

Chemical Analysis Report

NW-DIST-2017-12-07-03

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

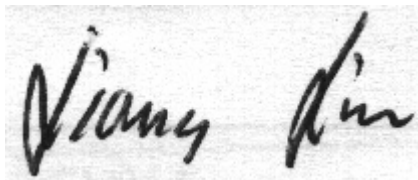
Event Description: **CrestBake run WBID 19 275 50 101 196**
Request ID: **RQ-2017-12-11-26**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 308
Pensacola, FL 32502-5794
Attn: Cheryl Bunch

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 29-DEC-2017 11:27

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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: BEACH TREE CREEK ABOVE UN-NAMED ROAD

Collection Date/Time: 12/06/2017 10:40

Field ID: G4NW0330

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951642	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P336598	
	EPA 300.0 Rev. 2.1	Chloride	2.2		mg Cl/L	P336707	
		Sulfate	0.68		mg SO4/L	P336713	
	SM 2120 B	Color (true)	27		PCU	P336554	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P336989	
	SM 2540 C-97	TDS	15	U	mg/L	P337016	
	SM 2540 D-97	TSS	2	I	mg/L	P336776	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336992	
1951646	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P337341	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.092	I	mg N/L	P336907	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.025		mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P336885	
	SM 5310 B-00	Organic Carbon	2.1		mg C/L	P336822	
1951650	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336590	

Ref. Method and Comment:

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

Sample Location: PINE LOG CREEK UPSTREAM OF LONG ROAD **Collection Date/Time: 12/06/2017 11:05**

Field ID: G4NW0315

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951643	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P336598	
	EPA 300.0 Rev. 2.1	Chloride	3.2		mg Cl/L	P336707	
		Sulfate	0.82		mg SO4/L	P336713	
	SM 2120 B	Color (true)	54		PCU	P336554	
	SM 2320 B-97	Total Alkalinity	7.3		mg CaCO3/L	P336990	
	SM 2540 C-97	TDS	23	I	mg/L	P337016	
	SM 2540 D-97	TSS	2	U	mg/L	P336776	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P337106	
1951647	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P337341	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P336907	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.013		mg P/L	P336885	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P336822	
1951651	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P336590	

Ref. Method and Comment:

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

Sample Location: BAGGETT CREEK UPSTREAM OF KEYSER MILL RD

Collection Date/Time: 12/06/2017 12:05

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951639	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P336598	

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951639	EPA 300.0 Rev. 2.1	Chloride	4.3		mg Cl/L	P336707	
		Sulfate	0.58		mg SO4/L	P336713	
	SM 2120 B	Color (true)	16		PCU	P336554	
	SM 2320 B-97	Total Alkalinity	3.4		mg CaCO3/L	P336989	
	SM 2540 C-97	TDS	17	I	mg/L	P337016	
	SM 2540 D-97	TSS	2	U	mg/L	P336776	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P336992	
1951640	EPA 350.1 Rev. 2.0	Ammonia-N	0.015		mg N/L	P337341	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.16	I	mg N/L	P336907	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.79		mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P336885	
	SM 5310 B-00	Organic Carbon	1.5		mg C/L	P336822	
1951641	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.005	I	mg P/L	P336590	
1951662	EPA 200.7 Rev. 4.4	Calcium	1.29		mg/L	P336745	
		Iron	440		ug/L	P336745	
		Magnesium	1.33		mg/L	P336745	
		Potassium	0.66	I	mg/L	P336745	
		Sodium	2.5		mg/L	P336745	
		Zinc	5.0	U	ug/L	P336745	
	EPA 200.8 Rev. 5.4	Arsenic	0.22		ug/L	P336745	
		Cadmium	0.020	U	ug/L	P336745	
		Chromium	0.40	U	ug/L	P336745	
		Copper	0.20	U	ug/L	P336745	
		Lead	0.085	I	ug/L	P336745	
		Nickel	0.26	I	ug/L	P336745	
		Silver	0.010	U	ug/L	P336745	

Ref. Method and Comment:

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

Sample Location: BAGGETT CREEK UPSTREAM OF KEYSER
MILL RD

Collection Date/Time: 12/06/2017 12:05

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951659	EPA 8321B	Glyphosate**	0.10	U	ug/L	P336449	
		Pyraclostrobin**	0.0020	U	ug/L	P336448	MS
		Sucralose**	0.040		ug/L	P336557	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P336466	
		Diuron	8.0E-04	U	ug/L	P336466	
		Fenuron	0.0080	U	ug/L	P336466	
		Imidacloprid	0.0070		ug/L	P336466	
		Bentazon	0.0023	I	ug/L	P336466	
		Linuron	0.0040	U	ug/L	P336466	
		Acetaminophen**	0.0080	U	ug/L	P336466	
		MCP	0.0020	U	ug/L	P336466	
		Carbamazepine**	4.4E-04	I	ug/L	P336466	

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951659	USGS O-2060-01	Triclopyr**	0.0040	U	ug/L	P336466	
		Primidone**	0.0040	U	ug/L	P336466	
		Fluridone**	4.0E-04	U	ug/L	P336466	
1951660	EPA 8270D	Aldrin	4.5	U	ng/L	P336701	
		Alpha-BHC	2.2	U	ng/L	P336701	
		Beta-BHC	4.5	U	ng/L	P336701	
		Delta-BHC	4.5	U	ng/L	P336701	
		Gamma-BHC	4.5	U	ng/L	P336701	
		Carbophenothion	4.5	U	ng/L	P336701	
		Chlorothalonil	2.2	U	ng/L	P336701	RPD
		Cypermethrin	22	U	ng/L	P336701	
		DDD-p,p'	3.3	U	ng/L	P336701	
		DDE-p,p'	3.3	U	ng/L	P336701	
		DDT-p,p'	3.3	U	ng/L	P336701	
		Dieldrin	4.5	U	ng/L	P336701	
		Endosulfan I	4.5	U	ng/L	P336701	
		Endosulfan II	4.5	U	ng/L	P336701	
		Endosulfan Sulfate	2.2	U	ng/L	P336701	
		Endrin	2.2	U	ng/L	P336701	
		Endrin Aldehyde	2.2	U	ng/L	P336701	
		Heptachlor	1.7	U	ng/L	P336701	
		Heptachlor Epoxide	2.2	U	ng/L	P336701	
		Methoxychlor	4.5	U	ng/L	P336701	
		Mirex	2.2	U	ng/L	P336701	
		Permethrin	11	U	ng/L	P336701	
		Trifluralin	1.1	U	ng/L	P336701	
		Alpha-Chlordane	1.1	U	ng/L	P336701	
		Gamma-Chlordane	1.1	U	ng/L	P336701	
		Endrin Ketone	2.2	U	ng/L	P336701	
		Dicofol	33	U	ng/L	P336701	
		Chlordane**	2.8	U	ng/L	P336701	
		Toxaphene**	14	U	ng/L	P336701	
1951661	EPA 8270D	Alachlor	0.25	U	ng/L	P336632	
		Ametryn	0.32	U	ng/L	P336632	
		Atrazine	0.69	I	ng/L	P336632	
		Atrazine Desethyl	1.5	UJ	ng/L	P336632	LCS, MS
		Azinphos Methyl	2.2	U	ng/L	P336632	
		Bromacil	1.1	I	ng/L	P336632	
		Butylate	0.40	U	ng/L	P336632	RPD
		Chlorpyrifos Ethyl	0.25	U	ng/L	P336632	
		Chlorpyrifos Methyl	0.10	U	ng/L	P336632	
		Demeton	2.0	U	ng/L	P336632	RPD
		Diazinon	0.12	U	ng/L	P336632	
		Disulfoton	0.50	U	ng/L	P336632	
		EPTC	1.2	U	ng/L	P336632	RPD

