Chemical Analysis Report

NW-DIST-2018-03-23-01

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

Event Description: **BIOASSESSMENT**
Request ID: **RQ-2018-03-19-25**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 30-APR-2018 13:36

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 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: BLACK CREEK UPSTREAM OF HWY 20 **Collection Date/Time: 03/22/2018 10:50**

Field ID: G3NW0148 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1977112	EPA 180.1 Rev. 2.0	Turbidity	3.3	A	NTU	P342125	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P342312	
		Sulfate	1.4		mg SO4/L	P342314	
	SM 2120 B	Color (true)	120		PCU	P342121	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P342530	
	SM 2540 C-97	TDS	39		mg/L	P342574	
	SM 2540 D-97	TSS	3	I	mg/L	P342629	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P342534	
1977113	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P342677	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.25		mg N/L	P342170	MS
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.038		mg N/L	P342256	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P342250	
	SM 5310 B-00	Organic Carbon	9.1		mg C/L	P342762	
1977114	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342102	
1977123	EPA 8321B	Aldicarb	0.020	U	ug/L	P342159	
		Aldicarb Sulfone	0.0020	U	ug/L	P342159	
		Aldicarb Sulfoxide	0.0020	U	ug/L	P342159	
		Carbaryl	0.0020	U	ug/L	P342159	
		Carbofuran	0.0020	U	ug/L	P342159	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P342159	
		Methiocarb	0.0020	U	ug/L	P342159	
		Methomyl	0.0020	U	ug/L	P342159	
		Oxamyl	0.0020	U	ug/L	P342159	
		Propoxur	0.0020	U	ug/L	P342159	
1977124		2,4-D	0.0020	U	ug/L	P342159	
		Sucralose**	0.010	U	ug/L	P342413	
		Bentazon	8.0E-04	U	ug/L	P342159	MS
		MCPP	0.0020	U	ug/L	P342159	
		Triclopyr**	0.0040	U	ug/L	P342159	
		Imidacloprid	0.0020	U	ug/L	P342159	MS
		Diuron	0.0020	U	ug/L	P342159	
		Pyraclostrobin**	0.0020	U	ug/L	P342159	
		Primidone**	0.0040	U	ug/L	P342159	
		Linuron	0.0040	U	ug/L	P342159	
		Acetaminophen**	0.0080	U	ug/L	P342159	
		Fenuron	0.016	U	ug/L	P342159	
		Imazapyr**	0.0040	U	ug/L	P342159	
		Carbamazepine**	4.0E-04	U	ug/L	P342159	
		Fluridone**	8.0E-04	U	ug/L	P342159	
		Glyphosate**	0.10	U	ug/L	P342108	
		AMPA**	0.10	U	ug/L	P342108	
1977125	EPA 8270D	Aldrin	4.2	U	ng/L	P342367	
		Alpha-BHC	2.1	U	ng/L	P342367	

Field ID: G3NW0148 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1977125	EPA 8270D	Beta-BHC	4.2	U	ng/L	P342367	
		Delta-BHC	4.2	U	ng/L	P342367	
		Gamma-BHC	4.2	U	ng/L	P342367	
		Carbophenothion	4.2	U	ng/L	P342367	
		Chlorothalonil	2.1	U	ng/L	P342367	
		Cypermethrin	21	U	ng/L	P342367	
		DDD-p,p'	3.1	U	ng/L	P342367	
		DDE-p,p'	3.1	U	ng/L	P342367	
		DDT-p,p'	3.1	U	ng/L	P342367	
		Dieldrin	4.2	U	ng/L	P342367	
		Endosulfan I	4.2	U	ng/L	P342367	
		Endosulfan II	4.2	U	ng/L	P342367	
		Endosulfan Sulfate	2.1	U	ng/L	P342367	
		Endrin	2.1	U	ng/L	P342367	
		Endrin Aldehyde	2.1	U	ng/L	P342367	
		Heptachlor	1.6	U	ng/L	P342367	
		Heptachlor Epoxide	2.1	U	ng/L	P342367	
		Methoxychlor	4.2	U	ng/L	P342367	
		Mirex	2.1	U	ng/L	P342367	
		Permethrin	10	U	ng/L	P342367	
		Trifluralin	1.0	U	ng/L	P342367	
		Alpha-Chlordane	1.0	U	ng/L	P342367	
		Gamma-Chlordane	1.0	U	ng/L	P342367	
		Endrin Ketone	2.1	U	ng/L	P342367	
		Dicofol	31	U	ng/L	P342367	
	EPA 8276	Chlordane**	2.6	U	ng/L	P342367	
		Toxaphene**	31	U	ng/L	P342367	
1977126	EPA 8270D	Alachlor	0.25	U	ng/L	P342308	
		Ametryn	0.33	U	ng/L	P342308	
		Atrazine	0.25	U	ng/L	P342308	
		Atrazine Desethyl	1.5	U	ng/L	P342308	
		Azinphos Methyl	2.3	U	ng/L	P342308	
		Bromacil	0.50	U	ng/L	P342308	
		Butylate	0.40	UJ	ng/L	P342308	RPD
		Chlorpyrifos Ethyl	0.25	U	ng/L	P342308	
		Chlorpyrifos Methyl	0.10	U	ng/L	P342308	
		Demeton	2.0	U	ng/L	P342308	
		Diazinon	0.13	U	ng/L	P342308	
		Disulfoton	0.50	U	ng/L	P342308	
		EPTC	1.3	UJ	ng/L	P342308	RPD
		Ethion	0.15	U	ng/L	P342308	
		Ethoprop	0.10	U	ng/L	P342308	
		Fenamiphos	0.25	U	ng/L	P342308	
		Fipronil	0.25	U	ng/L	P342308	
		Fipronil Sulfide	0.15	U	ng/L	P342308	

Field ID: G3NW0148 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1977126	EPA 8270D	Fipronil Sulfone	0.15	U	ng/L	P342308	
		Hexazinone	0.50	U	ng/L	P342308	
		Malathion	0.35	U	ng/L	P342308	
		Metribuzin	0.20	U	ng/L	P342308	
		Mevinphos	0.50	U	ng/L	P342308	
		Molinate	0.30	UJ	ng/L	P342308	RPD
		Norflurazon	0.50	U	ng/L	P342308	
		Pendimethalin	1.0	U	ng/L	P342308	
		Phorate	0.25	U	ng/L	P342308	
		Prometon	0.90	U	ng/L	P342308	
		Prometryn	0.20	U	ng/L	P342308	
		Simazine	0.50	U	ng/L	P342308	
		Terbufos	0.10	U	ng/L	P342308	
		Terbuthylazine	0.43	U	ng/L	P342308	
		Fonofos	0.20	U	ng/L	P342308	
		Metalaxyl	0.25	U	ng/L	P342308	
		Metolachlor	0.25	U	ng/L	P342308	
		Acetochlor	0.25	U	ng/L	P342308	
		Cyanazine	0.50	UJ	ng/L	P342308	CCV
		Parathion Ethyl	0.25	U	ng/L	P342308	
		Parathion Methyl	0.25	U	ng/L	P342308	
1977127	EPA 200.7 Rev. 4.4	Calcium	1.41		mg/L	P342274	
		Iron	270		ug/L	P342274	
		Magnesium	0.52		mg/L	P342274	
		Potassium	0.30	U	mg/L	P342274	
		Sodium	1.9	I	mg/L	P342274	
		Zinc	5.0	U	ug/L	P342274	
	EPA 200.8 Rev. 5.4	Arsenic	0.19	I	ug/L	P342274	
		Cadmium	0.020	U	ug/L	P342274	
		Chromium	0.44	I	ug/L	P342274	
		Copper	0.20	U	ug/L	P342274	
		Lead	0.23		ug/L	P342274	
		Nickel	0.23	I	ug/L	P342274	
		Silver	0.010	U	ug/L	P342274	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy and precision for Imazapyr could not be assessed due to high concentration of parameter in the spiked sample.
EPA 8270D: MS accuracy for Atrazine, Simazine and Fipronil Sulfone not assessed due to high content of this parameter in the sample spiked. Refer to the narrative for an explanation of QC Codes.

