

Chemical Analysis Report

TLH-ROC-2017-11-02-02

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

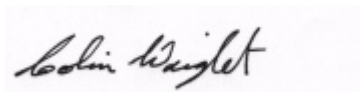
Event Description: **kit C_pesticides**
Request ID: **RQ-2017-11-06-40**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
2600 Blair Stone Rd
Tallahassee, FL 32399
Attn: Michael Eckles

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Certified by: Colin Wright, Program Administrator

Date Certified: 07-DEC-2017 12:04

A handwritten signature in black ink, appearing to read "Colin Wright", is written on a light-colored rectangular 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: SUWANNEE RIVER @ ELLAVILLE

Collection Date/Time: 11/02/2017 12:45

Field ID: G1TLHR0035-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942829	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P334591	
	EPA 300.0 Rev. 2.1	Chloride	7.0		mg Cl/L	P334975	
		Sulfate	15		mg SO4/L	P334977	
	SM 2120 B	Color (true)	330		PCU	P334663	
	SM 2320 B-97	Total Alkalinity	87		mg CaCO3/L	P335163	
	SM 2540 C-97	TDS	200	A	mg/L	P335224	
	SM 2540 D-97	TSS	3	IA	mg/L	P335135	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P335167	
1942831	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P335187	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.90		mg N/L	P335023	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.46		mg N/L	P335332	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P334868	
	SM 5310 B-00	Organic Carbon	29		mg C/L	P335235	
1942833	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.15		mg P/L	P334693	
1942843	EPA 200.7 Rev. 4.4	Calcium	37.6		mg/L	P334816	
		Iron	700		ug/L	P334816	
		Magnesium	5.21		mg/L	P334816	
		Potassium	1.1	I	mg/L	P334816	
		Sodium	5.7		mg/L	P334816	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P334816	
		Arsenic	0.79		ug/L	P334816	
		Cadmium	0.026	I	ug/L	P334816	
		Chromium	0.56	I	ug/L	P334816	
		Copper	0.24	I	ug/L	P334816	
		Lead	0.30		ug/L	P334816	
		Nickel	0.55	I	ug/L	P334816	
		Silver	0.010	U	ug/L	P334816	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: MID CHERRY LAKE

Collection Date/Time: 11/02/2017 13:45

Field ID: G1TLHR0048-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942830	EPA 180.1 Rev. 2.0	Turbidity	0.40		NTU	P334591	
	EPA 300.0 Rev. 2.1	Chloride	6.1		mg Cl/L	P334975	
		Sulfate	1.9		mg SO4/L	P334977	
	SM 2120 B	Color (true)	4.6	I	PCU	P334663	
	SM 2320 B-97	Total Alkalinity	8.8		mg CaCO3/L	P335163	
	SM 2540 C-97	TDS	35		mg/L	P335224	
	SM 2540 D-97	TSS	2	I	mg/L	P335135	
	SM 4500 F-C-97	Fluoride	0.060	I	mg F/L	P335167	
1942832	EPA 350.1 Rev. 2.0	Ammonia-N	0.004	I	mg N/L	P335187	

Field ID: G1TLHR0048-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942832	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.36		mg N/L	P335023	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P335332	
	EPA 365.1 Rev. 2.0	Total-P	0.009		mg P/L	P334868	
	SM 5310 B-00	Organic Carbon	3.8		mg C/L	P335235	
1942834	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P334693	
1942844	EPA 200.7 Rev. 4.4	Calcium	2.78		mg/L	P334816	
		Iron	30	U	ug/L	P334816	
		Magnesium	1.19		mg/L	P334816	
		Potassium	0.30	U	mg/L	P334816	
		Sodium	4.6		mg/L	P334816	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P334816	
		Arsenic	1.31		ug/L	P334816	
		Cadmium	0.020	U	ug/L	P334816	
		Chromium	0.40	U	ug/L	P334816	
		Copper	0.35	I	ug/L	P334816	
		Lead	0.050	U	ug/L	P334816	
		Nickel	0.20	U	ug/L	P334816	
		Silver	0.010	U	ug/L	P334816	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: SUWANNEE RIVER @ ELLAVILLE