Field ID: G4NW0335

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951661	EPA 8270D	Ethion	0.15	U	ng/L	P336632	MS, RPD
		Ethoprop	0.10	U	ng/L	P336632	
		Fenamiphos	0.25	U	ng/L	P336632	
		Fipronil	0.35	I	ng/L	P336632	
		Fipronil Sulfide	0.15	U	ng/L	P336632	
		Fipronil Sulfone	0.27	I	ng/L	P336632	LCS, MS
		Hexazinone	1.4	I	ng/L	P336632	
		Malathion	0.35	U	ng/L	P336632	
		Metribuzin	0.20	UJ	ng/L	P336632	
		Mevinphos	0.50	U	ng/L	P336632	
		Molinate	0.30	U	ng/L	P336632	RPD
		Norflurazon	0.50	U	ng/L	P336632	
		Pendimethalin	1.0	U	ng/L	P336632	
		Phorate	0.25	U	ng/L	P336632	
		Prometon	0.90	U	ng/L	P336632	
		Prometryn	0.20	U	ng/L	P336632	
		Simazine	0.50	U	ng/L	P336632	
		Terbufos	0.10	U	ng/L	P336632	
		Terbuthylazine	0.42	U	ng/L	P336632	
		Fonofos	0.20	U	ng/L	P336632	
		Metalaxyl	0.25	U	ng/L	P336632	
		Metolachlor	0.83	I	ng/L	P336632	
		Acetochlor	0.25	U	ng/L	P336632	
		Cyanazine	0.50	U	ng/L	P336632	
		Parathion Ethyl	0.25	U	ng/L	P336632	
		Parathion Methyl	0.25	U	ng/L	P336632	

Ref. Method and Comment:
EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Sample Location: OAK CREEK BELOW TOMMY STEEL RD

Collection Date/Time: 12/06/2017 13:00

Field ID: G4NW0395

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951644	EPA 180.1 Rev. 2.0	Turbidity	6.0		NTU	P336598	
	EPA 300.0 Rev. 2.1	Chloride	4.5		mg Cl/L	P336707	
		Sulfate	0.43	I	mg SO4/L	P336713	
	SM 2120 B	Color (true)	68	A	PCU	P336555	
	SM 2320 B-97	Total Alkalinity	1.2	I	mg CaCO3/L	P336990	
	SM 2540 C-97	TDS	22	I	mg/L	P337016	
	SM 2540 D-97	TSS	5	I	mg/L	P336776	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P337106	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P337341	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.29		mg N/L	P336907	
1951648	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	I	mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.018		mg P/L	P336885	
	SM 5310 B-00	Organic Carbon	5.8		mg C/L	P336822	

Field ID: G4NW0395

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951652	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336590	

Ref. Method and Comment:

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

Sample Location: BIG JUNIPER CREEK 300 YARDS SOUTH OF INDIAN FORD **Collection Date/Time: 12/06/2017 14:10**

Field ID: G4NW0418

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1951645	EPA 180.1 Rev. 2.0	Turbidity	2.1		NTU	P336598	
	EPA 300.0 Rev. 2.1	Chloride	2.7		mg Cl/L	P336707	
		Sulfate	0.56		mg SO4/L	P336713	
	SM 2120 B	Color (true)	29		PCU	P336555	
	SM 2320 B-97	Total Alkalinity	1.0	I	mg CaCO3/L	P336990	
	SM 2540 C-97	TDS	15	U	mg/L	P337016	
	SM 2540 D-97	TSS	3	I	mg/L	P336776	
1951649	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P337106	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.002	U	mg N/L	P337341	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.080	U	mg N/L	P336907	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.11		mg N/L	P336737	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P336885	
1951653	SM 5310 B-00	Organic Carbon	2.2		mg C/L	P336822	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P336592	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P336598

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P336745

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

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P336745

Component	Result	Code	Units
Arsenic	0.050	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336745

Component	Result	Code	Units
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: P336707

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337341

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336885

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336592

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

Reference Method: EPA 8270D
Batch ID: P336632

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
Terbutylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P336701

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P336701

Component	Result	Code	Units
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: P336701

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

Reference Method: EPA 8321B
Batch ID: P336448

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P336449

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P336557

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2120 B
Batch ID: P336554

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P336555

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P336989

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

Reference Method: SM 2320 B-97
Batch ID: P336990

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

Reference Method: SM 2540 C-97
Batch ID: P337016

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P336776

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P337106

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P336822

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

Quality Assurance Report Method Blank Results

Reference Method: USGS O-2060-01
Batch ID: P336466

Component	Result	Code	Units
2,4-D	0.0020	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: P336745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	101		P	85 - 115
Iron	104		P	85 - 115
Magnesium	101		P	85 - 115
Potassium	104		P	85 - 115
Sodium	103		P	85 - 115
Zinc	99.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336745

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	97.0		P	85 - 115
Cadmium	96.1		P	85 - 115
Chromium	93.0		P	85 - 115
Copper	94.1		P	85 - 115
Lead	93.5		P	85 - 115
Nickel	95.4		P	85 - 115
Silver	97.9		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336707

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	97.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	97.6		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
 Batch ID: P337341

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

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P336907

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	97.1		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P336737

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P336885

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P336590

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	96.8		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P336592

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

Reference Method: EPA 8270D
 Batch ID: P336632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	103	106	P/P	78 - 118
Alachlor	109	112	P/P	77 - 119
Ametryn	107	81.5	P/P	61 - 136
Atrazine	101	105	P/P	73 - 120
Atrazine Desethyl	145	142	F/F	16 - 122
Azinphos Methyl	115	123	P/P	69 - 186
Bromacil	99.4	104	P/P	40 - 125
Butylate	44.3	52.1	P/P	32 - 87.0
Chlorpyrifos Ethyl	88.1	92.8	P/P	53 - 110
Chlorpyrifos Methyl	90.4	95.2	P/P	31 - 119
Cyanazine	221	210	P/P	36 - 224
Demeton	66.3	71.8	P/P	39 - 122
Diazinon	100	109	P/P	75 - 119
Disulfoton	90.4	104	P/P	42 - 139
EPTC	42.4	44.8	P/P	33 - 96.0
Ethion	88.7	67.9	P/P	63 - 127

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P336632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ethoprop	85.2	98.2	P/P	65 - 107
Fenamiphos	94.4	97.2	P/P	64 - 137
Fipronil	106	105	P/P	60 - 126
Fipronil Sulfide	89.7	92.9	P/P	58 - 124
Fipronil Sulfone	84.2	87.2	P/P	57 - 126
Fonofos	84.1	97.5	P/P	65 - 111
Hexazinone	86.0	85.1	P/P	46 - 151
Malathion	87.5	92.3	P/P	68 - 132
Metalaxyl	104	107	P/P	51 - 132
Metolachlor	104	103	P/P	78 - 119
Metribuzin	199	188	F/F	58 - 148
Mevinphos	65.3	77.0	P/P	34 - 128
Molinate	68.0	76.8	P/P	44 - 101
Norflurazon	98.5	93.6	P/P	63 - 129
Parathion Ethyl	88.2	91.0	P/P	80 - 109
Parathion Methyl	95.2	102	P/P	74 - 125
Pendimethalin	98.6	108	P/P	48 - 134
Phorate	75.1	86.2	P/P	52 - 119
Prometon	87.3	90.0	P/P	69 - 124
Prometryn	97.7	101	P/P	66 - 124
Simazine	103	103	P/P	61 - 134
Terbufos	88.1	101	P/P	58 - 115
Terbuthylazine	97.0	101	P/P	77 - 113

