

Chemical Analysis Report

NE-DIST-2017-06-23-01

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

Event Description: **Gville South- 6/21/2017**

Request ID: **RQ-2017-06-19-17**

Customer: **NE-DIST**

Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way W
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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator

Date Certified: 21-JUL-2017 11:22



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: Prairie Creek @ SR 20

Collection Date/Time: 06/22/2017 13:05

Field ID: G1NE0095 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908525	EPA 180.1 Rev. 2.0	Turbidity	14		NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	13	A	mg Cl/L	P327716	
		Sulfate	3.1	A	mg SO4/L	P327718	
	SM 2120 B	Color (true)	64		PCU	P327421	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	96		mg/L	P327834	
	SM 2540 D-97	TSS	33		mg/L	P327876	
	SM 4500 F-C-97	Fluoride	0.10		mg F/L	P327621	RPD
1908527	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P327431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.9		mg N/L	P327437	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327604	
	EPA 365.1 Rev. 2.0	Total-P	0.17		mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P327584	
1908529	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327426	

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: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Cross Creek @ SR 325

Collection Date/Time: 06/22/2017 12:25

Field ID: G1NE0105 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908526	EPA 180.1 Rev. 2.0	Turbidity	16		NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	11		mg Cl/L	P327716	
		Sulfate	3.3		mg SO4/L	P327718	
	SM 2120 B	Color (true)	54	A	PCU	P327423	
	SM 2320 B-97	Total Alkalinity	35		mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	107		mg/L	P327834	
	SM 2540 D-97	TSS	36		mg/L	P327876	
	SM 4500 F-C-97	Fluoride	0.12		mg F/L	P327621	RPD
1908528	EPA 350.1 Rev. 2.0	Ammonia-N	0.019		mg N/L	P327673	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	2.7		mg N/L	P327437	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327604	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	22		mg C/L	P327584	
1908530	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P327426	

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: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

SM 5310 B-00: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Lochloosa Slough @ SE SR 225

Collection Date/Time: 06/22/2017 11:25

Field ID: G1NE0860 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Field ID: G1NE0860 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908522	EPA 180.1 Rev. 2.0	Turbidity	1.3	A	NTU	P327419	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P327571	
		Sulfate	2.7		mg SO4/L	P327569	
		Color (true)	1.1E+03		PCU	P327421	
	SM 2320 B-97	Total Alkalinity	8.6		mg CaCO3/L	P327618	
	SM 2540 C-97	TDS	273		mg/L	P327834	
	SM 2540 D-97	TSS	2	U	mg/L	P327876	
	SM 4500 F-C-97	Fluoride	0.090	I	mg F/L	P327621	RPD
1908523	EPA 350.1 Rev. 2.0	Ammonia-N	0.19		mg N/L	P327431	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.6		mg N/L	P327437	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P327704	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P327470	
	SM 5310 B-00	Organic Carbon	100		mg C/L	P328072	
1908524	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.083		mg P/L	P327426	
1908576	EPA 200.7 Rev. 4.4	Calcium	18.3		mg/L	P327482	
		Iron	1.49E+03		ug/L	P327482	
		Magnesium	4.42		mg/L	P327482	
		Potassium	0.79	I	mg/L	P327482	
		Sodium	9.0		mg/L	P327482	
		Zinc	5.0	U	ug/L	P327482	
	EPA 200.8 Rev. 5.4	Arsenic	2.38		ug/L	P327482	
		Cadmium	0.029	I	ug/L	P327482	
		Chromium	1.2	I	ug/L	P327482	
		Copper	0.44	I	ug/L	P327482	
		Lead	1.01		ug/L	P328262	
		Nickel	1.36		ug/L	P327482	
		Silver	0.010	U	ug/L	P327482	

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: Matrix spike recovery data is unavailable due to high analyte concentration in the QC sample.

Sample Location: Lochloosa Slough @ SE SR 225

Collection Date/Time: 06/22/2017 11:25

Field ID: G1NE0860 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908554	EPA 8321B	Glyphosate**	10	U	ug/L	P327305	
		Pyraclostrobin**	0.0020	U	ug/L	P327348	
	USGS O-2060-01	2,4-D	8.0E-04	U	ug/L	P327329	
		Diuron	8.0E-04	U	ug/L	P327329	
		Fenuron	0.0080	U	ug/L	P327329	RPD
		Imidacloprid	0.0017	I	ug/L	P327329	MS
		Bentazon	8.0E-04	U	ug/L	P327329	
		Linuron	0.0040	U	ug/L	P327329	
		Acetaminophen**	0.0080	U	ug/L	P327329	
		MCP	0.0020	U	ug/L	P327329	
		Carbamazepine**	4.0E-04	U	ug/L	P327329	

Field ID: G1NE0860 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908554	USGS O-2060-01	Triclopyr**	0.0040	U	ug/L	P327329	
		Primidone**	0.0040	U	ug/L	P327329	RPD
		Fluridone**	0.0020		ug/L	P327329	
1908565	EPA 8270D	Aldrin	4.2	UJ	ng/L	P327764	RPD
		Alpha-BHC	2.1	U	ng/L	P327764	
		Beta-BHC	4.2	U	ng/L	P327764	
		Delta-BHC	4.2	U	ng/L	P327764	
		Gamma-BHC	4.2	U	ng/L	P327764	
		Carbophenothion	4.2	U	ng/L	P327764	
		Chlorothalonil	2.1	U	ng/L	P327764	
		Cypermethrin	21	U	ng/L	P327764	
		DDD-p,p'	2.1	U	ng/L	P327764	
		DDE-p,p'	3.1	U	ng/L	P327764	
		DDT-p,p'	3.1	U	ng/L	P327764	
		Dieldrin	4.2	U	ng/L	P327764	
		Endosulfan I	4.2	U	ng/L	P327764	
		Endosulfan II	4.2	U	ng/L	P327764	
		Endosulfan Sulfate	2.1	U	ng/L	P327764	
		Endrin	2.1	U	ng/L	P327764	
		Endrin Aldehyde	2.1	U	ng/L	P327764	
		Heptachlor	1.6	U	ng/L	P327764	
		Heptachlor Epoxide	2.1	U	ng/L	P327764	
		Methoxychlor	4.2	U	ng/L	P327764	
		Mirex	2.1	U	ng/L	P327764	
		Permethrin	10	U	ng/L	P327764	
		Trifluralin	1.0	U	ng/L	P327764	
		Alpha-Chlordane	1.0	U	ng/L	P327764	
		Gamma-Chlordane	1.0	U	ng/L	P327764	
		Endrin Ketone	2.1	U	ng/L	P327764	
		Dicofol	31	UJ	ng/L	P327764	CCV
		Chlordane**	2.6	U	ng/L	P327764	
		Toxaphene**	13	U	ng/L	P327764	
1908566	EPA 8270D	Alachlor	0.24	U	ng/L	P327600	
		Ametryn	0.31	U	ng/L	P327600	
		Atrazine	0.24	U	ng/L	P327600	
		Atrazine Desethyl	1.4	U	ng/L	P327600	
		Azinphos Methyl	2.2	U	ng/L	P327600	
		Bromacil	0.48	U	ng/L	P327600	
		Butylate	0.38	U	ng/L	P327600	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P327600	
		Chlorpyrifos Methyl	0.096	U	ng/L	P327600	
		Demeton	1.9	U	ng/L	P327600	
		Diazinon	0.12	U	ng/L	P327600	
		Disulfoton	0.31	U	ng/L	P327600	
		EPTC	1.2	U	ng/L	P327600	