Sample Location: OTTER CREEK UPSTREAM OF OTTER CREEK BRIDGE RD. Collection Date/Time: 03/22/2018 13:35

Field ID: G3NW0133 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1977115	EPA 180.1 Rev. 2.0	Turbidity	1.4		NTU	P342125	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P342312	

Field ID: G3NW0133 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1977115	EPA 300.0 Rev. 2.1	Sulfate	6.8		mg SO4/L	P342314	
	SM 2120 B	Color (true)	180		PCU	P342121	
	SM 2320 B-97	Total Alkalinity	7.8		mg CaCO3/L	P342530	
	SM 2540 C-97	TDS	105		mg/L	P342574	
	SM 2540 D-97	TSS	3	I	mg/L	P342629	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P342534	
1977116	EPA 350.1 Rev. 2.0	Ammonia-N	1.0		mg N/L	P342678	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P342171	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P342256	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P342250	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P342762	
1977117	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P342102	
1977128	EPA 200.7 Rev. 4.4	Calcium	6.39		mg/L	P342274	
		Iron	470		ug/L	P342274	
		Magnesium	1.60		mg/L	P342274	
		Potassium	3.4		mg/L	P342274	
		Sodium	14.8		mg/L	P342274	
		Zinc	5.0	U	ug/L	P342274	
	EPA 200.8 Rev. 5.4	Arsenic	0.31		ug/L	P342274	
		Cadmium	0.020	U	ug/L	P342274	
		Chromium	0.46	I	ug/L	P342274	
		Copper	0.20	U	ug/L	P342274	
		Lead	0.17	I	ug/L	P342274	
		Nickel	0.30	I	ug/L	P342274	
		Silver	0.010	U	ug/L	P342274	

Ref. Method and Comment:
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.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342125

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P342274

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
Zinc	5.0	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P342274

Component	Result	Code	Units
Arsenic	0.050	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.20	U	ug/L
Lead	0.050	U	ug/L
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342312

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342314

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342677

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342678

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342170

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342171

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342256

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342250

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342102

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

Reference Method: EPA 8270D
Batch ID: P342308

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	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	0.50	U	ng/L
Demeton	2.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.50	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	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	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8270D
Batch ID: P342367

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L
DDE-p,p'	3.0	U	ng/L
DDT-p,p'	3.0	U	ng/L
Delta-BHC	4.0	U	ng/L
Dicofol	30	U	ng/L
Dieldrin	4.0	U	ng/L
Endosulfan I	4.0	U	ng/L
Endosulfan II	4.0	U	ng/L
Endosulfan Sulfate	2.0	U	ng/L
Endrin	2.0	U	ng/L
Endrin Aldehyde	2.0	U	ng/L
Endrin Ketone	2.0	U	ng/L
Gamma-BHC	4.0	U	ng/L
Gamma-Chlordane	1.0	U	ng/L
Heptachlor	1.5	U	ng/L
Heptachlor Epoxide	2.0	U	ng/L
Methoxychlor	4.0	U	ng/L
Mirex	2.0	U	ng/L
Permethrin	10	U	ng/L
Trifluralin	1.0	U	ng/L

Reference Method: EPA 8276
Batch ID: P342367

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	30	U	ng/L

Reference Method: EPA 8321B
Batch ID: P342108

Component	Result	Code	Units
AMPA	0.10	U	ug/L
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P342159

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P342159

Component	Result	Code	Units
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P342413

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P342121

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P342530

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

Reference Method: SM 2540 C-97
Batch ID: P342574

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P342629

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P342534

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P342762

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: P342274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	102		P	85 - 115
Sodium	101		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P342274

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	102		P	85 - 115
Chromium	101		P	85 - 115
Copper	102		P	85 - 115
Lead	102		P	85 - 115
Nickel	101		P	85 - 115
Silver	99.7		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342312

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342677

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342678

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.1		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342170

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342171

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342256

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342250

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342102

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8270D
Batch ID: P342308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	91.2	92.2	P/P	74 - 119
Alachlor	91.2	93.2	P/P	75 - 118
Ametryn	71.7	71.0	P/P	59 - 137
Atrazine	94.4	101	P/P	73 - 120
Atrazine Desethyl	109	102	P/P	19 - 129
Azinphos Methyl	118	126	P/P	65 - 181
Bromacil	60.1	68.0	P/P	43 - 123
Butylate	47.1	32.2	P/P	28 - 85.0
Chlorpyrifos Ethyl	92.9	89.1	P/P	55 - 112
Chlorpyrifos Methyl	94.3	93.6	P/P	35 - 124
Cyanazine	239	249	P/P	26 - 262
Demeton	71.6	63.3	P/P	43 - 122
Diazinon	97.4	98.7	P/P	72 - 120
Disulfoton	87.9	92.1	P/P	45 - 137
EPTC	48.2	30.5	P/P	28 - 95.0
Ethion	89.3	88.4	P/P	63 - 127

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P342308

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	86.3	79.6	P/P	63 - 109
Fenamiphos	93.0	93.8	P/P	66 - 136
Fipronil	91.1	94.5	P/P	63 - 126
Fipronil Sulfide	89.3	87.8	P/P	59 - 123
Fipronil Sulfone	83.5	82.0	P/P	56 - 122
Fonofos	88.3	84.0	P/P	64 - 114
Hexazinone	96.7	103	P/P	49 - 144
Malathion	98.9	101	P/P	68 - 131
Metalaxyl	86.3	91.4	P/P	57 - 126
Metolachlor	90.6	96.9	P/P	75 - 118
Metribuzin	156	149	P/P	46 - 169
Mevinphos	75.4	67.2	P/P	34 - 126
Molinate	53.9	39.1	P/P	37 - 101
Norflurazon	89.5	95.1	P/P	63 - 127
Parathion Ethyl	94.0	97.0	P/P	78 - 109
Parathion Methyl	99.9	104	P/P	74 - 123
Pendimethalin	103	102	P/P	51 - 130
Phorate	81.0	78.5	P/P	53 - 116
Prometon	83.9	85.4	P/P	66 - 124
Prometryn	82.8	81.8	P/P	66 - 124
Simazine	97.8	94.8	P/P	62 - 134
Terbufos	87.5	84.0	P/P	59 - 115
Terbuthylazine	92.3	96.2	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P342367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	62.8	61.6	P/P	24 - 89.0
Alpha-BHC	84.5	80.9	P/P	58 - 117
Alpha-Chlordane	90.4	85.3	P/P	56 - 115
Beta-BHC	120	109	P/P	55 - 137
Carbophenothion	94.6	96.5	P/P	37 - 145
Chlorothalonil	97.7	89.5	P/P	26 - 163
Cypermethrin	87.7	87.1	P/P	42 - 156
DDD-p,p'	104	100	P/P	59 - 129
DDE-p,p'	85.5	82.5	P/P	52 - 117
DDT-p,p'	88.2	90.1	P/P	48 - 128
Delta-BHC	128	122	P/P	59 - 158
Dicofol	97.1	91.9	P/P	19 - 124
Dieldrin	94.4	88.5	P/P	57 - 126
Endosulfan I	99.8	93.9	P/P	59 - 133
Endosulfan II	113	108	P/P	58 - 148
Endosulfan Sulfate	107	107	P/P	56 - 135
Endrin	94.2	81.1	P/P	50 - 140
Endrin Aldehyde	97.1	95.8	P/P	47 - 141
Endrin Ketone	99.6	101	P/P	63 - 123
Gamma-BHC	99.1	91.6	P/P	59 - 132
Gamma-Chlordane	86.5	83.6	P/P	55 - 112
Heptachlor	65.6	66.4	P/P	45 - 102
Heptachlor Epoxide	93.1	87.3	P/P	61 - 116
Methoxychlor	106	102	P/P	60 - 133