Reference Method: EPA 8270D
Batch ID: P336701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	52.0	52.6	P/P	26 - 88.0
Alpha-BHC	94.5	92.0	P/P	63 - 114
Alpha-Chlordane	94.9	96.5	P/P	56 - 117
Beta-BHC	95.3	83.6	P/P	57 - 138
Carbophenothion	76.7	62.9	P/P	36 - 148
Chlorothalonil	110	104	P/P	26 - 173
Cypermethrin	117	108	P/P	42 - 159
DDD-p,p'	94.7	94.5	P/P	62 - 126
DDE-p,p'	93.5	95.9	P/P	53 - 115
DDT-p,p'	103	90.4	P/P	54 - 117
Delta-BHC	110	105	P/P	68 - 158
Dicofol	84.5	85.8	P/P	25 - 114
Dieldrin	98.5	96.3	P/P	59 - 126
Endosulfan I	99.4	101	P/P	62 - 138
Endosulfan II	101	111	P/P	61 - 150
Endosulfan Sulfate	102	90.7	P/P	63 - 132
Endrin	99.5	111	P/P	49 - 148
Endrin Aldehyde	96.4	88.7	P/P	50 - 144
Endrin Ketone	93.5	86.2	P/P	66 - 122
Gamma-BHC	100	98.3	P/P	60 - 137
Gamma-Chlordane	92.5	92.8	P/P	54 - 113
Heptachlor	84.3	85.2	P/P	43 - 104
Heptachlor Epoxide	94.4	95.1	P/P	64 - 118
Methoxychlor	103	94.4	P/P	63 - 129

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P336701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Mirex	78.1	78.8	P/P	40 - 96.0
Permethrin	99.5	93.9	P/P	51 - 123
Trifluralin	87.1	79.9	P/P	35 - 187

Reference Method: EPA 8276
Batch ID: P336701

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	81.7	80.0	P/P	48 - 121
Toxaphene	103	97.0	P/P	43 - 135

Reference Method: EPA 8321B
Batch ID: P336448

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	141		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336449

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	131		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336557

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	129		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P336989

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	95 - 108

Reference Method: SM 2320 B-97
Batch ID: P336990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	96.4		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P337106

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.5		P	92 - 103

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 5310 B-00
Batch ID: P336822

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Reference Method: USGS O-2060-01
Batch ID: P336466

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	99.7		P	40 - 150
Acetaminophen	88.6		P	30 - 150
Bentazon	92.7		P	30 - 150
Carbamazepine	93.9		P	40 - 150
Diuron	81.1		P	40 - 150
Fenuron	95.1		P	40 - 150
Fluridone	93.2		P	40 - 150
Imidacloprid	91.9		P	40 - 160
Linuron	83.6		P	40 - 150
MCP	91.3		P	40 - 150
Primidone	99.8		P	40 - 150
Triclopyr	91.0		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951621	Calcium	103		P	80 - 120
1951621	Iron	103		P	80 - 120
1951621	Magnesium	106		P	80 - 120
1951621	Potassium	102		P	80 - 120
1951621	Sodium	101		P	80 - 120
1951621	Zinc	98.5		P	80 - 120
1951771	Calcium	100		P	80 - 120
1951771	Iron	102	102	P/P	80 - 120
1951771	Magnesium	100		P	80 - 120
1951771	Potassium	104	104	P/P	80 - 120
1951771	Sodium	105		P	80 - 120
1951771	Zinc	94.4	94.4	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951621	Arsenic	98.3		P	80 - 120
1951621	Cadmium	98.8		P	80 - 120
1951621	Chromium	95.1		P	80 - 120
1951621	Copper	94.3		P	80 - 120
1951621	Lead	95.8		P	80 - 120
1951621	Nickel	96.3		P	80 - 120
1951621	Silver	99.2		P	80 - 120
1951771	Arsenic	99.8	97.2	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336745

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951771	Cadmium	99.6	95.6	P/P	80 - 120
1951771	Chromium	94.4	91.9	P/P	80 - 120
1951771	Copper	92.4	90.0	P/P	80 - 120
1951771	Lead	95.0	93.0	P/P	80 - 120
1951771	Nickel	94.0	92.6	P/P	80 - 120
1951771	Silver	99.3	97.0	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336707

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951594	Chloride	97.7		P	90 - 110
1951595	Chloride	98.3		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951594	Sulfate	98.5		P	90 - 110
1951595	Sulfate	98.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337341

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951640	Ammonia-N	99.2	95.7	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951647	Kjeldahl Nitrogen	96.6	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951630	NO2NO3-N	97.0	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P336885

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951605	Total-P	98.2	97.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P336590

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951479	O-Phosphate-P	98.8	99.4	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P336592

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951653	O-Phosphate-P	103	100	P/P	90 - 110

Reference Method: EPA 8270D
 Batch ID: P336632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1950932	Acetochlor	82.8	85.1	P/P	74 - 123
1950932	Alachlor	90.6	90.7	P/P	73 - 124
1950932	Ametryn	84.2	84.8	P/P	56 - 149
1950932	Atrazine	91.2	90.9	P/P	73 - 124
1950932	Atrazine Desethyl	113	141	F/F	12 - 103
1950932	Azinphos Methyl	89.1	93.7	P/P	60 - 202
1950932	Bromacil	70.5	89.0	P/P	42 - 133
1950932	Butylate	17.7	27.8	P/P	10 - 85.0
1950932	Chlorpyrifos Ethyl	71.5	67.9	P/P	53 - 113
1950932	Chlorpyrifos Methyl	70.6	72.3	P/P	40 - 115
1950932	Cyanazine	143	168	P/P	22 - 210
1950932	Demeton	82.7	113	P/P	17 - 149
1950932	Diazinon	84.6	86.8	P/P	72 - 124
1950932	Disulfoton	70.6	81.0	P/P	43 - 139
1950932	EPTC	15.6	23.8	P/P	10 - 86.0
1950932	Ethion	73.5	65.0	P/P	65 - 131
1950932	Ethoprop	73.1	81.7	P/P	59 - 110
1950932	Fenamiphos	92.6	165	P/F	57 - 138
1950932	Fipronil	82.1	92.4	P/P	40 - 130
1950932	Fipronil Sulfide	70.3	79.7	P/P	36 - 128
1950932	Fipronil Sulfone	62.2	78.6	P/P	16 - 145
1950932	Fonofos	70.9	76.4	P/P	60 - 112
1950932	Hexazinone	85.8	86.3	P/P	69 - 142
1950932	Malathion	73.8	75.0	P/P	68 - 132
1950932	Metalaxyl	75.2	82.6	P/P	66 - 118
1950932	Metolachlor	82.4	82.5	P/P	71 - 124
1950932	Metribuzin	168	188	F/F	61 - 140
1950932	Mevinphos	58.0	68.7	P/P	38 - 130
1950932	Molinate	28.0	38.6	P/P	23 - 99.0
1950932	Norflurazon	75.4	92.2	P/P	39 - 139
1950932	Parathion Ethyl	77.1	75.6	P/P	75 - 111
1950932	Parathion Methyl	81.0	81.1	P/P	64 - 130
1950932	Pendimethalin	92.8	91.8	P/P	26 - 173
1950932	Phorate	59.5	65.5	P/P	43 - 127
1950932	Prometon	76.5	80.6	P/P	50 - 144
1950932	Prometryn	69.1	76.9	P/P	69 - 126
1950932	Simazine	89.9	90.1	P/P	51 - 152
1950932	Terbufos	73.0	81.5	P/P	54 - 125
1950932	Terbutylazine	80.4	82.9	P/P	76 - 113