Field ID: G1NE0860 06212017

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1908566	EPA 8270D	Ethion	0.14	U	ng/L	P327600	
		Ethoprop	0.096	U	ng/L	P327600	
		Fenamiphos	0.24	U	ng/L	P327600	
		Fipronil	0.24	U	ng/L	P327600	
		Fipronil Sulfide	0.14	U	ng/L	P327600	
		Fipronil Sulfone	0.14	U	ng/L	P327600	
		Hexazinone	0.48	U	ng/L	P327600	
		Malathion	0.34	U	ng/L	P327600	
		Metribuzin	0.19	U	ng/L	P327600	
		Mevinphos	0.48	U	ng/L	P327600	
		Molinate	0.29	U	ng/L	P327600	
		Norflurazon	0.48	U	ng/L	P327600	
		Pendimethalin	1.4	U	ng/L	P327600	
		Phorate	0.24	U	ng/L	P327600	
		Prometon	0.86	U	ng/L	P327600	
		Prometryn	0.19	U	ng/L	P327600	
		Simazine	0.48	U	ng/L	P327600	
		Terbufos	0.096	U	ng/L	P327600	
		Terbuthylazine	0.41	U	ng/L	P327600	
		Fonofos	0.19	U	ng/L	P327600	
		Metalaxyl	0.19	U	ng/L	P327600	
		Metolachlor	0.24	U	ng/L	P327600	
		Acetochlor	0.24	U	ng/L	P327600	
		Cyanazine	0.48	U	ng/L	P327600	
		Parathion Ethyl	0.24	U	ng/L	P327600	
		Parathion Methyl	0.24	U	ng/L	P327600	

Ref. Method and Comment:
EPA 8270D: 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: P327419

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

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: P327482

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
Nickel	0.20	U	ug/L
Silver	0.010	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328262

Component	Result	Code	Units
Lead	0.050	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327673

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: P327437

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327704

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327470

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

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

Reference Method: EPA 8270D
Batch ID: P327600

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	0.32	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D

Batch ID: P327600

Component	Result	Code	Units
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metaxyl	0.20	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	1.5	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
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D

Batch ID: P327764

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'	2.0	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8276
Batch ID: P327764

Component	Result	Code	Units
Chlordane	2.5	U	ng/L
Toxaphene	12	U	ng/L

Reference Method: EPA 8321B
Batch ID: P327305

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P327348

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: SM 2120 B
Batch ID: P327421

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P327423

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P327618

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

Reference Method: SM 2540 C-97
Batch ID: P327834

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P327876

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327621

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P327584

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

Reference Method: SM 5310 B-00
Batch ID: P328072

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

Reference Method: USGS O-2060-01
Batch ID: P327329

Component	Result	Code	Units
2,4-D	8.0E-04	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	8.0E-04	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	8.0E-04	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	105		P	85 - 115
Iron	105		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	100		P	85 - 115
Sodium	101		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327482

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	99.2		P	85 - 115
Cadmium	99.2		P	85 - 115
Chromium	95.0		P	85 - 115
Copper	96.7		P	85 - 115
Nickel	97.8		P	85 - 115
Silver	100		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328262

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Lead	96.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	99.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327673

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327437

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P327704

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: P327470

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.3		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P327426

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.9		P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P327600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	86.8	88.6	P/P	78 - 118
Alachlor	86.4	87.8	P/P	77 - 119
Ametryn	92.4	91.9	P/P	61 - 136
Atrazine	93.4	93.8	P/P	73 - 120
Atrazine Desethyl	91.0	87.4	P/P	16 - 122
Azinphos Methyl	95.9	95.5	P/P	69 - 186
Bromacil	85.0	92.5	P/P	40 - 125
Butylate	47.1	53.6	P/P	32 - 87.0
Chlorpyrifos Ethyl	88.2	88.6	P/P	53 - 110
Chlorpyrifos Methyl	91.3	87.6	P/P	31 - 119
Cyanazine	174	175	P/P	36 - 224
Demeton	88.9	82.5	P/P	39 - 122
Diazinon	91.6	92.9	P/P	75 - 119
Disulfoton	98.3	82.1	P/P	42 - 139
EPTC	43.6	49.9	P/P	33 - 96.0
Ethion	94.4	92.6	P/P	63 - 127
Ethoprop	81.0	94.0	P/P	65 - 107
Fenamiphos	102	99.0	P/P	64 - 137
Fipronil	88.4	88.9	P/P	60 - 126
Fipronil Sulfide	91.0	80.2	P/P	58 - 124
Fipronil Sulfone	79.9	77.8	P/P	57 - 126
Fonofos	90.3	86.0	P/P	65 - 111
Hexazinone	81.6	80.9	P/P	46 - 151
Malathion	94.7	90.1	P/P	68 - 132
Metalaxyl	91.2	89.7	P/P	51 - 132
Metolachlor	89.8	89.9	P/P	78 - 119
Metribuzin	84.8	88.3	P/P	64 - 138
Mevinphos	76.2	76.9	P/P	34 - 128
Molinate	50.2	61.4	P/P	44 - 101
Norflurazon	87.2	86.7	P/P	63 - 129
Parathion Ethyl	91.0	90.6	P/P	80 - 109
Parathion Methyl	89.5	88.4	P/P	74 - 125
Pendimethalin	84.4	87.4	P/P	48 - 134
Phorate	83.3	85.7	P/P	52 - 119