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P342367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mirex	68.1	68.9	P/P	40 - 98.0
Permethrin	80.0	79.1	P/P	45 - 131
Trifluralin	77.8	75.7	P/P	38 - 179

Reference Method: EPA 8276
Batch ID: P342367

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	71.3	63.0	P/P	47 - 125
Toxaphene	98.2	94.6	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P342108

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
AMPA	97.7		P	40 - 150
Glyphosate	101		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342159

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	68.0		P	40 - 150
3-Hydroxycarbofuran	83.7		P	40 - 150
Acetaminophen	90.8		P	30 - 150
Aldicarb	53.5		P	30 - 150
Aldicarb Sulfone	98.7		P	40 - 150
Aldicarb Sulfoxide	106		P	40 - 150
Bentazon	62.2		P	30 - 150
Carbamazepine	68.4		P	40 - 150
Carbaryl	57.2		P	40 - 150
Carbofuran	62.4		P	40 - 150
Diuron	66.3		P	40 - 150
Fenuron	107		P	40 - 150
Fluridone	56.8		P	40 - 150
Imazapyr	60.3		P	40 - 150
Imidacloprid	91.6		P	40 - 160
Linuron	70.2		P	40 - 150
MCPP	61.9		P	40 - 150
Methiocarb	55.8		P	40 - 150
Methomyl	94.1		P	40 - 150
Oxamyl	93.2		P	40 - 150
Primidone	105		P	40 - 150
Propoxur	60.8		P	40 - 150
Pyraclostrobin	70.4		P	40 - 150
Triclopyr	66.8		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342413

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	92.6		P	40 - 150

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P342530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P342534

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.2		P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P342762

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.6		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P342274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977262	Calcium	101		P	80 - 120
1977262	Iron	108	106	P/P	80 - 120
1977262	Magnesium	102		P	80 - 120
1977262	Potassium	104	101	P/P	80 - 120
1977262	Sodium	102		P	80 - 120
1977262	Zinc	98.1	96.6	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P342274

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977262	Arsenic	98.2	98.7	P/P	80 - 120
1977262	Cadmium	103	106	P/P	80 - 120
1977262	Chromium	101	102	P/P	80 - 120
1977262	Copper	96.1	96.1	P/P	80 - 120
1977262	Lead	102	102	P/P	80 - 120
1977262	Nickel	94.0	94.3	P/P	80 - 120
1977262	Silver	98.9	99.8	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1976970	Chloride	100		P	90 - 110
1977112	Chloride	96.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1976970	Sulfate	103		P	90 - 110
1977112	Sulfate	98.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1976844	Ammonia-N	101	99.6	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342678

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977154	Ammonia-N	97.8	94.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342170

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977079	Kjeldahl Nitrogen	89.5	86.1	F/F	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342256

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977043	NO2NO3-N	100	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342250

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977156	Total-P	101	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342102

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977114	O-Phosphate-P	98.4	99.5	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P342308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977012	Acetochlor	86.8	81.9	P/P	67 - 125
1977012	Alachlor	77.6	71.3	P/P	69 - 123
1977012	Ametryn	88.5	83.4	P/P	52 - 151
1977012	Atrazine Desethyl	91.2	84.7	P/P	10 - 129
1977012	Azinphos Methyl	110	107	P/P	48 - 200
1977012	Bromacil	80.3	77.2	P/P	46 - 130
1977012	Butylate	34.1	27.0	P/P	10 - 85.0
1977012	Chlorpyrifos Ethyl	81.0	73.7	P/P	54 - 115
1977012	Chlorpyrifos Methyl	88.5	87.6	P/P	44 - 117

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P342308

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977012	Cyanazine	203	190	P/P	10 - 262
1977012	Demeton	47.9	47.8	P/P	24 - 145
1977012	Diazinon	97.5	90.1	P/P	66 - 129
1977012	Disulfoton	84.0	77.6	P/P	45 - 139
1977012	EPTC	34.2	27.9	P/P	10 - 86.0
1977012	Ethion	92.1	86.8	P/P	59 - 133
1977012	Ethoprop	90.9	89.5	P/P	54 - 116
1977012	Fenamiphos	85.6	81.4	P/P	55 - 140
1977012	Fipronil	90.3	88.4	P/P	37 - 142
1977012	Fipronil Sulfide	84.2	81.3	P/P	37 - 130
1977012	Fonofos	85.7	82.4	P/P	55 - 118
1977012	Hexazinone	105	103	P/P	62 - 140
1977012	Malathion	97.8	98.5	P/P	64 - 132
1977012	Metalaxyl	84.0	78.3	P/P	55 - 129
1977012	Metolachlor	83.4	76.2	P/P	56 - 137
1977012	Metribuzin	191	182	P/P	16 - 218
1977012	Mevinphos	74.8	72.4	P/P	34 - 129
1977012	Molinate	44.5	37.2	P/P	16 - 99.0
1977012	Norflurazon	81.0	83.3	P/P	43 - 135
1977012	Parathion Ethyl	94.8	89.7	P/P	71 - 112
1977012	Parathion Methyl	102	102	P/P	65 - 127
1977012	Pendimethalin	112	103	P/P	35 - 159
1977012	Phorate	71.5	71.9	P/P	41 - 129
1977012	Prometon	90.3	85.5	P/P	56 - 140
1977012	Prometryn	83.7	74.8	P/P	65 - 130
1977012	Terbufos	87.5	84.4	P/P	53 - 126
1977012	Terbuthylazine	89.7	86.4	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P342367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977359	Aldrin	72.4	72.4	P/P	26 - 96.0
1977359	Alpha-BHC	92.6	94.6	P/P	51 - 123
1977359	Alpha-Chlordane	89.6	91.9	P/P	45 - 120
1977359	Beta-BHC	109	102	P/P	43 - 146
1977359	Carbophenothion	117	125	P/P	26 - 179
1977359	Chlorothalonil	141	141	P/P	10 - 215
1977359	Cypermethrin	99.7	103	P/P	35 - 169
1977359	DDD-p,p'	97.6	102	P/P	49 - 131
1977359	DDE-p,p'	92.9	85.3	P/P	39 - 127
1977359	DDT-p,p'	98.0	93.0	P/P	49 - 120
1977359	Delta-BHC	114	121	P/P	49 - 187
1977359	Dicofol	102	82.6	P/P	10 - 129
1977359	Dieldrin	90.5	93.9	P/P	46 - 132
1977359	Endosulfan I	116	103	P/P	57 - 130
1977359	Endosulfan II	107	118	P/P	52 - 148
1977359	Endosulfan Sulfate	111	116	P/P	55 - 129
1977359	Endrin	93.4	83.2	P/P	45 - 133
1977359	Endrin Aldehyde	87.0	84.1	P/P	26 - 140
1977359	Endrin Ketone	106	112	P/P	60 - 125
1977359	Gamma-BHC	107	97.4	P/P	50 - 145