Reference Method: EPA 8270D
 Batch ID: P336701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1952408	Aldrin	62.5	54.3	P/P	22 - 97.0
1952408	Alpha-BHC	95.9	89.9	P/P	43 - 132

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P336701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1952408	Alpha-Chlordane	91.5	86.1	P/P	36 - 126
1952408	Beta-BHC	100	90.8	P/P	41 - 150
1952408	Carbophenothion	103	92.8	P/P	13 - 196
1952408	Chlorothalonil	29.1	74.0	P/P	10 - 266
1952408	Cypermethrin	107	96.5	P/P	37 - 161
1952408	DDD-p,p'	90.9	87.1	P/P	44 - 131
1952408	DDE-p,p'	86.0	86.9	P/P	32 - 127
1952408	DDT-p,p'	93.2	96.5	P/P	45 - 116
1952408	Delta-BHC	137	118	P/P	50 - 201
1952408	Dicofol	78.4	73.6	P/P	10 - 100
1952408	Dieldrin	105	94.5	P/P	39 - 142
1952408	Endosulfan I	106	96.4	P/P	51 - 139
1952408	Endosulfan II	104	93.4	P/P	49 - 155
1952408	Endosulfan Sulfate	106	91.3	P/P	54 - 136
1952408	Endrin	97.3	84.1	P/P	38 - 141
1952408	Endrin Aldehyde	98.3	91.1	P/P	14 - 152
1952408	Endrin Ketone	93.6	86.9	P/P	60 - 128
1952408	Gamma-BHC	112	104	P/P	48 - 157
1952408	Gamma-Chlordane	88.2	82.8	P/P	35 - 123
1952408	Heptachlor	79.4	77.1	P/P	25 - 112
1952408	Heptachlor Epoxide	96.0	90.1	P/P	48 - 125
1952408	Methoxychlor	98.9	102	P/P	52 - 127
1952408	Mirex	84.0	79.7	P/P	25 - 108
1952408	Permethrin	98.9	92.7	P/P	46 - 133
1952408	Trifluralin	87.5	85.0	P/P	29 - 254

Reference Method: EPA 8276
Batch ID: P336701

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1952440	Chlordane	81.7	79.6	P/P	44 - 134
1952440	Toxaphene	98.2	95.5	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P336448

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1950930	Pyraclostrobin	140	156	P/F	40 - 150

Reference Method: EPA 8321B
Batch ID: P336449

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1950930	Glyphosate	148	142	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P336557

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951718	Sucralose	97.3	100	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P336992

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951399	Fluoride	98.0	98.0	P/P	91 - 105

Reference Method: SM 4500 F-C-97
 Batch ID: P337106

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951838	Fluoride	97.9	98.5	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P336822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951605	Organic Carbon	103	99.1	P/P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P336466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1951659	2,4-D	88.4	83.8	P/P	40 - 150
1951659	Acetaminophen	104	112	P/P	30 - 150
1951659	Bentazon	76.5	72.8	P/P	30 - 150
1951659	Carbamazepine	107	110	P/P	40 - 150
1951659	Diuron	91.6	92.8	P/P	40 - 150
1951659	Fenuron	105	108	P/P	40 - 150
1951659	Fluridone	103	108	P/P	40 - 150
1951659	Imidacloprid	114	123	P/P	40 - 160
1951659	Linuron	97.3	101	P/P	40 - 150
1951659	MCP	84.2	80.5	P/P	40 - 150
1951659	Primidone	112	115	P/P	40 - 150
1951659	Triclopyr	77.8	75.5	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P336598

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951629	Turbidity	5.65	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P336745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951771	Calcium	0.403	Spike	P	0 - 20
1951771	Iron	0.0797	Spike	P	0 - 20
1951771	Magnesium	0.0344	Spike	P	0 - 20
1951771	Potassium	0.155	Spike	P	0 - 20
1951771	Sodium	1.00	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P336745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951771	Zinc	0.0163	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P336745

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951771	Arsenic	2.58	Spike	P	0 - 20
1951771	Cadmium	4.06	Spike	P	0 - 20
1951771	Chromium	2.67	Spike	P	0 - 20
1951771	Copper	2.54	Spike	P	0 - 20
1951771	Lead	2.10	Spike	P	0 - 20
1951771	Nickel	1.51	Spike	P	0 - 20
1951771	Silver	2.29	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336707

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951594	Chloride	0.711	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P336713

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951594	Sulfate	1.40	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P337341

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951640	Ammonia-N	2.74	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P336907

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951647	Kjeldahl Nitrogen	4.48	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P336737

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951630	NO2NO3-N	3.05	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P336885

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951605	Total-P	0.725	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P336590

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951479	O-Phosphate-P	0.605	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P336592

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951653	O-Phosphate-P	2.56	Spike	P	0 - 20