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P327600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	81.7	84.8	P/P	69 - 124
Prometryn	91.6	90.7	P/P	66 - 124
Simazine	93.7	97.7	P/P	61 - 134
Terbufos	89.1	87.1	P/P	58 - 115
Terbutylazine	90.3	88.5	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P327764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	59.8	29.5	P/P	26 - 88.0
Alpha-BHC	82.3	90.5	P/P	63 - 114
Alpha-Chlordane	77.9	83.3	P/P	56 - 117
Beta-BHC	98.7	87.7	P/P	57 - 138
Carbophenothion	83.8	92.2	P/P	36 - 148
Chlorothalonil	73.5	71.7	P/P	26 - 173
Cypermethrin	125	138	P/P	42 - 159
DDD-p,p'	90.0	89.1	P/P	62 - 126
DDE-p,p'	78.1	87.6	P/P	53 - 115
DDT-p,p'	83.0	95.8	P/P	54 - 117
Delta-BHC	95.7	97.1	P/P	68 - 158
Dicofol	99.5	111	P/P	25 - 114
Dieldrin	85.7	85.1	P/P	59 - 126
Endosulfan I	87.2	98.3	P/P	62 - 138
Endosulfan II	90.4	92.7	P/P	61 - 150
Endosulfan Sulfate	94.6	94.5	P/P	63 - 132
Endrin	86.1	99.4	P/P	49 - 148
Endrin Aldehyde	96.2	97.7	P/P	50 - 144
Endrin Ketone	98.4	105	P/P	66 - 122
Gamma-BHC	87.4	92.1	P/P	60 - 137
Gamma-Chlordane	76.9	82.5	P/P	54 - 113
Heptachlor	65.6	72.5	P/P	43 - 104
Heptachlor Epoxide	81.0	85.9	P/P	64 - 118
Methoxychlor	85.5	87.2	P/P	63 - 129
Mirex	67.5	77.3	P/P	39 - 93.0
Permethrin	99.6	108	P/P	51 - 123
Trifluralin	149	160	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P327764

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	87.6	82.4	P/P	48 - 121
Toxaphene	111	102	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P327305

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	114	115	P/P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P327348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	52.8	52.9	P/P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P327618

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P327621

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	95.8		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327584

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.6		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P328072

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.9		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P327329

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	77.0		P	40 - 150
Acetaminophen	71.4		P	30 - 150
Bentazon	96.4		P	40 - 150
Carbamazepine	82.2		P	40 - 150
Diuron	91.6		P	40 - 150
Fenuron	92.2		P	40 - 150
Fluridone	96.2		P	40 - 150
Imidacloprid	74.2		P	40 - 160
Linuron	76.2		P	40 - 150
MCP	71.6		P	40 - 150
Primidone	90.8		P	40 - 150
Triclopyr	74.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908126	Calcium	108		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908126	Iron	111		P	80 - 120
1908126	Magnesium	113		P	80 - 120
1908126	Potassium	104		P	80 - 120
1908126	Sodium	103		P	80 - 120
1908126	Zinc	105		P	80 - 120
1908510	Calcium	110		P	80 - 120
1908510	Iron	110	109	P/P	80 - 120
1908510	Magnesium	107		P	80 - 120
1908510	Potassium	103	104	P/P	80 - 120
1908510	Sodium	106		P	80 - 120
1908510	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327482

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908126	Arsenic	99.8		P	80 - 120
1908126	Cadmium	99.0		P	80 - 120
1908126	Chromium	93.8		P	80 - 120
1908126	Copper	96.6		P	80 - 120
1908126	Nickel	97.0		P	80 - 120
1908126	Silver	101		P	80 - 120
1908510	Arsenic	103	104	P/P	80 - 120
1908510	Cadmium	103	102	P/P	80 - 120
1908510	Chromium	94.5	94.5	P/P	80 - 120
1908510	Copper	96.1	97.6	P/P	80 - 120
1908510	Nickel	97.1	98.5	P/P	80 - 120
1908510	Silver	101	101	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328262

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908511	Lead	89.6	98.0	P/P	80 - 120
1909386	Lead	97.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908465	Sulfate	99.6		P	90 - 110
1908486	Sulfate	99.7		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908465	Chloride	99.3		P	90 - 110
1908486	Chloride	101		P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908525	Chloride	96.7		P	90 - 110
1908634	Chloride	98.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908525	Sulfate	99.2		P	90 - 110
1908634	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908501	Ammonia-N	94.6	93.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327673

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908528	Ammonia-N	94.8	94.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908516	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327704

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909629	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908637	Total-P	102	95.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908517	O-Phosphate-P	97.0	97.8	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P327600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909384	Acetochlor	83.9	87.4	P/P	74 - 123
1909384	Alachlor	85.1	87.6	P/P	73 - 124

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P327600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909384	Ametryn	94.1	99.2	P/P	56 - 149
1909384	Atrazine	85.9	88.5	P/P	73 - 124
1909384	Atrazine Desethyl	65.9	67.8	P/P	12 - 103
1909384	Azinphos Methyl	76.2	79.6	P/P	60 - 202
1909384	Bromacil	85.8	85.0	P/P	42 - 133
1909384	Butylate	65.4	51.0	P/P	10 - 85.0
1909384	Chlorpyrifos Ethyl	75.3	78.2	P/P	53 - 113
1909384	Chlorpyrifos Methyl	69.0	70.9	P/P	40 - 115
1909384	Cyanazine	109	110	P/P	22 - 210
1909384	Demeton	74.9	72.5	P/P	17 - 149
1909384	Diazinon	83.5	85.9	P/P	72 - 124
1909384	Disulfoton	74.1	68.7	P/P	43 - 139
1909384	EPTC	64.4	54.8	P/P	10 - 86.0
1909384	Ethion	85.8	88.9	P/P	65 - 131
1909384	Ethoprop	61.3	69.0	P/P	59 - 110
1909384	Fenamiphos	89.3	94.4	P/P	57 - 138
1909384	Fipronil	92.9	93.9	P/P	40 - 130
1909384	Fipronil Sulfide	88.3	93.5	P/P	36 - 128
1909384	Fipronil Sulfone	84.8	85.0	P/P	16 - 145
1909384	Fonofos	68.1	67.3	P/P	60 - 112
1909384	Hexazinone	89.2	93.3	P/P	69 - 142
1909384	Malathion	80.3	84.3	P/P	68 - 132
1909384	Metalaxyl	84.5	90.2	P/P	66 - 118
1909384	Metolachlor	88.1	92.3	P/P	71 - 124
1909384	Metribuzin	88.0	98.8	P/P	61 - 140
1909384	Mevinphos	67.0	68.2	P/P	38 - 130
1909384	Molinate	67.1	57.3	P/P	23 - 99.0
1909384	Norflurazon	90.8	93.6	P/P	39 - 139
1909384	Parathion Ethyl	82.5	83.7	P/P	75 - 111
1909384	Parathion Methyl	73.6	75.7	P/P	64 - 130
1909384	Pendimethalin	79.1	79.9	P/P	26 - 173
1909384	Phorate	68.9	66.3	P/P	43 - 127
1909384	Prometon	90.2	92.8	P/P	50 - 144
1909384	Prometryn	93.2	98.0	P/P	69 - 126
1909384	Simazine	88.9	96.9	P/P	51 - 152
1909384	Terbufos	70.4	69.1	P/P	54 - 125
1909384	Terbutylazine	87.0	88.8	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P327764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909148	Aldrin	59.2	64.3	P/P	22 - 97.0
1909148	Alpha-BHC	72.9	81.5	P/P	43 - 132
1909148	Alpha-Chlordane	68.3	73.6	P/P	36 - 126
1909148	Beta-BHC	64.3	83.3	P/P	41 - 150
1909148	Carbophenothion	103	93.4	P/P	13 - 196
1909148	Chlorothalonil	70.6	83.6	P/P	10 - 266
1909148	Cypermethrin	107	128	P/P	37 - 161
1909148	DDD-p,p'	73.7	80.9	P/P	44 - 131
1909148	DDE-p,p'	70.4	76.2	P/P	32 - 127
1909148	DDT-p,p'	74.8	84.7	P/P	45 - 116