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P342367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977359	Gamma-Chlordane	88.5	91.7	P/P	44 - 118
1977359	Heptachlor	76.3	74.6	P/P	35 - 106
1977359	Heptachlor Epoxide	89.9	92.1	P/P	52 - 123
1977359	Methoxychlor	114	109	P/P	54 - 132
1977359	Mirex	86.9	86.5	P/P	36 - 107
1977359	Permethrin	96.6	96.2	P/P	47 - 135
1977359	Trifluralin	83.7	83.9	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P342367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977011	Chlordane	68.3	72.3	P/P	41 - 134
1977011	Toxaphene	97.9	94.0	P/P	39 - 158

Reference Method: EPA 8321B
Batch ID: P342108

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1976904	AMPA	95.4	99.6	P/P	40 - 150
1976904	Glyphosate	102	88.8	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P342159

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977140	2,4-D	99.2	90.5	P/P	40 - 150
1977140	3-Hydroxycarbofuran	115	109	P/P	40 - 150
1977140	Acetaminophen	134	125	P/P	30 - 150
1977140	Aldicarb	73.6	66.9	P/P	30 - 150
1977140	Aldicarb Sulfone	138	127	P/P	40 - 150
1977140	Aldicarb Sulfoxide	84.8	77.8	P/P	40 - 150
1977140	Bentazon	26.4	26.8	F/F	30 - 150
1977140	Carbamazepine	79.9	81.8	P/P	40 - 150
1977140	Carbaryl	53.2	49.8	P/P	40 - 150
1977140	Carbofuran	61.3	62.4	P/P	40 - 150
1977140	Diuron	69.5	70.3	P/P	40 - 150
1977140	Fenuron	93.6	87.3	P/P	40 - 150
1977140	Fluridone	54.6	52.2	P/P	40 - 150
1977140	Imidacloprid	214	193	F/F	40 - 160
1977140	Linuron	83.6	74.6	P/P	40 - 150
1977140	MCPP	78.1	78.1	P/P	40 - 150
1977140	Methiocarb	71.8	70.1	P/P	40 - 150
1977140	Methomyl	89.2	85.0	P/P	40 - 150
1977140	Oxamyl	100	103	P/P	40 - 150
1977140	Primidone	120	119	P/P	40 - 150
1977140	Propoxur	57.3	54.7	P/P	40 - 150
1977140	Pyraclostrobin	72.2	68.2	P/P	40 - 150
1977140	Triclopyr	83.0	74.1	P/P	40 - 150

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P342413

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977124	Sucralose	101	103	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P342534

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977257	Fluoride	97.3	98.5	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P342762

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1977041	Organic Carbon	105		P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P342125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977112	Turbidity	1.50	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P342274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977262	Calcium	2.32	Spike	P	0 - 20
1977262	Iron	1.77	Spike	P	0 - 20
1977262	Magnesium	2.53	Spike	P	0 - 20
1977262	Potassium	1.87	Spike	P	0 - 20
1977262	Sodium	2.12	Spike	P	0 - 20
1977262	Zinc	1.44	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P342274

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977262	Arsenic	0.495	Spike	P	0 - 20
1977262	Cadmium	2.27	Spike	P	0 - 20
1977262	Chromium	1.11	Spike	P	0 - 20
1977262	Copper	0.0705	Spike	P	0 - 20
1977262	Lead	0.407	Spike	P	0 - 20
1977262	Nickel	0.374	Spike	P	0 - 20
1977262	Silver	0.941	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1976970	Chloride	1.89	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P342314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1976970	Sulfate	2.53	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1976844	Ammonia-N	0.924	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P342678

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977154	Ammonia-N	2.80	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342170

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977079	Kjeldahl Nitrogen	2.63	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P342171

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977187	Kjeldahl Nitrogen	11.2	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P342256

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977043	NO2NO3-N	0.501	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P342250

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977156	Total-P	1.30	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P342102

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977114	O-Phosphate-P	1.11	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P342308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977012	Acetochlor	5.86	Spike	P	0 - 30
1977012	Alachlor	8.41	Spike	P	0 - 30
1977012	Ametryn	5.96	Spike	P	0 - 30
1977012	Atrazine	13.6	Spike	P	0 - 30
1977012	Atrazine Desethyl	4.65	Spike	P	0 - 30
1977012	Azinphos Methyl	2.56	Spike	P	0 - 30
1977012	Bromacil	2.54	Spike	P	0 - 30
1977012	Butylate	23.2	Spike	P	0 - 30
1977012	Chlorpyrifos Ethyl	9.36	Spike	P	0 - 30
1977012	Chlorpyrifos Methyl	1.07	Spike	P	0 - 30
1977012	Cyanazine	6.73	Spike	P	0 - 30
1977012	Demeton	0.157	Spike	P	0 - 30
1977012	Diazinon	7.92	Spike	P	0 - 30
1977012	Disulfoton	7.91	Spike	P	0 - 30
1977012	EPTC	20.1	Spike	P	0 - 30
1977012	Ethion	5.97	Spike	P	0 - 30
1977012	Ethoprop	1.51	Spike	P	0 - 30
1977012	Fenamiphos	5.00	Spike	P	0 - 30
1977012	Fipronil	1.11	Spike	P	0 - 30
1977012	Fipronil Sulfide	2.40	Spike	P	0 - 30
1977012	Fipronil Sulfone	6.41	Spike	P	0 - 30
1977012	Fonofos	3.92	Spike	P	0 - 30
1977012	Hexazinone	2.50	Spike	P	0 - 30
1977012	Malathion	0.716	Spike	P	0 - 30
1977012	Metalaxyl	6.92	Spike	P	0 - 30
1977012	Metolachlor	8.38	Spike	P	0 - 30
1977012	Metribuzin	4.71	Spike	P	0 - 30
1977012	Mevinphos	3.28	Spike	P	0 - 30
1977012	Molinate	18.0	Spike	P	0 - 30
1977012	Norflurazon	2.83	Spike	P	0 - 30
1977012	Parathion Ethyl	5.48	Spike	P	0 - 30
1977012	Parathion Methyl	0.188	Spike	P	0 - 30
1977012	Pendimethalin	8.53	Spike	P	0 - 30
1977012	Phorate	0.481	Spike	P	0 - 30
1977012	Prometon	5.44	Spike	P	0 - 30
1977012	Prometryn	11.3	Spike	P	0 - 30
1977012	Simazine	8.20	Spike	P	0 - 30
1977012	Terbufos	3.54	Spike	P	0 - 30
1977012	Terbuthylazine	3.72	Spike	P	0 - 30
LFB	Acetochlor	1.10	LCS	P	0 - 30
LFB	Alachlor	2.20	LCS	P	0 - 30
LFB	Ametryn	1.04	LCS	P	0 - 30
LFB	Atrazine	6.99	LCS	P	0 - 30
LFB	Atrazine Desethyl	6.67	LCS	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P342308

