019 11:47	Dale L. Simmons	2104099
SM 5310 B-00	07/17/2019			07/22/2019 19:03	Madeline Funaro	2104100