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D

Batch ID: P327764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909148	Delta-BHC	81.2	85.0	P/P	50 - 201
1909148	Dicofol	75.7	75.8	P/P	10 - 100
1909148	Dieldrin	68.9	75.5	P/P	39 - 142
1909148	Endosulfan I	73.8	83.8	P/P	51 - 139
1909148	Endosulfan II	77.3	81.4	P/P	49 - 155
1909148	Endosulfan Sulfate	73.4	81.6	P/P	54 - 136
1909148	Endrin	83.4	85.2	P/P	38 - 141
1909148	Endrin Aldehyde	75.3	82.5	P/P	14 - 152
1909148	Endrin Ketone	78.3	91.4	P/P	60 - 128
1909148	Gamma-BHC	73.6	84.3	P/P	48 - 157
1909148	Gamma-Chlordane	66.9	72.5	P/P	35 - 123
1909148	Heptachlor	57.3	62.4	P/P	25 - 112
1909148	Heptachlor Epoxide	71.8	78.0	P/P	48 - 125
1909148	Methoxychlor	60.6	71.5	P/P	52 - 127
1909148	Mirex	60.4	66.0	P/P	25 - 108
1909148	Permethrin	79.6	88.6	P/P	46 - 133
1909148	Trifluralin	148	165	P/P	29 - 254

Reference Method: EPA 8276

Batch ID: P327764

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1909311	Chlordane	75.3	73.9	P/P	44 - 134
1909311	Toxaphene	94.0	82.9	P/P	36 - 147

Reference Method: EPA 8321B

Batch ID: P327305

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907280	Glyphosate	128	132	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P327348

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1907280	Pyraclostrobin	49.0	50.4	P/P	40 - 150

Reference Method: SM 4500 F-C-97

Batch ID: P327621

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908570	Fluoride	96.4	100	P/P	91 - 105

Reference Method: SM 5310 B-00

Batch ID: P328072

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1910536	Organic Carbon	96.2	91.0	P/P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: USGS O-2060-01
Batch ID: P327329

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1908457	2,4-D	113	87.6	P/P	40 - 150
1908457	Acetaminophen	75.6	92.6	P/P	30 - 150
1908457	Bentazon	93.8	75.6	P/P	40 - 150
1908457	Carbamazepine	114	111	P/P	40 - 150
1908457	Diuron	79.4	79.0	P/P	40 - 150
1908457	Fenuron	110	78.4	P/P	40 - 150
1908457	Fluridone	56.0	53.8	P/P	40 - 150
1908457	Imidacloprid	171	160	F/P	40 - 160
1908457	Linuron	60.8	62.6	P/P	40 - 150
1908457	MCP	78.2	75.0	P/P	40 - 150
1908457	Primidone	102	42.8	P/P	40 - 150
1908457	Triclopyr	89.8	82.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P327419

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908522	Turbidity	1.56	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908510	Calcium	0.865	Spike	P	0 - 20
1908510	Iron	0.223	Spike	P	0 - 20
1908510	Magnesium	0.413	Spike	P	0 - 20
1908510	Potassium	0.428	Spike	P	0 - 20
1908510	Sodium	0.601	Spike	P	0 - 20
1908510	Zinc	0.491	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327482

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908510	Arsenic	0.937	Spike	P	0 - 20
1908510	Cadmium	0.173	Spike	P	0 - 20
1908510	Chromium	0.0337	Spike	P	0 - 20
1908510	Copper	1.59	Spike	P	0 - 20
1908510	Nickel	1.43	Spike	P	0 - 20
1908510	Silver	0.127	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P328262

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908511	Lead	8.91	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327569

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908465	Sulfate	1.11	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327571

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908465	Chloride	1.07	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327716

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908525	Chloride	0.168	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P327718

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908525	Sulfate	0.661	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908501	Ammonia-N	0.680	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P327673

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908528	Ammonia-N	0.416	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P327437

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908527	Kjeldahl Nitrogen	2.94	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327604

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908516	NO2NO3-N	1.39	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327704

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909629	NO2NO3-N	0.985	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P327470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908637	Total-P	6.64	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P327426