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	6.71	LCS	P	0 - 30
LFB	Bromacil	12.3	LCS	P	0 - 30
LFB	Butylate	37.5	LCS	F	0 - 30
LFB	Chlorpyrifos Ethyl	4.19	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	0.721	LCS	P	0 - 30
LFB	Cyanazine	3.91	LCS	P	0 - 30
LFB	Demeton	12.3	LCS	P	0 - 30
LFB	Diazinon	1.37	LCS	P	0 - 30
LFB	Disulfoton	4.63	LCS	P	0 - 30
LFB	EPTC	45.0	LCS	F	0 - 30
LFB	Ethion	1.06	LCS	P	0 - 30
LFB	Ethoprop	8.15	LCS	P	0 - 30
LFB	Fenamiphos	0.859	LCS	P	0 - 30
LFB	Fipronil	3.62	LCS	P	0 - 30
LFB	Fipronil Sulfide	1.65	LCS	P	0 - 30
LFB	Fipronil Sulfone	1.81	LCS	P	0 - 30
LFB	Fonofos	4.98	LCS	P	0 - 30
LFB	Hexazinone	6.75	LCS	P	0 - 30
LFB	Malathion	1.70	LCS	P	0 - 30
LFB	Metalaxyl	5.75	LCS	P	0 - 30
LFB	Metolachlor	6.69	LCS	P	0 - 30
LFB	Metribuzin	4.62	LCS	P	0 - 30
LFB	Mevinphos	11.5	LCS	P	0 - 30
LFB	Molinate	31.7	LCS	F	0 - 30
LFB	Norflurazon	6.11	LCS	P	0 - 30
LFB	Parathion Ethyl	3.14	LCS	P	0 - 30
LFB	Parathion Methyl	3.62	LCS	P	0 - 30
LFB	Pendimethalin	1.06	LCS	P	0 - 30
LFB	Phorate	3.23	LCS	P	0 - 30
LFB	Prometon	1.80	LCS	P	0 - 30
LFB	Prometryn	1.20	LCS	P	0 - 30
LFB	Simazine	3.09	LCS	P	0 - 30
LFB	Terbufos	3.99	LCS	P	0 - 30
LFB	Terbuthylazine	4.17	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P342367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977359	Aldrin	0.0877	Spike	P	0 - 30
1977359	Alpha-BHC	2.03	Spike	P	0 - 30
1977359	Alpha-Chlordane	2.56	Spike	P	0 - 30
1977359	Beta-BHC	6.65	Spike	P	0 - 30
1977359	Carbophenothion	6.29	Spike	P	0 - 30
1977359	Chlorothalonil	0.0124	Spike	P	0 - 30
1977359	Cypermethrin	3.21	Spike	P	0 - 30
1977359	DDD-p,p'	4.55	Spike	P	0 - 30
1977359	DDE-p,p'	8.54	Spike	P	0 - 30
1977359	DDT-p,p'	5.22	Spike	P	0 - 30
1977359	Delta-BHC	5.77	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8270D
Batch ID: P342367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977359	Dicofol	20.6	Spike	P	0 - 30
1977359	Dieldrin	3.71	Spike	P	0 - 30
1977359	Endosulfan I	12.3	Spike	P	0 - 30
1977359	Endosulfan II	9.56	Spike	P	0 - 30
1977359	Endosulfan Sulfate	3.95	Spike	P	0 - 30
1977359	Endrin	11.6	Spike	P	0 - 30
1977359	Endrin Aldehyde	3.37	Spike	P	0 - 30
1977359	Endrin Ketone	4.75	Spike	P	0 - 30
1977359	Gamma-BHC	9.07	Spike	P	0 - 30
1977359	Gamma-Chlordane	3.56	Spike	P	0 - 30
1977359	Heptachlor	2.28	Spike	P	0 - 30
1977359	Heptachlor Epoxide	2.37	Spike	P	0 - 30
1977359	Methoxychlor	4.17	Spike	P	0 - 30
1977359	Mirex	0.516	Spike	P	0 - 30
1977359	Permethrin	0.439	Spike	P	0 - 30
1977359	Trifluralin	0.260	Spike	P	0 - 30
LFB	Aldrin	1.79	LCS	P	0 - 30
LFB	Alpha-BHC	4.36	LCS	P	0 - 30
LFB	Alpha-Chlordane	5.88	LCS	P	0 - 30
LFB	Beta-BHC	9.58	LCS	P	0 - 30
LFB	Carbophenothion	1.99	LCS	P	0 - 30
LFB	Chlorothalonil	8.73	LCS	P	0 - 30
LFB	Cypermethrin	0.640	LCS	P	0 - 30
LFB	DDD-p,p'	3.88	LCS	P	0 - 30
LFB	DDE-p,p'	3.55	LCS	P	0 - 30
LFB	DDT-p,p'	2.13	LCS	P	0 - 30
LFB	Delta-BHC	4.54	LCS	P	0 - 30
LFB	Dicofol	5.48	LCS	P	0 - 30
LFB	Dieldrin	6.47	LCS	P	0 - 30
LFB	Endosulfan I	6.09	LCS	P	0 - 30
LFB	Endosulfan II	3.94	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.386	LCS	P	0 - 30
LFB	Endrin	14.9	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.41	LCS	P	0 - 30
LFB	Endrin Ketone	1.34	LCS	P	0 - 30
LFB	Gamma-BHC	7.87	LCS	P	0 - 30
LFB	Gamma-Chlordane	3.34	LCS	P	0 - 30
LFB	Heptachlor	1.15	LCS	P	0 - 30
LFB	Heptachlor Epoxide	6.42	LCS	P	0 - 30
LFB	Methoxychlor	3.80	LCS	P	0 - 30
LFB	Mirex	1.17	LCS	P	0 - 30
LFB	Permethrin	1.13	LCS	P	0 - 30
LFB	Trifluralin	2.67	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P342367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977011	Chlordane	5.66	Spike	P	0 - 30
1977011	Toxaphene	3.99	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: EPA 8276
Batch ID: P342367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	12.4	LCS	P	0 - 30
LFB	Toxaphene	3.75	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342108

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1976904	AMPA	4.36	Spike	P	0 - 30
1976904	Glyphosate	13.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342159