Collection Date/Time: 11/02/2017 12:45

Field ID: G1TLHR0035-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942837	EPA 8321B	Glyphosate**	0.10	U	ug/L	P334531	
		Pyraclostrobin**	0.0020	U	ug/L	P334530	
		Sucralose**	0.021	I	ug/L	P334664	
	USGS O-2060-01	2,4-D	0.0020	U	ug/L	P334632	
		Diuron	8.0E-04	U	ug/L	P334632	
		Fenuron	0.0084	I	ug/L	P334632	
		Imidacloprid	0.0056		ug/L	P334632	
		Bentazon	8.6E-04	I	ug/L	P334632	
		Linuron	0.0040	U	ug/L	P334632	
		Acetaminophen**	0.0080	U	ug/L	P334632	
		MCP	0.0020	U	ug/L	P334632	
		Carbamazepine**	4.0E-04	U	ug/L	P334632	
		Triclopyr**	0.0040	U	ug/L	P334632	
		Primidone**	0.0040	U	ug/L	P334632	
		Fluridone**	4.0E-04	U	ug/L	P334632	
	EPA 8270D	Aldrin	4.5	U	ng/L	P335149	
		Alpha-BHC	2.2	U	ng/L	P335149	
		Beta-BHC	4.5	U	ng/L	P335149	
		Delta-BHC	4.5	U	ng/L	P335149	

Field ID: G1TLHR0035-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942839	EPA 8270D	Gamma-BHC	4.5	U	ng/L	P335149	
		Carbophenothion	4.5	U	ng/L	P335149	
		Chlorothalonil	2.2	U	ng/L	P335149	
		Cypermethrin	22	U	ng/L	P335149	
		DDD-p,p'	3.3	U	ng/L	P335149	
		DDE-p,p'	3.3	U	ng/L	P335149	
		DDT-p,p'	3.3	U	ng/L	P335149	
		Dieldrin	4.5	U	ng/L	P335149	
		Endosulfan I	4.5	U	ng/L	P335149	
		Endosulfan II	4.5	U	ng/L	P335149	
		Endosulfan Sulfate	2.2	U	ng/L	P335149	
		Endrin	2.2	U	ng/L	P335149	
		Endrin Aldehyde	2.2	U	ng/L	P335149	
		Heptachlor	1.7	U	ng/L	P335149	
		Heptachlor Epoxide	2.2	U	ng/L	P335149	
		Methoxychlor	4.5	U	ng/L	P335149	
		Mirex	2.2	U	ng/L	P335149	
		Permethrin	11	U	ng/L	P335149	
		Trifluralin	1.1	U	ng/L	P335149	
		Alpha-Chlordane	1.1	U	ng/L	P335149	
		Gamma-Chlordane	1.1	U	ng/L	P335149	
		Endrin Ketone	2.2	U	ng/L	P335149	
		Dicofol	33	U	ng/L	P335149	
	EPA 8276	Chlordane**	2.8	U	ng/L	P335149	
		Toxaphene**	14	U	ng/L	P335149	
1942841	EPA 8270D	Alachlor	0.25	U	ng/L	P334709	
		Ametryn	0.32	U	ng/L	P334709	
		Atrazine	0.25	U	ng/L	P334709	
		Atrazine Desethyl	1.5	U	ng/L	P334709	
		Azinphos Methyl	2.2	U	ng/L	P334709	
		Bromacil	2.0		ng/L	P334709	
		Butylate	0.40	U	ng/L	P334709	
		Chlorpyrifos Ethyl	0.69	I	ng/L	P334709	
		Chlorpyrifos Methyl	0.099	U	ng/L	P334709	
		Demeton	2.0	UJ	ng/L	P334709	RPD
		Diazinon	0.12	U	ng/L	P334709	
		Disulfoton	0.50	UJ	ng/L	P334709	RPD
		EPTC	1.2	U	ng/L	P334709	
		Ethion	0.15	U	ng/L	P334709	
		Ethoprop	0.099	UJ	ng/L	P334709	LCS, RPD
		Fenamiphos	0.25	U	ng/L	P334709	
		Fipronil	0.25	U	ng/L	P334709	
		Fipronil Sulfide	0.15	U	ng/L	P334709	
		Fipronil Sulfone	0.15	U	ng/L	P334709	
		Hexazinone	0.50	U	ng/L	P334709	

Field ID: G1TLHR0035-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942841	EPA 8270D	Malathion	0.35	U	ng/L	P334709	
		Metribuzin	0.20	UJ	ng/L	P334709	LCS
		Mevinphos	0.50	U	ng/L	P334709	
		Molinate	0.30	U	ng/L	P334709	
		Norflurazon	0.50	U	ng/L	P334709	
		Pendimethalin	1.0	I	ng/L	P334709	
		Phorate	0.25	U	ng/L	P334709	
		Prometon	0.89	U	ng/L	P334709	
		Prometryn	0.20	U	ng/L	P334709	
		Simazine	0.50	U	ng/L	P334709	
		Terbufos	0.099	U	ng/L	P334709	
		Terbutylazine	0.42	U	ng/L	P334709	
		Fonofos	0.20	U	ng/L	P334709	
		Metalaxyl	1.1		ng/L	P334709	
		Metolachlor	5.2		ng/L	P334709	
		Acetochlor	0.25	U	ng/L	P334709	
		Cyanazine	0.50	U	ng/L	P334709	MS
		Parathion Ethyl	0.25	U	ng/L	P334709	
		Parathion Methyl	0.25	U	ng/L	P334709	

Ref. Method and Comment:

EPA 8270D: Refer to the narrative for an explanation of QC Codes. MS accuracy for Alachlor not assessed due to high content of this parameter in the sample spiked.