Reference Method: EPA 8270D

Batch ID: P336632

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1950932	Acetochlor	2.65	Spike	P	0 - 30
1950932	Alachlor	0.101	Spike	P	0 - 30
1950932	Ametryn	0.745	Spike	P	0 - 30
1950932	Atrazine	0.423	Spike	P	0 - 30
1950932	Atrazine Desethyl	22.3	Spike	P	0 - 30
1950932	Azinphos Methyl	5.02	Spike	P	0 - 30
1950932	Bromacil	23.3	Spike	P	0 - 30
1950932	Butylate	44.2	Spike	F	0 - 30
1950932	Chlorpyrifos Ethyl	5.10	Spike	P	0 - 30
1950932	Chlorpyrifos Methyl	2.39	Spike	P	0 - 30
1950932	Cyanazine	16.3	Spike	P	0 - 30
1950932	Demeton	30.6	Spike	F	0 - 30
1950932	Diazinon	2.62	Spike	P	0 - 30
1950932	Disulfoton	13.7	Spike	P	0 - 30
1950932	EPTC	41.6	Spike	F	0 - 30
1950932	Ethion	12.3	Spike	P	0 - 30
1950932	Ethoprop	11.0	Spike	P	0 - 30
1950932	Fenamiphos	56.0	Spike	F	0 - 30
1950932	Fipronil	11.8	Spike	P	0 - 30
1950932	Fipronil Sulfide	12.5	Spike	P	0 - 30
1950932	Fipronil Sulfone	23.3	Spike	P	0 - 30
1950932	Fonofos	7.55	Spike	P	0 - 30
1950932	Hexazinone	0.534	Spike	P	0 - 30
1950932	Malathion	1.56	Spike	P	0 - 30
1950932	Metalaxyl	9.41	Spike	P	0 - 30
1950932	Metolachlor	0.156	Spike	P	0 - 30
1950932	Metribuzin	10.8	Spike	P	0 - 30
1950932	Mevinphos	16.9	Spike	P	0 - 30
1950932	Molinate	32.0	Spike	F	0 - 30
1950932	Norflurazon	20.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1950932	Parathion Ethyl	1.97	Spike	P	0 - 30
1950932	Parathion Methyl	0.207	Spike	P	0 - 30
1950932	Pendimethalin	1.03	Spike	P	0 - 30
1950932	Phorate	9.64	Spike	P	0 - 30
1950932	Prometon	5.21	Spike	P	0 - 30
1950932	Prometryn	10.7	Spike	P	0 - 30
1950932	Simazine	0.196	Spike	P	0 - 30
1950932	Terbufos	11.0	Spike	P	0 - 30
1950932	Terbuthylazine	3.10	Spike	P	0 - 30
LFB	Acetochlor	2.62	LCS	P	0 - 30
LFB	Alachlor	3.07	LCS	P	0 - 30
LFB	Ametryn	27.5	LCS	P	0 - 30
LFB	Atrazine	3.59	LCS	P	0 - 30
LFB	Atrazine Desethyl	2.05	LCS	P	0 - 30
LFB	Azinphos Methyl	6.41	LCS	P	0 - 30
LFB	Bromacil	4.35	LCS	P	0 - 30
LFB	Butylate	16.2	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	5.17	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	5.12	LCS	P	0 - 30
LFB	Cyanazine	5.24	LCS	P	0 - 30
LFB	Demeton	7.87	LCS	P	0 - 30
LFB	Diazinon	8.41	LCS	P	0 - 30
LFB	Disulfoton	14.0	LCS	P	0 - 30
LFB	EPTC	5.56	LCS	P	0 - 30
LFB	Ethion	26.5	LCS	P	0 - 30
LFB	Ethoprop	14.2	LCS	P	0 - 30
LFB	Fenamiphos	2.89	LCS	P	0 - 30
LFB	Fipronil	1.16	LCS	P	0 - 30
LFB	Fipronil Sulfide	3.52	LCS	P	0 - 30
LFB	Fipronil Sulfone	3.55	LCS	P	0 - 30
LFB	Fonofos	14.8	LCS	P	0 - 30
LFB	Hexazinone	0.982	LCS	P	0 - 30
LFB	Malathion	5.44	LCS	P	0 - 30
LFB	Metalaxyl	3.44	LCS	P	0 - 30
LFB	Metolachlor	0.519	LCS	P	0 - 30
LFB	Metribuzin	5.55	LCS	P	0 - 30
LFB	Mevinphos	16.4	LCS	P	0 - 30
LFB	Molinate	12.1	LCS	P	0 - 30
LFB	Norflurazon	5.15	LCS	P	0 - 30
LFB	Parathion Ethyl	3.07	LCS	P	0 - 30
LFB	Parathion Methyl	6.60	LCS	P	0 - 30
LFB	Pendimethalin	9.47	LCS	P	0 - 30
LFB	Phorate	13.8	LCS	P	0 - 30
LFB	Prometon	3.07	LCS	P	0 - 30
LFB	Prometryn	3.77	LCS	P	0 - 30
LFB	Simazine	0.140	LCS	P	0 - 30
LFB	Terbufos	13.5	LCS	P	0 - 30
LFB	Terbuthylazine	4.19	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1952408	Aldrin	13.9	Spike	P	0 - 30
1952408	Alpha-BHC	6.48	Spike	P	0 - 30
1952408	Alpha-Chlordane	5.16	Spike	P	0 - 30
1952408	Beta-BHC	9.63	Spike	P	0 - 30
1952408	Carbophenothion	10.2	Spike	P	0 - 30
1952408	Chlorothalonil	87.1	Spike	F	0 - 30
1952408	Cypermethrin	10.2	Spike	P	0 - 30
1952408	DDD-p,p'	4.27	Spike	P	0 - 30
1952408	DDE-p,p'	0.999	Spike	P	0 - 30
1952408	DDT-p,p'	3.55	Spike	P	0 - 30
1952408	Delta-BHC	15.2	Spike	P	0 - 30
1952408	Dicofol	6.35	Spike	P	0 - 30
1952408	Dieldrin	10.1	Spike	P	0 - 30
1952408	Endosulfan I	9.43	Spike	P	0 - 30
1952408	Endosulfan II	10.5	Spike	P	0 - 30
1952408	Endosulfan Sulfate	14.6	Spike	P	0 - 30
1952408	Endrin	14.5	Spike	P	0 - 30
1952408	Endrin Aldehyde	7.63	Spike	P	0 - 30
1952408	Endrin Ketone	7.38	Spike	P	0 - 30
1952408	Gamma-BHC	6.58	Spike	P	0 - 30
1952408	Gamma-Chlordane	5.71	Spike	P	0 - 30
1952408	Heptachlor	3.04	Spike	P	0 - 30
1952408	Heptachlor Epoxide	6.39	Spike	P	0 - 30
1952408	Methoxychlor	2.70	Spike	P	0 - 30
1952408	Mirex	5.25	Spike	P	0 - 30
1952408	Permethrin	6.52	Spike	P	0 - 30
1952408	Trifluralin	2.88	Spike	P	0 - 30
LFB	Aldrin	1.20	LCS	P	0 - 30
LFB	Alpha-BHC	2.67	LCS	P	0 - 30
LFB	Alpha-Chlordane	1.63	LCS	P	0 - 30
LFB	Beta-BHC	13.1	LCS	P	0 - 30
LFB	Carbophenothion	19.8	LCS	P	0 - 30
LFB	Chlorothalonil	5.63	LCS	P	0 - 30
LFB	Cypermethrin	7.87	LCS	P	0 - 30
LFB	DDD-p,p'	0.173	LCS	P	0 - 30
LFB	DDE-p,p'	2.50	LCS	P	0 - 30
LFB	DDT-p,p'	12.9	LCS	P	0 - 30
LFB	Delta-BHC	3.93	LCS	P	0 - 30
LFB	Dicofol	1.55	LCS	P	0 - 30
LFB	Dieldrin	2.26	LCS	P	0 - 30
LFB	Endosulfan I	1.80	LCS	P	0 - 30
LFB	Endosulfan II	9.64	LCS	P	0 - 30
LFB	Endosulfan Sulfate	12.1	LCS	P	0 - 30
LFB	Endrin	11.3	LCS	P	0 - 30
LFB	Endrin Aldehyde	8.39	LCS	P	0 - 30
LFB	Endrin Ketone	8.15	LCS	P	0 - 30
LFB	Gamma-BHC	2.05	LCS	P	0 - 30
LFB	Gamma-Chlordane	0.355	LCS	P	0 - 30
LFB	Heptachlor	1.03	LCS	P	0 - 30
LFB	Heptachlor Epoxide	0.781	LCS	P	0 - 30
LFB	Methoxychlor	8.60	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P336701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Mirex	0.822	LCS	P	0 - 30
LFB	Permethrin	5.78	LCS	P	0 - 30
LFB	Trifluralin	8.62	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P336701

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1952440	Chlordane	2.55	Spike	P	0 - 30
1952440	Toxaphene	2.79	Spike	P	0 - 30
LFB	Chlordane	2.05	LCS	P	0 - 30
LFB	Toxaphene	6.10	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P336448

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1950930	Pyraclostrobin	11.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P336449

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1950930	Glyphosate	3.55	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P336557