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908517	O-Phosphate-P	0.821	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909384	Acetochlor	4.07	Spike	P	0 - 30
1909384	Alachlor	2.83	Spike	P	0 - 30
1909384	Ametryn	5.30	Spike	P	0 - 30
1909384	Atrazine	2.68	Spike	P	0 - 30
1909384	Atrazine Desethyl	2.85	Spike	P	0 - 30
1909384	Azinphos Methyl	4.30	Spike	P	0 - 30
1909384	Bromacil	0.962	Spike	P	0 - 30
1909384	Butylate	24.6	Spike	P	0 - 30
1909384	Chlorpyrifos Ethyl	3.80	Spike	P	0 - 30
1909384	Chlorpyrifos Methyl	2.64	Spike	P	0 - 30
1909384	Cyanazine	0.886	Spike	P	0 - 30
1909384	Demeton	3.23	Spike	P	0 - 30
1909384	Diazinon	2.85	Spike	P	0 - 30
1909384	Disulfoton	7.54	Spike	P	0 - 30
1909384	EPTC	16.1	Spike	P	0 - 30
1909384	Ethion	3.59	Spike	P	0 - 30
1909384	Ethoprop	11.9	Spike	P	0 - 30
1909384	Fenamiphos	5.54	Spike	P	0 - 30
1909384	Fipronil	1.08	Spike	P	0 - 30
1909384	Fipronil Sulfide	5.75	Spike	P	0 - 30
1909384	Fipronil Sulfone	0.234	Spike	P	0 - 30
1909384	Fonofos	1.18	Spike	P	0 - 30
1909384	Hexazinone	4.49	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909384	Malathion	4.93	Spike	P	0 - 30
1909384	Metalaxyl	6.34	Spike	P	0 - 30
1909384	Metolachlor	3.78	Spike	P	0 - 30
1909384	Metribuzin	11.5	Spike	P	0 - 30
1909384	Mevinphos	1.76	Spike	P	0 - 30
1909384	Molinate	15.8	Spike	P	0 - 30
1909384	Norflurazon	3.03	Spike	P	0 - 30
1909384	Parathion Ethyl	1.53	Spike	P	0 - 30
1909384	Parathion Methyl	2.74	Spike	P	0 - 30
1909384	Pendimethalin	0.975	Spike	P	0 - 30
1909384	Phorate	3.86	Spike	P	0 - 30
1909384	Prometon	2.84	Spike	P	0 - 30
1909384	Prometryn	4.97	Spike	P	0 - 30
1909384	Simazine	8.52	Spike	P	0 - 30
1909384	Terbufos	1.95	Spike	P	0 - 30
1909384	Terbutylazine	2.10	Spike	P	0 - 30
LFB	Acetochlor	2.01	LCS	P	0 - 30
LFB	Alachlor	1.68	LCS	P	0 - 30
LFB	Ametryn	0.556	LCS	P	0 - 30
LFB	Atrazine	0.429	LCS	P	0 - 30
LFB	Atrazine Desethyl	4.08	LCS	P	0 - 30
LFB	Azinphos Methyl	0.408	LCS	P	0 - 30
LFB	Bromacil	8.47	LCS	P	0 - 30
LFB	Butylate	13.0	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.541	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.11	LCS	P	0 - 30
LFB	Cyanazine	1.02	LCS	P	0 - 30
LFB	Demeton	7.44	LCS	P	0 - 30
LFB	Diazinon	1.39	LCS	P	0 - 30
LFB	Disulfoton	17.9	LCS	P	0 - 30
LFB	EPTC	13.5	LCS	P	0 - 30
LFB	Ethion	1.98	LCS	P	0 - 30
LFB	Ethoprop	14.9	LCS	P	0 - 30
LFB	Fenamiphos	3.34	LCS	P	0 - 30
LFB	Fipronil	0.614	LCS	P	0 - 30
LFB	Fipronil Sulfide	12.6	LCS	P	0 - 30
LFB	Fipronil Sulfone	2.68	LCS	P	0 - 30
LFB	Fonofos	4.88	LCS	P	0 - 30
LFB	Hexazinone	0.898	LCS	P	0 - 30
LFB	Malathion	4.94	LCS	P	0 - 30
LFB	Metalaxyl	1.69	LCS	P	0 - 30
LFB	Metolachlor	0.0394	LCS	P	0 - 30
LFB	Metribuzin	4.10	LCS	P	0 - 30
LFB	Mevinphos	1.03	LCS	P	0 - 30
LFB	Molinate	20.1	LCS	P	0 - 30
LFB	Norflurazon	0.593	LCS	P	0 - 30
LFB	Parathion Ethyl	0.432	LCS	P	0 - 30
LFB	Parathion Methyl	1.16	LCS	P	0 - 30
LFB	Pendimethalin	3.54	LCS	P	0 - 30
LFB	Phorate	2.89	LCS	P	0 - 30
LFB	Prometon	3.80	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Prometryn	1.02	LCS	P	0 - 30
LFB	Simazine	4.09	LCS	P	0 - 30
LFB	Terbufos	2.24	LCS	P	0 - 30
LFB	Terbutylazine	2.11	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P327764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909148	Aldrin	8.35	Spike	P	0 - 30
1909148	Alpha-BHC	11.2	Spike	P	0 - 30
1909148	Alpha-Chlordane	7.48	Spike	P	0 - 30
1909148	Beta-BHC	25.7	Spike	P	0 - 30
1909148	Carbophenothion	9.80	Spike	P	0 - 30
1909148	Chlorothalonil	16.8	Spike	P	0 - 30
1909148	Cypermethrin	17.2	Spike	P	0 - 30
1909148	DDD-p,p'	9.36	Spike	P	0 - 30
1909148	DDE-p,p'	7.92	Spike	P	0 - 30
1909148	DDT-p,p'	12.4	Spike	P	0 - 30
1909148	Delta-BHC	4.51	Spike	P	0 - 30
1909148	Dicofol	0.135	Spike	P	0 - 30
1909148	Dieldrin	9.12	Spike	P	0 - 30
1909148	Endosulfan I	12.6	Spike	P	0 - 30
1909148	Endosulfan II	5.17	Spike	P	0 - 30
1909148	Endosulfan Sulfate	10.6	Spike	P	0 - 30
1909148	Endrin	2.23	Spike	P	0 - 30
1909148	Endrin Aldehyde	9.21	Spike	P	0 - 30
1909148	Endrin Ketone	15.4	Spike	P	0 - 30
1909148	Gamma-BHC	13.6	Spike	P	0 - 30
1909148	Gamma-Chlordane	7.98	Spike	P	0 - 30
1909148	Heptachlor	8.51	Spike	P	0 - 30
1909148	Heptachlor Epoxide	8.27	Spike	P	0 - 30
1909148	Methoxychlor	16.6	Spike	P	0 - 30
1909148	Mirex	8.86	Spike	P	0 - 30
1909148	Permethrin	10.6	Spike	P	0 - 30
1909148	Trifluralin	10.7	Spike	P	0 - 30
LFB	Aldrin	67.8	LCS	F	0 - 30
LFB	Alpha-BHC	9.55	LCS	P	0 - 30
LFB	Alpha-Chlordane	6.63	LCS	P	0 - 30
LFB	Beta-BHC	11.8	LCS	P	0 - 30
LFB	Carbophenothion	9.52	LCS	P	0 - 30
LFB	Chlorothalonil	2.48	LCS	P	0 - 30
LFB	Cypermethrin	9.70	LCS	P	0 - 30
LFB	DDD-p,p'	0.933	LCS	P	0 - 30
LFB	DDE-p,p'	11.5	LCS	P	0 - 30
LFB	DDT-p,p'	14.3	LCS	P	0 - 30
LFB	Delta-BHC	1.50	LCS	P	0 - 30
LFB	Dicofol	10.5	LCS	P	0 - 30
LFB	Dieldrin	0.639	LCS	P	0 - 30
LFB	Endosulfan I	12.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P327764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Endosulfan II	2.52	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.119	LCS	P	0 - 30
LFB	Endrin	14.4	LCS	P	0 - 30
LFB	Endrin Aldehyde	1.49	LCS	P	0 - 30
LFB	Endrin Ketone	6.92	LCS	P	0 - 30
LFB	Gamma-BHC	5.24	LCS	P	0 - 30
LFB	Gamma-Chlordane	7.05	LCS	P	0 - 30
LFB	Heptachlor	10.1	LCS	P	0 - 30
LFB	Heptachlor Epoxide	5.98	LCS	P	0 - 30
LFB	Methoxychlor	2.04	LCS	P	0 - 30
LFB	Mirex	13.5	LCS	P	0 - 30
LFB	Permethrin	8.22	LCS	P	0 - 30
LFB	Trifluralin	6.52	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P327764

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1909311	Chlordane	1.85	Spike	P	0 - 30
1909311	Toxaphene	12.6	Spike	P	0 - 30
LFB	Chlordane	6.02	LCS	P	0 - 30
LFB	Toxaphene	8.32	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327305

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907280	Glyphosate	2.88	Spike	P	0 - 30
LFB	Glyphosate	0.753	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P327348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1907280	Pyraclostrobin	2.82	Spike	P	0 - 30
LFB	Pyraclostrobin	0.189	LCS	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P327421

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908515	Color (true)	2.57	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P327423