Sample Location: MID CHERRY LAKE

Collection Date/Time: 11/02/2017 13:45

Field ID: G1TLHR0048-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942838	EPA 8321B	Glyphosate**	0.10	U	ug/L	P334531	
		Pyraclostrobin**	0.0020	U	ug/L	P334530	
		Sucralose**	0.010	U	ug/L	P334664	
	USGS O-2060-01	2,4-D	0.045		ug/L	P334632	
		Diuron	0.11		ug/L	P334632	
		Fenuron	0.0080	U	ug/L	P334632	
		Imidacloprid	8.0E-04	U	ug/L	P334632	
		Bentazon	8.0E-04	U	ug/L	P334632	
		Linuron	0.0040	U	ug/L	P334632	
		Acetaminophen**	0.0080	U	ug/L	P334632	
		MCP	0.0020	U	ug/L	P334632	
		Carbamazepine**	4.0E-04	U	ug/L	P334632	
		Triclopyr**	0.0040	U	ug/L	P334632	
		Primidone**	0.0040	U	ug/L	P334632	
		Fluridone**	4.0E-04	U	ug/L	P334632	
	EPA 8270D	Aldrin	4.6	UJ	ng/L	P335149	SUR
		Alpha-BHC	2.3	UJ	ng/L	P335149	SUR
		Beta-BHC	4.6	UJ	ng/L	P335149	SUR
		Delta-BHC	4.6	UJ	ng/L	P335149	SUR

Field ID: G1TLHR0048-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942840	EPA 8270D	Gamma-BHC	4.6	UJ	ng/L	P335149	SUR
		Carbophenothion	4.6	UJ	ng/L	P335149	SUR
		Chlorothalonil	2.3	UJ	ng/L	P335149	SUR
		Cypermethrin	23	UJ	ng/L	P335149	SUR
		DDD-p,p'	3.4	UJ	ng/L	P335149	SUR
		DDE-p,p'	3.4	UJ	ng/L	P335149	SUR
		DDT-p,p'	3.4	UJ	ng/L	P335149	SUR
		Dieldrin	4.6	UJ	ng/L	P335149	SUR
		Endosulfan I	4.6	UJ	ng/L	P335149	SUR
		Endosulfan II	4.6	UJ	ng/L	P335149	SUR
		Endosulfan Sulfate	2.3	UJ	ng/L	P335149	SUR
		Endrin	2.3	UJ	ng/L	P335149	SUR
		Endrin Aldehyde	2.3	UJ	ng/L	P335149	SUR
		Heptachlor	1.7	UJ	ng/L	P335149	SUR
		Heptachlor Epoxide	2.3	UJ	ng/L	P335149	SUR
		Methoxychlor	4.6	UJ	ng/L	P335149	SUR
		Mirex	2.3	UJ	ng/L	P335149	SUR
		Permethrin	11	UJ	ng/L	P335149	SUR
		Trifluralin	1.1	UJ	ng/L	P335149	SUR
		Alpha-Chlordane	1.1	UJ	ng/L	P335149	SUR
		Gamma-Chlordane	1.1	UJ	ng/L	P335149	SUR
		Endrin Ketone	2.3	UJ	ng/L	P335149	SUR
		Dicofol	34	UJ	ng/L	P335149	SUR
	EPA 8276	Chlordane**	2.9	UJ	ng/L	P335149	SUR
		Toxaphene**	14	UJ	ng/L	P335149	SUR
1942842	EPA 8270D	Alachlor	0.26	U	ng/L	P334709	
		Ametryn	0.34	U	ng/L	P334709	
		Atrazine	5.2		ng/L	P334709	
		Atrazine Desethyl	5.3	I	ng/L	P334709	
		Azinphos Methyl	2.3	U	ng/L	P334709	
		Bromacil	0.52	U	ng/L	P334709	
		Butylate	0.42	U	ng/L	P334709	
		Chlorpyrifos Ethyl	0.26	U	ng/L	P334709	
		Chlorpyrifos Methyl	0.10	U	ng/L	P334709	
		Demeton	2.1	UJ	ng/L	P334709	RPD
		Diazinon	0.13	U	ng/L	P334709	
		Disulfoton	0.52	UJ	ng/L	P334709	RPD
		EPTC	1.3	U	ng/L	P334709	
		Ethion	0.16	U	ng/L	P334709	
		Ethoprop	0.10	UJ	ng/L	P334709	LCS, RPD
		Fenamiphos	0.26	U	ng/L	P334709	
		Fipronil	0.26	U	ng/L	P334709	
		Fipronil Sulfide	0.16	U	ng/L	P334709	
		Fipronil Sulfone	0.16	U	ng/L	P334709	
		Hexazinone	0.52	U	ng/L	P334709	