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977140	2,4-D	8.34	Spike	P	0 - 30
1977140	3-Hydroxycarbofuran	4.99	Spike	P	0 - 30
1977140	Acetaminophen	6.81	Spike	P	0 - 30
1977140	Aldicarb	9.52	Spike	P	0 - 30
1977140	Aldicarb Sulfone	8.07	Spike	P	0 - 30
1977140	Aldicarb Sulfoxide	8.57	Spike	P	0 - 30
1977140	Bentazon	1.47	Spike	P	0 - 30
1977140	Carbamazepine	2.34	Spike	P	0 - 30
1977140	Carbaryl	6.52	Spike	P	0 - 30
1977140	Carbofuran	1.70	Spike	P	0 - 30
1977140	Diuron	1.22	Spike	P	0 - 30
1977140	Fenuron	6.94	Spike	P	0 - 30
1977140	Fluridone	4.53	Spike	P	0 - 30
1977140	Imidacloprid	9.88	Spike	P	0 - 30
1977140	Linuron	11.4	Spike	P	0 - 30
1977140	MCPP	0.0384	Spike	P	0 - 30
1977140	Methiocarb	2.34	Spike	P	0 - 30
1977140	Methomyl	4.79	Spike	P	0 - 30
1977140	Oxamyl	2.56	Spike	P	0 - 30
1977140	Primidone	1.17	Spike	P	0 - 30
1977140	Propoxur	4.72	Spike	P	0 - 30
1977140	Pyraclostrobin	5.83	Spike	P	0 - 30
1977140	Triclopyr	11.4	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P342413

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977124	Sucralose	2.25	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2120 B
Batch ID: P342121

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977149	Color (true)	4.48	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P342530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977257	Total Alkalinity	0.330	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P342574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977132	TDS	3.29	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P342534

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977257	Fluoride	0.934	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P342762

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1977041	Organic Carbon	0.432	Spike	P	0 - 20

* 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: 1977123
Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	71.6	P	30 - 160

Lab Sample ID: 1977124
Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	2,4-D-d3	115	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	124	P	30 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1977124
Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbamazepine-d10	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	119	P	30 - 160
EPA 8321B	Diuron-d6	87.8	P	30 - 160
EPA 8321B	Diuron-d6	87.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	93.4	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	93.4	P	40 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	89.7	P	40 - 160

Lab Sample ID: 1977125
Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	80.7	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	58.9	P	34 - 101
EPA 8276	Decachlorobiphenyl	61.7	P	31 - 108
EPA 8276	PCNB	94.4	P	62 - 142

Lab Sample ID: 1977126
Field Sample ID: G3NW0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	85.3	P	71 - 126
EPA 8270D	Terbufos-d10	74.1	P	59 - 149

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A82810
Included Lab Sample IDs: 1977114, 1977117

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.7	P/P	90 - 110
O-Phosphate-P	99.7	99.7	P/P	90 - 110

Reference Method: SM 2120 B
Run ID: A82815
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	100	P/P	85 - 115
Color (true)	99.6	99.7	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A82817
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.5	100	P/P	95 - 105

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A82843
Included Lab Sample IDs: 1977124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	98.5	P/P	70 - 130
Glyphosate	110	106	P/P	70 - 160

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A82873
Included Lab Sample IDs: 1977113, 1977116

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

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A82892
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.2	P/P	90 - 110
Chloride	102	101	P/P	90 - 110
Sulfate	103	99.4	P/P	90 - 110
Sulfate	99.4	99.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A82912
Included Lab Sample IDs: 1977113, 1977116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	107	97.4	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A82913
Included Lab Sample IDs: 1977127, 1977128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.2	100	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	100	99.9	P/P	90 - 110
Sodium	99.8	100	P/P	90 - 110
Zinc	102	99.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82948
Included Lab Sample IDs: 1977113, 1977116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.2	99.2	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A82967
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-97
Run ID: A82967
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.4	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A82967
Included Lab Sample IDs: 1977112, 1977115

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	97.2	98.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A82969
Included Lab Sample IDs: 1977124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	85.9	77.4	P/P	50 - 150
3-Hydroxycarbofuran	118	120	P/P	60 - 150
Acetaminophen	104	110	P/P	60 - 150
Aldicarb	106	112	P/P	60 - 150
Aldicarb Sulfone	109	116	P/P	50 - 150
Aldicarb Sulfoxide	117	119	P/P	50 - 150
Bentazon	84.4	88.0	P/P	50 - 150
Carbamazepine	108	110	P/P	60 - 150
Carbaryl	111	106	P/P	60 - 150
Carbofuran	122	117	P/P	50 - 150
Diuron	122	125	P/P	60 - 150
Fenuron	111	111	P/P	60 - 150
Fluridone	103	104	P/P	60 - 160
Imazapyr	99.7	89.5	P/P	50 - 150
Imidacloprid	100	115	P/P	60 - 150
Linuron	119	119	P/P	60 - 150
MCPP	92.1	87.6	P/P	50 - 150
Methiocarb	118	117	P/P	50 - 150
Methomyl	112	115	P/P	50 - 150
Oxamyl	112	121	P/P	50 - 150
Primidone	99.6	110	P/P	60 - 150
Propoxur	117	111	P/P	50 - 150
Pyraclostrobin	117	116	P/P	60 - 150
Triclopyr	95.4	90.2	P/P	50 - 150

Reference Method: EPA 8276
Run ID: A82971
Included Lab Sample IDs: 1977125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	80.4		P	80 - 120
Toxaphene	98.4		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A82995
Included Lab Sample IDs: 1977127, 1977128

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	101	96.7	P/P	90 - 110
Cadmium	97.7	98.9	P/P	90 - 110
Chromium	97.8	98.9	P/P	90 - 110
Copper	101	96.5	P/P	90 - 110
Lead	99.6	99.6	P/P	90 - 110
Nickel	100	96.2	P/P	90 - 110
Silver	102	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A83017
Included Lab Sample IDs: 1977113, 1977116

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

Reference Method: EPA 8270D
Run ID: A83023
Included Lab Sample IDs: 1977125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.2		P	80 - 120
Alpha-BHC	102		P	80 - 120
Alpha-Chlordane	97.4		P	80 - 120
Beta-BHC	94.0		P	80 - 120
Carbophenothion	85.0		P	80 - 120
Chlorothalonil	103		P	80 - 120
Cypermethrin	87.6		P	80 - 120
DDD-p,p'	97.2		P	80 - 120
DDE-p,p'	101		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	97.3		P	80 - 120
Dicofol	101		P	80 - 120
Dieldrin	96.8		P	80 - 120
Endosulfan I	97.0		P	80 - 120
Endosulfan II	100		P	80 - 120
Endosulfan Sulfate	95.5		P	80 - 120
Endrin	94.7		P	80 - 120
Endrin Aldehyde	89.7		P	80 - 120
Endrin Ketone	94.9		P	80 - 120
Gamma-BHC	97.4		P	80 - 120
Gamma-Chlordane	97.8		P	80 - 120
Heptachlor	94.8		P	80 - 120
Heptachlor Epoxide	96.4		P	80 - 120
Methoxychlor	98.7		P	80 - 120
Mirex	97.2		P	80 - 120
Permethrin	94.6		P	80 - 120
Trifluralin	99.4		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A83032
Included Lab Sample IDs: 1977124

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	122	103	P/P	60 - 150

Reference Method: SM 5310 B-00
Run ID: A83038
Included Lab Sample IDs: 1977113, 1977116

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.6	97.4	P/P	90 - 110
Organic Carbon	98.2	97.6	P/P	90 - 110