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951718	Sucralose	3.09	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P336554

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951604	Color (true)	16.3	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P336555

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951644	Color (true)	1.59	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: SM 2320 B-97
Batch ID: P336989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951399	Total Alkalinity	0.485	Sample	P	0 - 4.8

Reference Method: SM 2320 B-97
Batch ID: P336990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951838	Total Alkalinity	0.704	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P337016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951681	TDS	0.625	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P336992

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951399	Fluoride	0.0	Spike	P	0 - 3.0

Reference Method: SM 4500 F-C-97
Batch ID: P337106

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951838	Fluoride	0.490	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P336822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951605	Organic Carbon	3.29	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P336466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951659	2,4-D	5.37	Spike	P	0 - 30
1951659	Acetaminophen	7.50	Spike	P	0 - 30
1951659	Bentazon	4.80	Spike	P	0 - 30
1951659	Carbamazepine	2.68	Spike	P	0 - 30
1951659	Diuron	1.30	Spike	P	0 - 30
1951659	Fenuron	3.48	Spike	P	0 - 30
1951659	Fluridone	5.21	Spike	P	0 - 30
1951659	Imidacloprid	6.59	Spike	P	0 - 30
1951659	Linuron	3.27	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: USGS O-2060-01
Batch ID: P336466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1951659	MCP	4.48	Spike	P	0 - 30
1951659	Primidone	3.00	Spike	P	0 - 30
1951659	Triclopyr	2.93	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: 1951659
Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	113	P	30 - 160
EPA 8321B	Carbamazepine-d10	125	P	30 - 160
EPA 8321B	Carbamazepine-d10	125	P	30 - 160
EPA 8321B	Diuron-d6	113	P	30 - 160
EPA 8321B	Diuron-d6	113	P	30 - 160
EPA 8321B	Diuron-d6	113	P	30 - 160
EPA 8321B	Diuron-d6	113	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	132	P	40 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Primidone-d5	120	P	30 - 160
EPA 8321B	Sucralose-d6	86.7	P	40 - 160
EPA 8321B	Sucralose-d6	86.7	P	40 - 160
USGS O-2060-01	2,4-D-d3	84.1	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	113	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	125	P	30 - 160
USGS O-2060-01	Diuron-d6	113	P	30 - 160
USGS O-2060-01	Diuron-d6	113	P	30 - 160
USGS O-2060-01	Primidone-d5	120	P	30 - 160
USGS O-2060-01	Sucralose-d6	86.7	P	40 - 160

Lab Sample ID: 1951660
Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	75.8	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	64.6	P	32 - 103
EPA 8276	Decachlorobiphenyl	67.5	P	31 - 100

Lab Sample ID: 1951661
Field Sample ID: G4NW0335

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	84.2	P	53 - 135
EPA 8270D	Simazine-d10	90.7	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80735

Included Lab Sample IDs: 1951639, 1951642, 1951643, 1951644, 1951645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.1	99.6	P/P	90 - 110
Chloride	99.6	107	P/P	90 - 110
Sulfate	98.1	108	P/P	90 - 110
Sulfate	99.2	98.1	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A80756

Included Lab Sample IDs: 1951639, 1951642, 1951643, 1951644, 1951645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	95.8	96.3	P/P	85 - 115
Color (true)	96.3	95.4	P/P	85 - 115

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80761

Included Lab Sample IDs: 1951641, 1951650, 1951651, 1951652, 1951653

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	99.0	P/P	90 - 110
O-Phosphate-P	99.6	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80763

Included Lab Sample IDs: 1951639, 1951642, 1951643, 1951644, 1951645

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

Reference Method: EPA 8321B

Run ID: A80803

Included Lab Sample IDs: 1951659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	104	114	P/P	60 - 150
Pyraclostrobin	102	107	P/P	60 - 150

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80816

Included Lab Sample IDs: 1951640, 1951646, 1951647, 1951648, 1951649

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

Reference Method: SM 5310 B-00

Run ID: A80848

Included Lab Sample IDs: 1951640, 1951646, 1951647, 1951648, 1951649

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A80857

Included Lab Sample IDs: 1951662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.7	99.9	P/P	90 - 110
Iron	101	99.4	P/P	90 - 110
Magnesium	101	99.3	P/P	90 - 110
Potassium	101	101	P/P	90 - 110
Sodium	98.9	101	P/P	90 - 110
Zinc	99.6	99.6	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80864

Included Lab Sample IDs: 1951662

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	102	99.7	P/P	90 - 110
Cadmium	99.2	97.5	P/P	90 - 110
Chromium	98.9	96.1	P/P	90 - 110
Copper	100	98.2	P/P	90 - 110
Lead	96.9	96.4	P/P	90 - 110
Nickel	100	98.9	P/P	90 - 110
Silver	99.7	98.1	P/P	90 - 110

Reference Method: USGS O-2060-01

Run ID: A80867

Included Lab Sample IDs: 1951659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.1	92.3	P/P	50 - 150
Acetaminophen	102	99.3	P/P	60 - 150
Bentazon	104	95.0	P/P	50 - 150
Carbamazepine	104	109	P/P	60 - 150
Diuron	96.7	100	P/P	60 - 150
Fenuron	99.8	102	P/P	60 - 150
Fluridone	101	110	P/P	60 - 160
Imidacloprid	93.1	98.8	P/P	60 - 150
Linuron	98.2	111	P/P	60 - 150
MCPP	107	99.7	P/P	50 - 150
Primidone	99.4	99.6	P/P	60 - 150
Triclopyr	107	91.9	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A80897

Included Lab Sample IDs: 1951640, 1951646, 1951647, 1951648, 1951649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	105	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A80909

Included Lab Sample IDs: 1951639, 1951642, 1951643, 1951644, 1951645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	98.3	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 2320 B-97

Run ID: A80909

Included Lab Sample IDs: 1951639, 1951642, 1951643, 1951644, 1951645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	98.3	101	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A80909

Included Lab Sample IDs: 1951639, 1951642

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A80919

Included Lab Sample IDs: 1951661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	102		P	80 - 120
Atrazine	103		P	80 - 120
Atrazine Desethyl	112		P	80 - 120
Azinphos Methyl	91.7		P	80 - 120
Bromacil	95.4		P	80 - 120
Butylate	103		P	80 - 120
Chlorpyrifos Ethyl	97.0		P	80 - 120
Chlorpyrifos Methyl	98.3		P	80 - 120
Cyanazine	98.5		P	80 - 120
Demeton	98.9		P	80 - 120
Diazinon	101		P	80 - 120
Disulfoton	96.1		P	80 - 120
EPTC	102		P	80 - 120
Ethion	95.7		P	80 - 120
Ethoprop	99.7		P	80 - 120
Fenamiphos	94.0		P	80 - 120
Fipronil	99.9		P	80 - 120
Fipronil Sulfide	95.6		P	80 - 120
Fipronil Sulfone	93.8		P	80 - 120
Fonofos	96.4		P	80 - 120
Hexazinone	93.8		P	80 - 120
Malathion	93.7		P	80 - 120
Metaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	99.0		P	80 - 120
Mevinphos	96.2		P	80 - 120
Molinate	101		P	80 - 120
Norflurazon	100		P	80 - 120
Parathion Ethyl	91.3		P	80 - 120
Parathion Methyl	90.8		P	80 - 120
Pendimethalin	101		P	80 - 120
Phorate	94.9		P	80 - 120
Prometon	102		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	100		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80919