Field ID: G1TLHR0048-2017-04

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1942842	EPA 8270D	Malathion	0.36	U	ng/L	P334709	LCS
		Metribuzin	0.21	UJ	ng/L	P334709	
		Mevinphos	0.52	U	ng/L	P334709	
		Molinate	0.31	U	ng/L	P334709	
		Norflurazon	0.52	U	ng/L	P334709	
		Pendimethalin	1.0	U	ng/L	P334709	
		Phorate	0.26	U	ng/L	P334709	
		Prometon	0.94	U	ng/L	P334709	
		Prometryn	0.21	U	ng/L	P334709	
		Simazine	0.52	U	ng/L	P334709	
		Terbufos	0.10	U	ng/L	P334709	
		Terbuthylazine	0.44	U	ng/L	P334709	
		Fonofos	0.21	U	ng/L	P334709	
		Metalaxyl	0.26	U	ng/L	P334709	
		Metolachlor	1.4		ng/L	P334709	
		Acetochlor	0.26	U	ng/L	P334709	
		Cyanazine	0.52	U	ng/L	P334709	MS
		Parathion Ethyl	0.26	U	ng/L	P334709	
		Parathion Methyl	0.26	U	ng/L	P334709	

Ref. Method and Comment:

EPA 8270D: Reported result qualified with J due to surrogates below control limits; the sample was subsequently re-analyzed (after expiration) with acceptable surrogate recoveries and the same analytical results were obtained.

EPA 8276: Refer to the narrative for an explanation of QC Codes. Reported results qualified with J due to surrogate below control limits; the sample was subsequently re-extracted (after expiration) with acceptable surrogate recovery and the same analytical results were obtained.

EPA 8270D: MS accuracy for Alachlor not assessed due to high content of this parameter in the sample spiked. 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: P334591

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P334816

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: P334816

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: P334816

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: P334975

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335187

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335023

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335332

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334693

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8270D
Batch ID: P334709

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
Metaxyl	0.25	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8270D
Batch ID: P335149

Component	Result	Code	Units
Aldrin	4.0	U	ng/L
Alpha-BHC	2.0	U	ng/L
Alpha-Chlordane	1.0	U	ng/L
Beta-BHC	4.0	U	ng/L
Carbophenothion	4.0	U	ng/L
Chlorothalonil	2.0	U	ng/L
Cypermethrin	20	U	ng/L
DDD-p,p'	3.0	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P335149

Component	Result	Code	Units
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: P335149

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

Reference Method: EPA 8321B
Batch ID: P334530

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: EPA 8321B
Batch ID: P334531

Component	Result	Code	Units
Glyphosate	0.10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P334664

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P334663

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Quality Assurance Report Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P335163

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

Reference Method: SM 2540 C-97
Batch ID: P335224

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P335135

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P335167

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P335235

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

Reference Method: USGS O-2060-01
Batch ID: P334632

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
MCP	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: P334816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	102		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P334816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	105		P	85 - 115
Magnesium	102		P	85 - 115
Potassium	99.5		P	85 - 115
Sodium	100		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334816

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	104		P	85 - 115
Cadmium	107		P	85 - 115
Chromium	104		P	85 - 115
Copper	98.3		P	85 - 115
Lead	95.7		P	85 - 115
Nickel	101		P	85 - 115
Silver	97.2		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334975

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	98.7		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335023

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335332

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	109		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334868