Reference Method: EPA 8270D
Run ID: A83227
Included Lab Sample IDs: 1977126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.8		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	95.3		P	80 - 120
Atrazine	95.7		P	80 - 120
Atrazine Desethyl	108		P	80 - 120
Azinphos Methyl	101		P	80 - 120
Bromacil	100		P	80 - 120
Butylate	98.4		P	80 - 120
Chlorpyrifos Ethyl	97.7		P	80 - 120
Chlorpyrifos Methyl	97.4		P	80 - 120
Cyanazine	128*		F	80 - 120
Demeton	93.8		P	80 - 120
Diazinon	98.0		P	80 - 120
Disulfoton	92.8		P	80 - 120
EPTC	98.7		P	80 - 120
Ethion	93.1		P	80 - 120
Ethoprop	101		P	80 - 120
Fenamiphos	94.1		P	80 - 120
Fipronil	96.8		P	80 - 120
Fipronil Sulfide	94.7		P	80 - 120
Fipronil Sulfone	94.0		P	80 - 120
Fonofos	98.3		P	80 - 120
Hexazinone	93.7		P	80 - 120
Malathion	97.5		P	80 - 120
Metalaxyl	95.7		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	111		P	80 - 120
Mevinphos	96.7		P	80 - 120
Molinate	99.6		P	80 - 120
Norflurazon	99.5		P	80 - 120
Parathion Ethyl	94.6		P	80 - 120
Parathion Methyl	95.3		P	80 - 120
Pendimethalin	102		P	80 - 120
Phorate	98.2		P	80 - 120
Prometon	97.8		P	80 - 120
Prometryn	97.8		P	80 - 120

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8270D
Run ID: A83227
Included Lab Sample IDs: 1977126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Simazine	99.0		P	80 - 120
Terbufos	95.2		P	80 - 120
Terbuthylazine	96.5		P	80 - 120

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

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.50	
EPA 200.7 Rev. 4.4	Calcium	102		101				2.32
	Iron	106		108	106			1.77
	Magnesium	103		102				2.53
	Potassium	102		104	101			1.87
	Sodium	101		102				2.12
	Zinc	101		98.1	96.6			1.44
EPA 200.8 Rev. 5.4	Arsenic	102		98.2	98.7			0.495
	Cadmium	102		103	106			2.27
	Chromium	101		101	102			1.11
	Copper	102		96.1	96.1			0.0705
	Lead	102		102	102			0.407
	Nickel	101		94.0	94.3			0.374
	Silver	99.7		98.9	99.8			0.941
EPA 300.0 Rev. 2.1	Chloride	99.1		100	96.6		1.89	
	Sulfate	97.7		103	98.2		2.53	
EPA 350.1 Rev. 2.0	Ammonia-N	98.6		101	99.6			0.924
	Ammonia-N	99.1		97.8	94.9			2.80
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.4		89.5	86.1			2.63
	Kjeldahl Nitrogen	101						11.2
EPA 353.2 Rev. 2.0	NO2NO3-N	104		100	99.5			0.501
EPA 365.1 Rev. 2.0	Total-P	103		101	100			1.30
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.0		98.4	99.5			1.11
EPA 8270D	Acetochlor	92.2	91.2	86.8	81.9	1.10		5.86
	Alachlor	93.2	91.2	77.6	71.3	2.20		8.41
	Aldrin	62.8	61.6	72.4	72.4	1.79		0.0877
	Alpha-BHC	84.5	80.9	92.6	94.6	4.36		2.03
	Alpha-Chlordane	90.4	85.3	89.6	91.9	5.88		2.56
	Ametryn	71.0	71.7	88.5	83.4	1.04		5.96
	Atrazine	101	94.4			6.99		13.6
	Atrazine Desethyl	102	109	91.2	84.7	6.67		4.65
	Azinphos Methyl	118	126	110	107	6.71		2.56
	Beta-BHC	120	109	109	102	9.58		6.65
	Bromacil	60.1	68.0	80.3	77.2	12.3		2.54
	Butylate	47.1	32.2	34.1	27.0	37.5		23.2
	Carbophenothion	94.6	96.5	117	125	1.99		6.29
	Chlorothalonil	97.7	89.5	141	141	8.73		0.0124

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision		
						LCS	SMP	MS
EPA 8270D	Chlorpyrifos Ethyl	92.9	89.1	81.0	73.7	4.19		9.36
	Chlorpyrifos Methyl	94.3	93.6	88.5	87.6	0.721		1.07
	Cyanazine	239	249	203	190	3.91		6.73
	Cypermethrin	87.7	87.1	103	99.7	0.640		3.21
	DDD-p,p'	104	100	102	97.6	3.88		4.55
	DDE-p,p'	85.5	82.5	92.9	85.3	3.55		8.54
	DDT-p,p'	88.2	90.1	98.0	93.0	2.13		5.22
	Delta-BHC	128	122	114	121	4.54		5.77
	Demeton	63.3	71.6	47.9	47.8	12.3		0.157
	Diazinon	98.7	97.4	97.5	90.1	1.37		7.92
	Dicofol	97.1	91.9	102	82.6	5.48		20.6
	Dieldrin	94.4	88.5	90.5	93.9	6.47		3.71
	Disulfoton	92.1	87.9	84.0	77.6	4.63		7.91
	Endosulfan I	99.8	93.9	116	103	6.09		12.3
	Endosulfan II	113	108	107	118	3.94		9.56
	Endosulfan Sulfate	107	107	111	116	0.386		3.95
	Endrin	94.2	81.1	93.4	83.2	14.9		11.6
	Endrin Aldehyde	97.1	95.8	87.0	84.1	1.41		3.37
	Endrin Ketone	99.6	101	106	112	1.34		4.75
	EPTC	30.5	48.2	34.2	27.9	45.0		20.1
	Ethion	88.4	89.3	92.1	86.8	1.06		5.97
	Ethoprop	79.6	86.3	90.9	89.5	8.15		1.51
	Fenamiphos	93.8	93.0	85.6	81.4	0.859		5.00
	Fipronil	94.5	91.1	90.3	88.4	3.62		1.11
	Fipronil Sulfide	87.8	89.3	84.2	81.3	1.65		2.40
	Fipronil Sulfone	82.0	83.5			1.81		6.41
	Fonofos	84.0	88.3	85.7	82.4	4.98		3.92
	Gamma-BHC	99.1	91.6	107	97.4	7.87		9.07
	Gamma-Chlordane	86.5	83.6	88.5	91.7	3.34		3.56
	Heptachlor	65.6	66.4	76.3	74.6	1.15		2.28
	Heptachlor Epoxide	93.1	87.3	89.9	92.1	6.42		2.37
	Hexazinone	103	96.7	105	103	6.75		2.50
	Malathion	101	98.9	97.8	98.5	1.70		0.716
	Metalaxyl	91.4	86.3	84.0	78.3	5.75		6.92
	Methoxychlor	106	102	114	109	3.80		4.17
	Metolachlor	96.9	90.6	83.4	76.2	6.69		8.38
	Metribuzin	149	156	191	182	4.62		4.71
	Mevinphos	67.2	75.4	74.8	72.4	11.5		3.28
	Mirex	68.1	68.9	86.9	86.5	1.17		0.516
	Molinate	39.1	53.9	44.5	37.2	31.7		18.0
	Norflurazon	95.1	89.5	81.0	83.3	6.11		2.83
	Parathion Ethyl	94.0	97.0	94.8	89.7	3.14		5.48
	Parathion Methyl	99.9	104	102	102	3.62		0.188
	Pendimethalin	102	103	112	103	1.06		8.53
	Permethrin	80.0	79.1	96.6	96.2	1.13		0.439
	Phorate	78.5	81.0	71.5	71.9	3.23		0.481
	Prometon	85.4	83.9	90.3	85.5	1.80		5.44
	Prometryn	81.8	82.8	83.7	74.8	1.20		11.3
	Simazine	94.8	97.8			3.09		8.20
	Terbufos	84.0	87.5	87.5	84.4	3.99		3.54
	Terbuthylazine	96.2	92.3	89.7	86.4	4.17		3.72
	Trifluralin	77.8	75.7	83.7	83.9	2.67		0.260
EPA 8276	Chlordane	71.3	63.0	72.3	68.3	12.4		5.66
	Toxaphene	98.2	94.6	97.9	94.0	3.75		3.99