Included Lab Sample IDs: 1951661

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Terbufos	96.3		P	80 - 120
Terbutylazine	99.9		P	80 - 120

Reference Method: SM 4500 F-C-97

Run ID: A80962

Included Lab Sample IDs: 1951643, 1951644, 1951645

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80972

Included Lab Sample IDs: 1951640, 1951646, 1951647, 1951648, 1951649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.8	97.1	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A81024

Included Lab Sample IDs: 1951660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	101		P	80 - 120
Alpha-BHC	101		P	80 - 120
Alpha-Chlordane	102		P	80 - 120
Beta-BHC	104		P	80 - 120
Carbophenothion	95.5		P	80 - 120
Chlorothalonil	107		P	80 - 120
Cypermethrin	88.9		P	80 - 120
DDD-p,p'	108		P	80 - 120
DDE-p,p'	105		P	80 - 120
DDT-p,p'	105		P	80 - 120
Delta-BHC	103		P	80 - 120
Dicofol	100		P	80 - 120
Dieldrin	105		P	80 - 120
Endosulfan I	103		P	80 - 120
Endosulfan II	99.4		P	80 - 120
Endosulfan Sulfate	102		P	80 - 120
Endrin	101		P	80 - 120
Endrin Aldehyde	103		P	80 - 120
Endrin Ketone	98.2		P	80 - 120
Gamma-BHC	96.4		P	80 - 120
Gamma-Chlordane	103		P	80 - 120
Heptachlor	102		P	80 - 120
Heptachlor Epoxide	104		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	102		P	80 - 120
Permethrin	92.9		P	80 - 120
Trifluralin	99.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A81055
Included Lab Sample IDs: 1951659

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	119	86.6	P/P	60 - 150

Reference Method: EPA 8276
Run ID: A81065
Included Lab Sample IDs: 1951660

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	104		P	80 - 120
Toxaphene	105		P	80 - 120

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A81069
Included Lab Sample IDs: 1951640, 1951646, 1951647, 1951648, 1951649

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	101	101	P/P	90 - 110
Ammonia-N	99.9	101	P/P	90 - 110

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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity							5.65	
EPA 200.7 Rev. 4.4	Calcium	101		103	100				0.403
	Iron	104		103	102	102			0.0797
	Magnesium	101		106	100				0.0344
	Potassium	104		102	104	104			0.155
	Sodium	103		101	105				1.00
	Zinc	99.4		98.5	94.4	94.4			0.0163
EPA 200.8 Rev. 5.4	Arsenic	97.0		98.3	99.8	97.2			2.58
	Cadmium	96.1		98.8	99.6	95.6			4.06
	Chromium	93.0		95.1	94.4	91.9			2.67
	Copper	94.1		94.3	92.4	90.0			2.54
	Lead	93.5		95.8	95.0	93.0			2.10
	Nickel	95.4		96.3	94.0	92.6			1.51
	Silver	97.9		99.2	99.3	97.0			2.29
EPA 300.0 Rev. 2.1	Chloride	97.6		97.7	98.3			0.711	
	Sulfate	97.6		98.5	98.7			1.40	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0		99.2	95.7				2.74
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.1		96.6	102				4.48
EPA 353.2 Rev. 2.0	NO2NO3-N	103		97.0	100				3.05
EPA 365.1 Rev. 2.0	Total-P	101		98.2	97.2				0.725
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8		98.8	99.4				0.605
	O-Phosphate-P	98.1		103	100				2.56
EPA 8270D	Acetochlor	103	106	82.8	85.1		2.62		2.65

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Alachlor	109	112	90.6	90.7	3.07	0.101
	Aldrin	52.0	52.6	62.5	54.3	1.20	13.9
	Alpha-BHC	94.5	92.0	95.9	89.9	2.67	6.48
	Alpha-Chlordane	94.9	96.5	91.5	86.1	1.63	5.16
	Ametryn	107	81.5	84.2	84.8	27.5	0.745
	Atrazine	101	105	91.2	90.9	3.59	0.423
	Atrazine Desethyl	145	142	113	141	2.05	22.3
	Azinphos Methyl	115	123	89.1	93.7	6.41	5.02
	Beta-BHC	95.3	83.6	100	90.8	13.1	9.63
	Bromacil	99.4	104	70.5	89.0	4.35	23.3
	Butylate	44.3	52.1	17.7	27.8	16.2	44.2
	Carbophenothion	76.7	62.9	103	92.8	19.8	10.2
	Chlorothalonil	110	104	29.1	74.0	5.63	87.1
	Chlorpyrifos Ethyl	88.1	92.8	71.5	67.9	5.17	5.10
	Chlorpyrifos Methyl	90.4	95.2	70.6	72.3	5.12	2.39
	Cyanazine	221	210	143	168	5.24	16.3
	Cypermethrin	117	108	107	96.5	7.87	10.2
	DDD-p,p'	94.7	94.5	90.9	87.1	0.173	4.27
	DDE-p,p'	93.5	95.9	86.0	86.9	2.50	0.999
	DDT-p,p'	103	90.4	93.2	96.5	12.9	3.55
	Delta-BHC	110	105	137	118	3.93	15.2
	Demeton	66.3	71.8	82.7	113	7.87	30.6
	Diazinon	100	109	84.6	86.8	8.41	2.62
	Dicofol	84.5	85.8	78.4	73.6	1.55	6.35
	Dieldrin	98.5	96.3	105	94.5	2.26	10.1
	Disulfoton	90.4	104	70.6	81.0	14.0	13.7
	Endosulfan I	99.4	101	106	96.4	1.80	9.43
	Endosulfan II	101	111	104	93.4	9.64	10.5
	Endosulfan Sulfate	102	90.7	106	91.3	12.1	14.6
	Endrin	99.5	111	97.3	84.1	11.3	14.5
	Endrin Aldehyde	96.4	88.7	98.3	91.1	8.39	7.63
	Endrin Ketone	93.5	86.2	93.6	86.9	8.15	7.38
	EPTC	42.4	44.8	15.6	23.8	5.56	41.6
	Ethion	88.7	67.9	73.5	65.0	26.5	12.3
	Ethoprop	85.2	98.2	73.1	81.7	14.2	11.0
	Fenamiphos	94.4	97.2	92.6	165	2.89	56.0
	Fipronil	106	105	82.1	92.4	1.16	11.8
	Fipronil Sulfide	89.7	92.9	70.3	79.7	3.52	12.5
	Fipronil Sulfone	84.2	87.2	62.2	78.6	3.55	23.3
	Fonofos	84.1	97.5	70.9	76.4	14.8	7.55
	Gamma-BHC	100	98.3	112	104	2.05	6.58
	Gamma-Chlordane	92.5	92.8	88.2	82.8	0.355	5.71
	Heptachlor	84.3	85.2	79.4	77.1	1.03	3.04
	Heptachlor Epoxide	94.4	95.1	96.0	90.1	0.781	6.39
	Hexazinone	86.0	85.1	85.8	86.3	0.982	0.534
	Malathion	87.5	92.3	73.8	75.0	5.44	1.56
	Metalaxyl	104	107	75.2	82.6	3.44	9.41
	Methoxychlor	103	94.4	98.9	102	8.60	2.70
	Metolachlor	104	103	82.4	82.5	0.519	0.156
	Metribuzin	199	188	168	188	5.55	10.8
	Mevinphos	65.3	77.0	58.0	68.7	16.4	16.9
	Mirex	78.1	78.8	84.0	79.7	0.822	5.25
	Molinate	68.0	76.8	28.0	38.6	12.1	32.0
	Norflurazon	98.5	93.6	75.4	92.2	5.15	20.0