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P334868

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P334693

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

Reference Method: EPA 8270D
 Batch ID: P334709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	80.9	83.6	P/P	78 - 118
Alachlor	81.9	84.3	P/P	77 - 119
Ametryn	71.1	70.6	P/P	61 - 136
Atrazine	90.7	98.4	P/P	73 - 120
Atrazine Desethyl	119	113	P/P	16 - 122
Azinphos Methyl	124	120	P/P	69 - 186
Bromacil	84.5	77.7	P/P	40 - 125
Butylate	44.7	47.7	P/P	32 - 87.0
Chlorpyrifos Ethyl	92.2	91.7	P/P	53 - 110
Chlorpyrifos Methyl	101	93.6	P/P	31 - 119
Cyanazine	212	190	P/P	36 - 224
Demeton	97.2	53.3	P/P	39 - 122
Diazinon	88.2	85.5	P/P	75 - 119
Disulfoton	106	76.4	P/P	42 - 139
EPTC	41.0	45.2	P/P	33 - 96.0
Ethion	109	84.7	P/P	63 - 127
Ethoprop	136	87.7	F/P	65 - 107
Fenamiphos	96.2	93.3	P/P	64 - 137
Fipronil	85.4	79.5	P/P	60 - 126
Fipronil Sulfide	93.3	81.8	P/P	58 - 124
Fipronil Sulfone	89.9	76.0	P/P	57 - 126
Fonofos	102	90.0	P/P	65 - 111
Hexazinone	87.9	85.9	P/P	46 - 151
Malathion	109	101	P/P	68 - 132
Metaxyl	84.2	79.0	P/P	51 - 132
Metolachlor	84.3	85.2	P/P	78 - 119
Metribuzin	168	163	F/F	58 - 148
Mevinphos	83.1	73.6	P/P	34 - 128
Molinate	50.5	54.0	P/P	44 - 101
Norflurazon	78.8	78.3	P/P	63 - 129
Parathion Ethyl	88.4	91.2	P/P	80 - 109
Parathion Methyl	99.8	98.4	P/P	74 - 125
Pendimethalin	79.7	86.9	P/P	48 - 134
Phorate	92.4	78.3	P/P	52 - 119
Prometon	82.6	78.9	P/P	69 - 124
Prometryn	83.5	79.7	P/P	66 - 124
Simazine	97.7	97.0	P/P	61 - 134
Terbufos	107	89.6	P/P	58 - 115
Terbutylazine	94.5	91.9	P/P	77 - 113

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D

Batch ID: P335149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	73.4	61.9	P/P	26 - 88.0
Alpha-BHC	82.7	84.2	P/P	63 - 114
Alpha-Chlordane	89.4	85.2	P/P	56 - 117
Beta-BHC	90.5	93.2	P/P	57 - 138
Carbophenothion	92.5	90.1	P/P	36 - 148
Chlorothalonil	93.8	95.3	P/P	26 - 173
Cypermethrin	105	91.0	P/P	42 - 159
DDD-p,p'	100	92.1	P/P	62 - 126
DDE-p,p'	91.0	86.9	P/P	53 - 115
DDT-p,p'	88.9	86.3	P/P	54 - 117
Delta-BHC	85.3	89.3	P/P	68 - 158
Dicofol	76.3	80.0	P/P	25 - 114
Dieldrin	89.3	85.8	P/P	59 - 126
Endosulfan I	90.8	88.4	P/P	62 - 138
Endosulfan II	106	97.5	P/P	61 - 150
Endosulfan Sulfate	95.9	86.9	P/P	63 - 132
Endrin	89.6	85.3	P/P	49 - 148
Endrin Aldehyde	111	107	P/P	50 - 144
Endrin Ketone	97.8	91.7	P/P	66 - 122
Gamma-BHC	83.8	85.9	P/P	60 - 137
Gamma-Chlordane	86.8	82.1	P/P	54 - 113
Heptachlor	79.1	77.5	P/P	43 - 104
Heptachlor Epoxide	89.3	86.4	P/P	64 - 118
Methoxychlor	112	110	P/P	63 - 129
Mirex	80.5	74.7	P/P	40 - 96.0
Permethrin	89.9	83.2	P/P	51 - 123
Trifluralin	80.7	79.3	P/P	35 - 187

Reference Method: EPA 8276

Batch ID: P335149

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	83.1	76.8	P/P	48 - 121
Toxaphene	121	112	P/P	43 - 135

Reference Method: EPA 8321B

Batch ID: P334530

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	79.2		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P334531

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	89.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P334664

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	102		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 2320 B-97
Batch ID: P335163

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	107		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P335167