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908526	Color (true)	3.54	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327618

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908570	Total Alkalinity	0.482	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P327834

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908573	TDS	2.80	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P327621

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908570	Fluoride	3.23	Spike	F	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327584

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908500	Organic Carbon	0.0915	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P328072

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1910536	Organic Carbon	2.99	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P327329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908457	2,4-D	11.4	Spike	P	0 - 30
1908457	Acetaminophen	20.2	Spike	P	0 - 30
1908457	Bentazon	16.6	Spike	P	0 - 30
1908457	Carbamazepine	2.49	Spike	P	0 - 30
1908457	Diuron	0.304	Spike	P	0 - 30
1908457	Fenuron	33.2	Spike	F	0 - 30
1908457	Fluridone	2.77	Spike	P	0 - 30
1908457	Imidacloprid	3.72	Spike	P	0 - 30
1908457	Linuron	2.92	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P327329

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1908457	MCP	3.71	Spike	P	0 - 30
1908457	Primidone	81.9	Spike	F	0 - 30
1908457	Triclopyr	9.08	Spike	P	0 - 30

* 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: 1908554
Field Sample ID: G1NE0860 06212017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	95.0	P	30 - 150
EPA 8321B	Carbamazepine-d10	91.3	P	30 - 160
EPA 8321B	Diuron-d6	62.5	P	30 - 160
EPA 8321B	Diuron-d6	57.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	120	P	40 - 150
EPA 8321B	Primidone-d5	57.5	P	30 - 150
USGS O-2060-01	2,4-D-d3	94.0	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	95.0	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	91.3	P	30 - 160
USGS O-2060-01	Diuron-d6	62.5	P	30 - 160
USGS O-2060-01	Diuron-d6	57.1	P	30 - 160
USGS O-2060-01	Primidone-d5	57.5	P	30 - 150

Lab Sample ID: 1908565
Field Sample ID: G1NE0860 06212017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	66.9	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	47.3	P	32 - 103
EPA 8276	Decachlorobiphenyl	67.0	P	31 - 100

Lab Sample ID: 1908566
Field Sample ID: G1NE0860 06212017

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	89.7	P	62 - 132
EPA 8270D	Simazine-d10	75.3	P	72 - 127

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A77301
Included Lab Sample IDs: 1908554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A77301

Included Lab Sample IDs: 1908554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	110	119	P/P	70 - 160

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A77312

Included Lab Sample IDs: 1908522, 1908525, 1908526

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

Reference Method: SM 2120 B

Run ID: A77313

Included Lab Sample IDs: 1908522, 1908525, 1908526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	98.8	P/P	85 - 115
Color (true)	96.0	100	P/P	85 - 115
Color (true)	98.8	99.7	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A77317

Included Lab Sample IDs: 1908524, 1908529, 1908530

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.8	99.5	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77320

Included Lab Sample IDs: 1908523, 1908527

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.4	97.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A77323

Included Lab Sample IDs: 1908554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	130	110	P/P	60 - 150

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A77352

Included Lab Sample IDs: 1908522, 1908525, 1908526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	99.3	P/P	90 - 110
Chloride	99.7	99.7	P/P	90 - 110
Sulfate	103	97.9	P/P	90 - 110
Sulfate	98.5	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A77363

Included Lab Sample IDs: 1908523, 1908527, 1908528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	101	P/P	90 - 110
Total-P	101	99.5	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77373

Included Lab Sample IDs: 1908576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	103	104	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Zinc	99.7	101	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77378

Included Lab Sample IDs: 1908527, 1908528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	93.4	96.3	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77384

Included Lab Sample IDs: 1908527, 1908528

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

Reference Method: SM 2320 B-97

Run ID: A77390

Included Lab Sample IDs: 1908522, 1908525, 1908526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	103	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77390

Included Lab Sample IDs: 1908522, 1908525, 1908526

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	96.3	98.4	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A77410

Included Lab Sample IDs: 1908528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	96.6	96.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A77418

Included Lab Sample IDs: 1908523

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77447

Included Lab Sample IDs: 1908523, 1908527, 1908528

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	101	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A77521

Included Lab Sample IDs: 1908565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	92.9		P	80 - 120
Toxaphene	103		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77530

Included Lab Sample IDs: 1908576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	99.9	100	P/P	90 - 110
Cadmium	98.3	99.2	P/P	90 - 110
Chromium	93.3	95.4	P/P	90 - 110
Copper	98.8	99.4	P/P	90 - 110
Nickel	97.8	98.5	P/P	90 - 110
Silver	94.9	95.0	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A77555

Included Lab Sample IDs: 1908565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	97.5		P	80 - 120
Alpha-BHC	98.6		P	80 - 120
Alpha-Chlordane	98.9		P	80 - 120
Beta-BHC	94.5		P	80 - 120
Carbophenothion	86.3		P	80 - 120
Chlorothalonil	80.3		P	80 - 120
Cypermethrin	91.9		P	80 - 120
DDD-p,p'	98.9		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	106		P	80 - 120
Delta-BHC	92.8		P	80 - 120
Dicofol	176*		F	80 - 120
Dieldrin	100		P	80 - 120
Endosulfan I	94.1		P	80 - 120
Endosulfan II	94.1		P	80 - 120
Endosulfan Sulfate	92.2		P	80 - 120
Endrin	106		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A77555

Included Lab Sample IDs: 1908565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endrin Aldehyde	88.8		P	80 - 120
Endrin Ketone	95.1		P	80 - 120
Gamma-BHC	97.1		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	98.1		P	80 - 120
Heptachlor Epoxide	99.9		P	80 - 120
Methoxychlor	104		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	96.4		P	80 - 120
Trifluralin	92.4		P	80 - 120

Reference Method: SM 5310 B-00

Run ID: A77560

Included Lab Sample IDs: 1908523

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77671

Included Lab Sample IDs: 1908576

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Lead	98.2	98.8	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A77687

Included Lab Sample IDs: 1908554

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.0	91.6	P/P	50 - 150
Acetaminophen	84.4	68.8	P/P	60 - 150
Bentazon	111	102	P/P	50 - 150
Carbamazepine	83.2	82.4	P/P	60 - 150
Diuron	110	101	P/P	60 - 150
Fenuron	84.0	76.4	P/P	60 - 150
Fluridone	102	86.4	P/P	60 - 160
Imidacloprid	87.6	77.6	P/P	60 - 150
Linuron	90.8	79.6	P/P	60 - 150
MCP	72.4	80.4	P/P	50 - 150
Primidone	64.0	64.0	P/P	60 - 150
Triclopyr	79.2	81.6	P/P	50 - 150