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 8321B	2,4-D	68.0	99.2	90.5			8.34
	3-Hydroxycarbofuran	83.7	115	109			4.99
	Acetaminophen	90.8	134	125			6.81
	Aldicarb	53.5	73.6	66.9			9.52
	Aldicarb Sulfone	98.7	138	127			8.07
	Aldicarb Sulfoxide	106	84.8	77.8			8.57
	AMPA	97.7	95.4	99.6			4.36
	Bentazon	62.2	26.4	26.8			1.47
	Carbamazepine	68.4	79.9	81.8			2.34
	Carbaryl	57.2	53.2	49.8			6.52
	Carbofuran	62.4	61.3	62.4			1.70
	Diuron	66.3	69.5	70.3			1.22
	Fenuron	107	93.6	87.3			6.94
	Fluridone	56.8	54.6	52.2			4.53
	Glyphosate	101	102	88.8			13.4
	Imazapyr	60.3					
	Imidacloprid	91.6	214	193			9.88
	Linuron	70.2	83.6	74.6			11.4
	MCPP	61.9	78.1	78.1			0.0384
	Methiocarb	55.8	71.8	70.1			2.34
	Methomyl	94.1	89.2	85.0			4.79
	Oxamyl	93.2	100	103			2.56
	Primidone	105	120	119			1.17
	Propoxur	60.8	57.3	54.7			4.72
	Pyraclostrobin	70.4	72.2	68.2			5.83
	Sucralose	92.6	101	103			2.25
	Triclopyr	66.8	83.0	74.1			11.4
SM 2120 B	Color (true)					4.48	
SM 2320 B-97	Total Alkalinity	99.4				0.330	
SM 2540 C-97	TDS					3.29	
SM 4500 F-C-97	Fluoride	94.2	97.3	98.5			0.934
SM 5310 B-00	Organic Carbon	99.6	105				0.432

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1977112, 1977115
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1977127, 1977128
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1977127, 1977128
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1977112, 1977115
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1977112, 1977115
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1977113, 1977116
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1977113, 1977116
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1977113, 1977116
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1977113, 1977116

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1977114, 1977117
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1977125
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1977126
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1977125
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	1977123
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1977124
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1977124
SM 2120 B / E31780	True Color measured at 450 nm	1977112, 1977115
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1977112, 1977115
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1977112, 1977115
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1977112, 1977115
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1977112, 1977115
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1977113, 1977116

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	03/23/2018			03/23/2018 14:40	Tanya Welborn	1977112, 1977115
EPA 200.7 Rev. 4.4	03/23/2018	03/27/2018 17:20	Elliott D. Healy	03/28/2018 16:08	Betina Topolski	1977127
	03/23/2018	03/27/2018 17:20	Elliott D. Healy	03/28/2018 16:13	Betina Topolski	1977128
EPA 200.8 Rev. 5.4	03/23/2018	03/27/2018 17:20	Elliott D. Healy	04/02/2018 16:10	Nadine Brooks	1977127
	03/23/2018	03/27/2018 17:20	Elliott D. Healy	04/02/2018 16:20	Nadine Brooks	1977128
EPA 300.0 Rev. 2.1	03/23/2018			03/27/2018 00:42	Lipi Saha	1977112
	03/23/2018			03/27/2018 04:06	Lipi Saha	1977115
EPA 350.1 Rev. 2.0	03/23/2018			04/03/2018 13:22	Ping Hua	1977113
	03/23/2018			04/03/2018 13:24	Ping Hua	1977116
EPA 351.2 Rev. 2.0	03/23/2018	03/26/2018 11:30	Adrian Shelby	03/28/2018 08:43	Joseph Suarez	1977113
	03/23/2018	03/26/2018 11:30	Adrian Shelby	03/28/2018 08:47	Joseph Suarez	1977116
EPA 353.2 Rev. 2.0	03/23/2018			03/27/2018 12:12	Lauren Bottorf	1977113
	03/23/2018			03/27/2018 12:13	Lauren Bottorf	1977116
EPA 365.1 Rev. 2.0	03/23/2018	03/27/2018 13:10	Sima Feizi	03/29/2018 12:56	Beverly Y. Sanders	1977113
	03/23/2018	03/27/2018 13:10	Sima Feizi	03/29/2018 12:57	Beverly Y. Sanders	1977116
EPA 365.1 Rev. 2.0 dissolved	03/23/2018			03/23/2018 13:54	Megan Treadwell	1977114
	03/23/2018			03/23/2018 14:05	Megan Treadwell	1977117
EPA 8270D	03/23/2018	03/27/2018 09:00	Rasheda Ghaffari	03/29/2018 19:14	Vandana T. Nagar	1977125
	03/23/2018	03/28/2018 10:12	John Kaba	04/03/2018 19:18	Vandana T. Nagar	1977126
EPA 8276	03/23/2018	03/27/2018 09:00	Rasheda Ghaffari	03/29/2018 18:57	John P. Burgos	1977125
EPA 8321B	03/23/2018	03/26/2018 09:00	Julie Michelle Frank	03/26/2018 13:19	Julie Michelle Frank	1977124
	03/23/2018	03/28/2018 10:00	Hoor Shaik	03/29/2018 01:35	Julie Michelle Frank	1977124
	03/23/2018	03/28/2018 10:00	Hoor Shaik	03/29/2018 11:23	Julie Michelle Frank	1977123
	03/23/2018	03/28/2018 10:00	Hoor Shaik	03/29/2018 18:19	Julie Michelle Frank	1977124
	03/23/2018	03/30/2018 08:30	Julie Michelle Frank	03/30/2018 12:07	Mohammad Ghaffari	1977124
SM 2120 B	03/23/2018			03/23/2018 15:19	Tanya Welborn	1977112
	03/23/2018			03/23/2018 15:41	Tanya Welborn	1977115
SM 2320 B-97	03/23/2018			03/30/2018 20:20	Lauren Bottorf	1977112
	03/23/2018			03/30/2018 20:32	Lauren Bottorf	1977115
SM 2540 C-97	03/23/2018			03/28/2018 15:49	Yijie Li	1977112, 1977115
SM 2540 D-97	03/23/2018			03/28/2018 15:49	Yijie Li	1977112, 1977115
SM 4500 F-C-97	03/23/2018			03/30/2018 20:20	Lauren Bottorf	1977112
	03/23/2018			03/30/2018 20:32	Lauren Bottorf	1977115
SM 5310 B-00	03/23/2018			04/04/2018 03:51	Megan Treadwell	1977113
	03/23/2018			04/04/2018 04:39	Megan Treadwell	1977116