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P335235

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

Reference Method: USGS O-2060-01
Batch ID: P334632

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	52.5		P	40 - 150
Acetaminophen	102		P	30 - 150
Bentazon	48.3		P	30 - 150
Carbamazepine	119		P	40 - 150
Diuron	114		P	40 - 150
Fenuron	114		P	40 - 150
Fluridone	111		P	40 - 150
Imidacloprid	114		P	40 - 160
Linuron	106		P	40 - 150
MCP	57.5		P	40 - 150
Primidone	115		P	40 - 150
Triclopyr	53.3		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P334816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941925	Calcium	101		P	80 - 120
1941925	Iron	105		P	80 - 120
1941925	Magnesium	101		P	80 - 120
1941925	Potassium	99.9		P	80 - 120
1941925	Sodium	103		P	80 - 120
1941925	Zinc	100		P	80 - 120
1942789	Iron	104	103	P/P	80 - 120
1942789	Magnesium	100		P	80 - 120
1942789	Potassium	99.1	100	P/P	80 - 120
1942789	Sodium	101		P	80 - 120
1942789	Zinc	97.3	96.7	P/P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334816

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941925	Arsenic	104		P	80 - 120
1941925	Cadmium	107		P	80 - 120
1941925	Chromium	102		P	80 - 120
1941925	Copper	96.4		P	80 - 120
1941925	Lead	95.5		P	80 - 120
1941925	Nickel	97.4		P	80 - 120
1941925	Silver	96.8		P	80 - 120
1942789	Arsenic	106	99.0	P/P	80 - 120
1942789	Cadmium	107	100	P/P	80 - 120
1942789	Chromium	103	96.9	P/P	80 - 120
1942789	Copper	94.0	88.0	P/P	80 - 120
1942789	Lead	96.8	89.7	P/P	80 - 120
1942789	Nickel	98.3	91.2	P/P	80 - 120
1942789	Silver	97.4	90.9	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942830	Chloride	98.3		P	90 - 110
1942968	Chloride	93.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942830	Sulfate	98.2		P	90 - 110
1942968	Sulfate	94.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942555	Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335023

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942555	Kjeldahl Nitrogen	105	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335332

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942787	NO2NO3-N	110	110	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334868

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942782	Total-P	98.6	98.8	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334693

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942834	O-Phosphate-P	99.4	99.9	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P334709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941554	Acetochlor	86.3	90.1	P/P	74 - 123
1941554	Ametryn	70.4	75.0	P/P	56 - 149
1941554	Atrazine	97.2	98.5	P/P	73 - 124
1941554	Atrazine Desethyl	79.1	65.6	P/P	12 - 103
1941554	Azinphos Methyl	106	110	P/P	60 - 202
1941554	Bromacil	71.9	87.1	P/P	42 - 133
1941554	Butylate	48.3	59.4	P/P	10 - 85.0
1941554	Chlorpyrifos Ethyl	81.4	85.7	P/P	53 - 113
1941554	Chlorpyrifos Methyl	80.8	82.3	P/P	40 - 115
1941554	Cyanazine	268	211	F/F	22 - 210
1941554	Demeton	62.5	43.8	P/P	17 - 149
1941554	Diazinon	88.2	86.3	P/P	72 - 124
1941554	Disulfoton	77.6	76.2	P/P	43 - 139
1941554	EPTC	39.8	50.2	P/P	10 - 86.0
1941554	Ethion	89.9	95.4	P/P	65 - 131
1941554	Ethoprop	90.5	79.7	P/P	59 - 110
1941554	Fenamiphos	79.3	91.6	P/P	57 - 138
1941554	Fipronil	78.8	90.6	P/P	40 - 130
1941554	Fipronil Sulfide	68.6	81.5	P/P	36 - 128
1941554	Fipronil Sulfone	68.0	80.9	P/P	16 - 145
1941554	Fonofos	81.0	75.6	P/P	60 - 112
1941554	Hexazinone	110	124	P/P	69 - 142
1941554	Malathion	86.6	95.9	P/P	68 - 132
1941554	Metalaxyl	83.8	98.3	P/P	66 - 118
1941554	Metolachlor	83.5	98.3	P/P	71 - 124
1941554	Metribuzin	117	132	P/P	61 - 140
1941554	Mevinphos	65.7	69.8	P/P	38 - 130
1941554	Molinate	62.6	62.6	P/P	23 - 99.0
1941554	Norflurazon	82.6	91.7	P/P	39 - 139
1941554	Parathion Ethyl	92.1	91.0	P/P	75 - 111
1941554	Parathion Methyl	95.6	94.4	P/P	64 - 130
1941554	Pendimethalin	93.2	92.7	P/P	26 - 173
1941554	Phorate	58.3	67.8	P/P	43 - 127
1941554	Prometon	87.4	92.5	P/P	50 - 144
1941554	Prometryn	74.1	91.3	P/P	69 - 126
1941554	Simazine	88.3	94.1	P/P	51 - 152
1941554	Terbufos	83.3	78.7	P/P	54 - 125
1941554	Terbuthylazine	90.8	94.0	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942492	Aldrin	69.3	75.4	P/P	22 - 97.0
1942492	Alpha-BHC	89.7	94.7	P/P	43 - 132
1942492	Alpha-Chlordane	92.7	91.5	P/P	36 - 126