Reference Method: EPA 8270D

Run ID: A77699

Included Lab Sample IDs: 1908566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	101		P	80 - 120
Alachlor	101		P	80 - 120
Ametryn	103		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A77699
 Included Lab Sample IDs: 1908566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Atrazine	98.3		P	80 - 120
Atrazine Desethyl	86.7		P	80 - 120
Azinphos Methyl	99.8		P	80 - 120
Bromacil	99.3		P	80 - 120
Butylate	97.9		P	80 - 120
Chlorpyrifos Ethyl	99.5		P	80 - 120
Chlorpyrifos Methyl	97.9		P	80 - 120
Cyanazine	89.1		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	94.8		P	80 - 120
EPTC	102		P	80 - 120
Ethion	96.6		P	80 - 120
Ethoprop	92.0		P	80 - 120
Fenamiphos	98.4		P	80 - 120
Fipronil	99.4		P	80 - 120
Fipronil Sulfide	95.3		P	80 - 120
Fipronil Sulfone	100		P	80 - 120
Fonofos	98.9		P	80 - 120
Hexazinone	103		P	80 - 120
Malathion	95.9		P	80 - 120
Metalaxyl	100		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	86.6		P	80 - 120
Mevinphos	102		P	80 - 120
Molinate	103		P	80 - 120
Norflurazon	99.4		P	80 - 120
Parathion Ethyl	95.0		P	80 - 120
Parathion Methyl	95.6		P	80 - 120
Pendimethalin	90.0		P	80 - 120
Phorate	96.9		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	103		P	80 - 120
Simazine	100		P	80 - 120
Terbufos	97.3		P	80 - 120
Terbuthylazine	100		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	LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity				1.56	
EPA 200.7 Rev. 4.4	Calcium	105	108 110			0.865
	Iron	105	111 110 109			0.223
	Magnesium	103	113 107			0.413

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision SMP	MS
EPA 200.7 Rev. 4.4	Potassium	100		104	103	104		0.428
	Sodium	101		103	106			0.601
	Zinc	103		105	102	102		0.491
EPA 200.8 Rev. 5.4	Arsenic	99.2		99.8	103	104		0.937
	Cadmium	99.2		99.0	103	102		0.173
	Chromium	95.0		93.8	94.5	94.5		0.0337
	Copper	96.7		96.6	96.1	97.6		1.59
	Lead	96.5		89.6	98.0	97.0		8.91
	Nickel	97.8		97.0	97.1	98.5		1.43
	Silver	100		101	101	101		0.127
EPA 300.0 Rev. 2.1	Chloride	98.8		99.3	101		1.07	
	Chloride	98.1		96.7	98.6		0.168	
	Sulfate	98.8		99.6	99.7		1.11	
	Sulfate	97.3		99.2	99.2		0.661	
EPA 350.1 Rev. 2.0	Ammonia-N	99.4		94.6	93.8			0.680
	Ammonia-N	97.8		94.8	94.2			0.416
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102						2.94
EPA 353.2 Rev. 2.0	NO2NO3-N	102		105	104			1.39
	NO2NO3-N	104		102	101			0.985
EPA 365.1 Rev. 2.0	Total-P	99.3		102	95.1			6.64
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9		97.0	97.8			0.821
EPA 8270D	Acetochlor	86.8	88.6	83.9	87.4	2.01		4.07
	Alachlor	86.4	87.8	85.1	87.6	1.68		2.83
	Aldrin	59.8	29.5	59.2	64.3	67.8		8.35
	Alpha-BHC	82.3	90.5	72.9	81.5	9.55		11.2
	Alpha-Chlordane	77.9	83.3	68.3	73.6	6.63		7.48
	Ametryn	92.4	91.9	94.1	99.2	0.556		5.30
	Atrazine	93.4	93.8	85.9	88.5	0.429		2.68
	Atrazine Desethyl	91.0	87.4	65.9	67.8	4.08		2.85
	Azinphos Methyl	95.9	95.5	76.2	79.6	0.408		4.30
	Beta-BHC	98.7	87.7	83.3	64.3	11.8		25.7
	Bromacil	85.0	92.5	85.8	85.0	8.47		0.962
	Butylate	47.1	53.6	65.4	51.0	13.0		24.6
	Carbophenothion	83.8	92.2	93.4	103	9.52		9.80
	Chlorothalonil	73.5	71.7	83.6	70.6	2.48		16.8
	Chlorpyrifos Ethyl	88.2	88.6	75.3	78.2	0.541		3.80
	Chlorpyrifos Methyl	91.3	87.6	69.0	70.9	4.11		2.64
	Cyanazine	174	175	109	110	1.02		0.886
	Cypermethrin	125	138	128	107	9.70		17.2
	DDD-p,p'	90.0	89.1	80.9	73.7	0.933		9.36
	DDE-p,p'	78.1	87.6	76.2	70.4	11.5		7.92
	DDT-p,p'	83.0	95.8	84.7	74.8	14.3		12.4
	Delta-BHC	95.7	97.1	85.0	81.2	1.50		4.51
	Demeton	88.9	82.5	74.9	72.5	7.44		3.23
	Diazinon	91.6	92.9	83.5	85.9	1.39		2.85
	Dicofol	99.5	111	75.8	75.7	10.5		0.135
	Dieldrin	85.7	85.1	75.5	68.9	0.639		9.12
	Disulfoton	98.3	82.1	74.1	68.7	17.9		7.54
	Endosulfan I	87.2	98.3	83.8	73.8	12.0		12.6
	Endosulfan II	90.4	92.7	81.4	77.3	2.52		5.17
	Endosulfan Sulfate	94.6	94.5	81.6	73.4	0.119		10.6
	Endrin	86.1	99.4	85.2	83.4	14.4		2.23
	Endrin Aldehyde	96.2	97.7	82.5	75.3	1.49		9.21
	Endrin Ketone	98.4	105	91.4	78.3	6.92		15.4