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270D	Parathion Ethyl	88.2	91.0	77.1	75.6	3.07	1.97
	Parathion Methyl	95.2	102	81.0	81.1	6.60	0.207
	Pendimethalin	98.6	108	92.8	91.8	9.47	1.03
	Permethrin	99.5	93.9	98.9	92.7	5.78	6.52
	Phorate	75.1	86.2	59.5	65.5	13.8	9.64
	Prometon	87.3	90.0	76.5	80.6	3.07	5.21
	Prometryn	97.7	101	69.1	76.9	3.77	10.7
	Simazine	103	103	89.9	90.1	0.140	0.196
	Terbufos	88.1	101	73.0	81.5	13.5	11.0
	Terbutylazine	97.0	101	80.4	82.9	4.19	3.10
	Trifluralin	87.1	79.9	87.5	85.0	8.62	2.88
	Chlordane	81.7	80.0	81.7	79.6	2.05	2.55
EPA 8276	Toxaphene	103	97.0	98.2	95.5	6.10	2.79
EPA 8321B	Glyphosate	131		148	142		3.55
	Pyraclostrobin	141		140	156		11.3
	Sucralose	129		97.3	100		3.09
SM 2120 B	Color (true)						16.3
	Color (true)						1.59
SM 2320 B-97	Total Alkalinity	100					0.485
	Total Alkalinity	101					0.704
SM 2540 C-97	TDS						0.625
SM 4500 F-C-97	Fluoride	96.4		98.0	98.0		0.0
	Fluoride	97.5		97.9	98.5		0.490
SM 5310 B-00	Organic Carbon	99.8		103	99.1		3.29
USGS O-2060-01	2,4-D	99.7		88.4	83.8		5.37
	Acetaminophen	88.6		112	104		7.50
	Bentazon	92.7		76.5	72.8		4.80
	Carbamazepine	93.9		110	107		2.68
	Diuron	81.1		92.8	91.6		1.30
	Fenuron	95.1		108	105		3.48
	Fluridone	93.2		108	103		5.21
	Imidacloprid	91.9		123	114		6.59
	Linuron	83.6		101	97.3		3.27
	MCPP	91.3		84.2	80.5		4.48
	Primidone	99.8		115	112		3.00
	Triclopyr	91.0		77.8	75.5		2.93

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1951639, 1951642, 1951643, 1951644, 1951645
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1951662
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1951662
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1951639, 1951642, 1951643, 1951644, 1951645
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1951639, 1951642, 1951643, 1951644, 1951645
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1951640, 1951646, 1951647, 1951648, 1951649
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1951640, 1951646, 1951647, 1951648, 1951649

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1951640, 1951646, 1951647, 1951648, 1951649
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1951640, 1951646, 1951647, 1951648, 1951649
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1951641, 1951650, 1951651, 1951652, 1951653
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1951660
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1951661
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1951660
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1951659
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1951659
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1951659
SM 2120 B / E31780	True Color measured at 450 nm	1951639, 1951642, 1951643, 1951644, 1951645
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1951639, 1951642, 1951643, 1951644, 1951645
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1951639, 1951642, 1951643, 1951644, 1951645
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1951639, 1951642, 1951643, 1951644, 1951645
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1951639, 1951642, 1951643, 1951644, 1951645
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1951640, 1951646, 1951647, 1951648, 1951649
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1951659
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1951659

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	12/07/2017			12/07/2017 16:28	DeAsia Armster	1951639, 1951642, 1951643, 1951644, 1951645
EPA 200.7 Rev. 4.4	12/07/2017	12/11/2017	Elliott D. Healy	12/12/2017	Martin Acosta	1951662
EPA 200.8 Rev. 5.4	12/07/2017	12/11/2017	Elliott D. Healy	12/12/2017	Nadine Brooks	1951662
EPA 300.0 Rev. 2.1	12/07/2017			12/08/2017	Julia Storbeck	1951639, 1951642, 1951643, 1951644, 1951645
EPA 350.1 Rev. 2.0	12/07/2017			12/20/2017	Sofia Elnemr	1951640, 1951646, 1951647, 1951648, 1951649
EPA 351.2 Rev. 2.0	12/07/2017	12/13/2017	Adrian Shelby	12/18/2017	Joseph Suarez	1951640, 1951646, 1951647, 1951648, 1951649
EPA 353.2 Rev. 2.0	12/07/2017			12/11/2017	Lauren Bottorf	1951640, 1951646, 1951647, 1951648, 1951649
EPA 365.1 Rev. 2.0	12/07/2017	12/13/2017	Sima Feizi	12/14/2017	Lipi Saha	1951640, 1951646, 1951647, 1951648, 1951649
EPA 365.1 Rev. 2.0 dissolved	12/07/2017			12/07/2017 13:07	Megan Treadwell	1951641
	12/07/2017			12/07/2017 13:08	Megan Treadwell	1951650
	12/07/2017			12/07/2017 13:09	Megan Treadwell	1951651
	12/07/2017			12/07/2017 13:10	Megan Treadwell	1951652
	12/07/2017			12/07/2017 13:17	Megan Treadwell	1951653
EPA 8270D	12/07/2017	12/08/2017	John Kaba	12/12/2017	Vandana T. Nagar	1951661
	12/07/2017	12/11/2017	John Kaba	12/14/2017	Goutam Palui	1951660
EPA 8276	12/07/2017	12/11/2017	John Kaba	12/15/2017	John P. Burgos	1951660
EPA 8321B	12/07/2017	12/08/2017	Juyoung Kim	12/08/2017	Juyoung Kim	1951659
	12/07/2017	12/20/2017	Juyoung Kim	12/20/2017	Juyoung Kim	1951659
SM 2120 B	12/07/2017			12/07/2017 13:06	Tanya Welborn	1951639
	12/07/2017			12/07/2017 13:07	Tanya Welborn	1951642
	12/07/2017			12/07/2017 13:08	Tanya Welborn	1951643
	12/07/2017			12/07/2017 13:11	Tanya Welborn	1951644
	12/07/2017			12/07/2017 13:12	Tanya Welborn	1951645
SM 2320 B-97	12/07/2017			12/14/2017	Dale L. Simmons	1951639, 1951642, 1951643, 1951644, 1951645
SM 2540 C-97	12/07/2017			12/08/2017	DeAsia Armster	1951639, 1951642, 1951643, 1951644, 1951645
SM 2540 D-97	12/07/2017			12/08/2017	DeAsia Armster	1951639, 1951642, 1951643, 1951644, 1951645
SM 4500 F-C-97	12/07/2017			12/14/2017	Dale L. Simmons	1951639, 1951642
	12/07/2017			12/18/2017	Dale L. Simmons	1951643, 1951644, 1951645
SM 5310 B-00	12/07/2017			12/12/2017	Ping Hua	1951640, 1951646, 1951647, 1951648, 1951649
USGS O-2060-01	12/07/2017	12/11/2017	Hoor Shaik	12/11/2017	Julie Michelle Frank	1951659
	12/07/2017	12/11/2017	Hoor Shaik	12/12/2017	Julie Michelle Frank	1951659