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942492	Beta-BHC	86.3	92.0	P/P	41 - 150
1942492	Carbophenothion	125	129	P/P	13 - 196
1942492	Chlorothalonil	112	127	P/P	10 - 266
1942492	Cypermethrin	105	117	P/P	37 - 161
1942492	DDD-p,p'	97.1	105	P/P	44 - 131
1942492	DDE-p,p'	87.4	85.1	P/P	32 - 127
1942492	DDT-p,p'	98.3	97.2	P/P	45 - 116
1942492	Delta-BHC	101	95.3	P/P	50 - 201
1942492	Dicofol	70.4	71.1	P/P	10 - 100
1942492	Dieldrin	93.5	96.3	P/P	39 - 142
1942492	Endosulfan I	94.8	103	P/P	51 - 139
1942492	Endosulfan II	98.5	109	P/P	49 - 155
1942492	Endosulfan Sulfate	90.2	97.8	P/P	54 - 136
1942492	Endrin	94.1	97.7	P/P	38 - 141
1942492	Endrin Aldehyde	117	115	P/P	14 - 152
1942492	Endrin Ketone	90.8	101	P/P	60 - 128
1942492	Gamma-BHC	88.8	89.0	P/P	48 - 157
1942492	Gamma-Chlordane	90.4	88.0	P/P	35 - 123
1942492	Heptachlor	86.0	79.9	P/P	25 - 112
1942492	Heptachlor Epoxide	91.2	92.5	P/P	48 - 125
1942492	Methoxychlor	121	126	P/P	52 - 127
1942492	Mirex	87.3	86.9	P/P	25 - 108
1942492	Permethrin	97.3	97.4	P/P	46 - 133
1942492	Trifluralin	93.0	88.9	P/P	29 - 254

Reference Method: EPA 8276
Batch ID: P335149

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941868	Chlordane	71.2	76.3	P/P	44 - 134
1941868	Toxaphene	96.0	100	P/P	36 - 147

Reference Method: EPA 8321B
Batch ID: P334530

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941867	Pyraclostrobin	83.6	85.6	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P334531

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1941867	Glyphosate	96.6	93.4	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P334664

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942837	Sucralose	71.7	69.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
 Batch ID: P335167

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942957	Fluoride	99.0	99.0	P/P	91 - 105

Reference Method: SM 5310 B-00
 Batch ID: P335235

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1942482	Organic Carbon	96.6		P	85 - 115

Reference Method: USGS O-2060-01
 Batch ID: P334632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1943517	Acetaminophen	128	104	P/P	30 - 150
1943517	Carbamazepine	76.8	73.4	P/P	40 - 150
1943517	Diuron	85.3	74.9	P/P	40 - 150
1943517	Fenuron	91.4	86.3	P/P	40 - 150
1943517	Fluridone	95.4	86.3	P/P	40 - 150
1943517	Imidacloprid	128	123	P/P	40 - 160
1943517	Linuron	95.9	91.9	P/P	40 - 150
1943517	Primidone	98.6	89.2	P/P	40 - 150
1943612	2,4-D	103	98.1	P/P	40 - 150
1943612	Bentazon	54.5	52.5	P/P	30 - 150
1943612	MCP	106	90.8	P/P	40 - 150
1943612	Triclopyr	100	82.9	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
 Batch ID: P334591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942786	Turbidity	0.0	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
 Batch ID: P334816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942789	Calcium	0.811	Spike	P	0 - 20
1942789	Iron	0.648	Spike	P	0 - 20
1942789	Magnesium	0.810	Spike	P	0 - 20
1942789	Potassium	0.854	Spike	P	0 - 20
1942789	Sodium	1.42	Spike	P	0 - 20
1942789	Zinc	0.523	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P334816

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942789	Arsenic	6.58	Spike	P	0 - 20
1942789	Cadmium	6.74	Spike	P	0 - 20
1942789	Chromium	5.61	Spike	P	0 - 20
1942789	Copper	6.47	Spike	P	0 - 20
1942789	Lead	7.56	Spike	P	0 - 20
1942789	Nickel	7.38	Spike	P	0 - 20
1942789	Silver	6.82	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942968	Chloride	0.802	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P334977