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	EPTC	43.6	49.9	64.4	54.8	13.5	16.1
	Ethion	94.4	92.6	85.8	88.9	1.98	3.59
	Ethoprop	81.0	94.0	61.3	69.0	14.9	11.9
	Fenamiphos	102	99.0	89.3	94.4	3.34	5.54
	Fipronil	88.4	88.9	92.9	93.9	0.614	1.08
	Fipronil Sulfide	91.0	80.2	88.3	93.5	12.6	5.75
	Fipronil Sulfone	79.9	77.8	84.8	85.0	2.68	0.234
	Fonofos	90.3	86.0	68.1	67.3	4.88	1.18
	Gamma-BHC	87.4	92.1	84.3	73.6	5.24	13.6
	Gamma-Chlordane	76.9	82.5	72.5	66.9	7.05	7.98
	Heptachlor	65.6	72.5	62.4	57.3	10.1	8.51
	Heptachlor Epoxide	81.0	85.9	78.0	71.8	5.98	8.27
	Hexazinone	81.6	80.9	89.2	93.3	0.898	4.49
	Malathion	94.7	90.1	80.3	84.3	4.94	4.93
	Metalaxyl	91.2	89.7	84.5	90.2	1.69	6.34
	Methoxychlor	85.5	87.2	71.5	60.6	2.04	16.6
	Metolachlor	89.8	89.9	88.1	92.3	0.0394	3.78
	Metribuzin	84.8	88.3	88.0	98.8	4.10	11.5
	Mevinphos	76.2	76.9	67.0	68.2	1.03	1.76
	Mirex	67.5	77.3	66.0	60.4	13.5	8.86
	Molinate	50.2	61.4	67.1	57.3	20.1	15.8
	Norflurazon	87.2	86.7	90.8	93.6	0.593	3.03
	Parathion Ethyl	91.0	90.6	82.5	83.7	0.432	1.53
	Parathion Methyl	89.5	88.4	73.6	75.7	1.16	2.74
	Pendimethalin	84.4	87.4	79.1	79.9	3.54	0.975
	Permethrin	99.6	108	88.6	79.6	8.22	10.6
	Phorate	83.3	85.7	68.9	66.3	2.89	3.86
	Prometon	81.7	84.8	90.2	92.8	3.80	2.84
	Prometryn	91.6	90.7	93.2	98.0	1.02	4.97
	Simazine	93.7	97.7	88.9	96.9	4.09	8.52
	Terbufos	89.1	87.1	70.4	69.1	2.24	1.95
	Terbutylazine	90.3	88.5	87.0	88.8	2.11	2.10
	Trifluralin	149	160	165	148	6.52	10.7
EPA 8276	Chlordane	87.6	82.4	75.3	73.9	6.02	1.85
	Toxaphene	111	102	94.0	82.9	8.32	12.6
EPA 8321B	Glyphosate	114	115	128	132	0.753	2.88
	Pyraclostrobin	52.8	52.9	49.0	50.4	0.189	2.82
SM 2120 B	Color (true)					2.57	
	Color (true)					3.54	
SM 2320 B-97	Total Alkalinity	104				0.482	
SM 2540 C-97	TDS					2.80	
SM 4500 F-C-97	Fluoride	95.8		96.4	100		3.23
SM 5310 B-00	Organic Carbon	94.6					0.0915
	Organic Carbon	97.9		96.2	91.0		2.99
USGS O-2060-01	2,4-D	77.0		113	87.6		11.4
	Acetaminophen	71.4		75.6	92.6		20.2
	Bentazon	96.4		93.8	75.6		16.6
	Carbamazepine	82.2		114	111		2.49
	Diuron	91.6		79.4	79.0		0.304
	Fenuron	92.2		110	78.4		33.2
	Fluridone	96.2		56.0	53.8		2.77
	Imidacloprid	74.2		171	160		3.72
	Linuron	76.2		60.8	62.6		2.92
	MCPP	71.6		78.2	75.0		3.71

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision SMP	MS
USGS O-2060-01	Primidone	90.8	102	42.8			81.9
	Triclopyr	74.0	89.8	82.0			9.08

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1908522, 1908525, 1908526
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1908576
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1908576
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1908522, 1908525, 1908526
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1908522, 1908525, 1908526
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1908523, 1908527, 1908528
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1908523, 1908527, 1908528
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1908523, 1908527, 1908528
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1908523, 1908527, 1908528
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1908524, 1908529, 1908530
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1908565
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1908566
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1908565
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1908554
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1908554
SM 2120 B / E31780	True Color measured at 450 nm	1908522, 1908525, 1908526
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1908522, 1908525, 1908526
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1908522, 1908525, 1908526
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1908522, 1908525, 1908526
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1908522, 1908525, 1908526
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1908523, 1908527, 1908528
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1908554
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1908554

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	06/23/2017			06/23/2017 15:11	DeAsia Armster	1908522, 1908525, 1908526
EPA 200.7 Rev. 4.4	06/23/2017	06/26/2017	Elliott D. Healy	06/27/2017	Betina Topolski	1908576
EPA 200.8 Rev. 5.4	06/23/2017	06/26/2017	Elliott D. Healy	07/06/2017	Nadine Brooks	1908576
	06/23/2017	07/11/2017	Elliott D. Healy	07/12/2017	Nadine Brooks	1908576
EPA 300.0 Rev. 2.1	06/23/2017			06/27/2017	Ping Hua	1908522
	06/23/2017			06/28/2017	Ping Hua	1908525, 1908526
EPA 350.1 Rev. 2.0	06/23/2017			06/23/2017	Sofia Elnemr	1908523, 1908527
	06/23/2017			06/28/2017	Sofia Elnemr	1908528
EPA 351.2 Rev. 2.0	06/23/2017	06/26/2017	Adrian Shelby	06/30/2017	Joseph Suarez	1908523, 1908527, 1908528
EPA 353.2 Rev. 2.0	06/23/2017			06/28/2017	Beverly Y. Sanders	1908527, 1908528
	06/23/2017			06/29/2017	Beverly Y. Sanders	1908523
EPA 365.1 Rev. 2.0	06/23/2017	06/26/2017	Vijayalakshmi Reddy	06/27/2017	Lipi Saha	1908523, 1908527, 1908528
EPA 365.1 Rev. 2.0 dissolved	06/23/2017			06/23/2017 15:28	Anthony C. Onicha	1908524
	06/23/2017			06/23/2017 15:29	Anthony C. Onicha	1908529
	06/23/2017			06/23/2017 15:30	Anthony C. Onicha	1908530
EPA 8270D	06/23/2017	06/28/2017	John Kaba	07/07/2017	Irina Carbone	1908566
	06/23/2017	06/28/2017	Rasheda Ghaffari	06/29/2017	Vandana T. Nagar	1908565
EPA 8276	06/23/2017	06/28/2017	Rasheda Ghaffari	06/29/2017	Vandana T. Nagar	1908565
EPA 8321B	06/23/2017	06/23/2017	Julie Michelle Frank	06/23/2017	Julie Michelle Frank	1908554
	06/23/2017	06/23/2017	Julie Michelle Frank	06/24/2017	Julie Michelle Frank	1908554
SM 2120 B	06/23/2017			06/23/2017 15:04	Tanya Welborn	1908525
	06/23/2017			06/23/2017 15:20	Tanya Welborn	1908522
	06/23/2017			06/23/2017 15:24	Tanya Welborn	1908526
SM 2320 B-97	06/23/2017			06/28/2017	Dale L. Simmons	1908522, 1908525, 1908526
SM 2540 C-97	06/23/2017			06/28/2017	Yijie Li	1908522, 1908525, 1908526
SM 2540 D-97	06/23/2017			06/28/2017	Yijie Li	1908522, 1908525, 1908526
SM 4500 F-C-97	06/23/2017			06/28/2017	Dale L. Simmons	1908522, 1908525, 1908526
SM 5310 B-00	06/23/2017			06/27/2017	Ping Hua	1908527, 1908528
	06/23/2017			07/06/2017	Ping Hua	1908523
USGS O-2060-01	06/23/2017	06/27/2017	Fe-Val Siddell	07/09/2017	Juyoung Kim	1908554