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942968	Sulfate	1.77	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P335187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942555	Ammonia-N	0.853	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P335023

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942555	Kjeldahl Nitrogen	3.95	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P335332

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942787	NO2NO3-N	0.277	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P334868

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942782	Total-P	0.160	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P334693

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942834	O-Phosphate-P	0.502	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P334709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941554	Acetochlor	4.31	Spike	P	0 - 30
1941554	Alachlor	1.29	Spike	P	0 - 30
1941554	Ametryn	6.34	Spike	P	0 - 30
1941554	Atrazine	1.15	Spike	P	0 - 30
1941554	Atrazine Desethyl	16.0	Spike	P	0 - 30
1941554	Azinphos Methyl	3.40	Spike	P	0 - 30
1941554	Bromacil	19.2	Spike	P	0 - 30
1941554	Butylate	20.6	Spike	P	0 - 30
1941554	Chlorpyrifos Ethyl	5.16	Spike	P	0 - 30
1941554	Chlorpyrifos Methyl	1.83	Spike	P	0 - 30
1941554	Cyanazine	23.7	Spike	P	0 - 30
1941554	Demeton	35.1	Spike	F	0 - 30
1941554	Diazinon	2.21	Spike	P	0 - 30
1941554	Disulfoton	1.80	Spike	P	0 - 30
1941554	EPTC	23.1	Spike	P	0 - 30
1941554	Ethion	5.87	Spike	P	0 - 30
1941554	Ethoprop	12.7	Spike	P	0 - 30
1941554	Fenamiphos	14.5	Spike	P	0 - 30
1941554	Fipronil	13.9	Spike	P	0 - 30
1941554	Fipronil Sulfide	17.2	Spike	P	0 - 30
1941554	Fipronil Sulfone	17.4	Spike	P	0 - 30
1941554	Fonofos	6.90	Spike	P	0 - 30
1941554	Hexazinone	8.78	Spike	P	0 - 30
1941554	Malathion	10.2	Spike	P	0 - 30
1941554	Metalaxyl	16.0	Spike	P	0 - 30
1941554	Metolachlor	11.5	Spike	P	0 - 30
1941554	Metribuzin	11.3	Spike	P	0 - 30
1941554	Mevinphos	6.06	Spike	P	0 - 30
1941554	Molinate	0.0110	Spike	P	0 - 30
1941554	Norflurazon	10.5	Spike	P	0 - 30
1941554	Parathion Ethyl	1.18	Spike	P	0 - 30
1941554	Parathion Methyl	1.30	Spike	P	0 - 30
1941554	Pendimethalin	0.495	Spike	P	0 - 30
1941554	Phorate	15.1	Spike	P	0 - 30
1941554	Prometon	5.65	Spike	P	0 - 30
1941554	Prometryn	20.8	Spike	P	0 - 30
1941554	Simazine	6.39	Spike	P	0 - 30
1941554	Terbufos	5.62	Spike	P	0 - 30
1941554	Terbutylazine	3.54	Spike	P	0 - 30
LFB	Acetochlor	3.35	LCS	P	0 - 30
LFB	Alachlor	2.85	LCS	P	0 - 30
LFB	Ametryn	0.612	LCS	P	0 - 30
LFB	Atrazine	8.19	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.55	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P334709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Azinphos Methyl	3.70	LCS	P	0 - 30
LFB	Bromacil	8.31	LCS	P	0 - 30
LFB	Butylate	6.57	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	0.468	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	7.84	LCS	P	0 - 30
LFB	Cyanazine	10.8	LCS	P	0 - 30
LFB	Demeton	58.4	LCS	F	0 - 30
LFB	Diazinon	3.05	LCS	P	0 - 30
LFB	Disulfoton	32.4	LCS	F	0 - 30
LFB	EPTC	9.76	LCS	P	0 - 30
LFB	Ethion	25.3	LCS	P	0 - 30
LFB	Ethoprop	43.0	LCS	F	0 - 30
LFB	Fenamiphos	3.00	LCS	P	0 - 30
LFB	Fipronil	7.10	LCS	P	0 - 30
LFB	Fipronil Sulfide	13.1	LCS	P	0 - 30
LFB	Fipronil Sulfone	16.8	LCS	P	0 - 30
LFB	Fonofos	12.8	LCS	P	0 - 30
LFB	Hexazinone	2.28	LCS	P	0 - 30
LFB	Malathion	7.77	LCS	P	0 - 30
LFB	Metalaxyl	6.45	LCS	P	0 - 30
LFB	Metolachlor	0.967	LCS	P	0 - 30
LFB	Metribuzin	3.31	LCS	P	0 - 30
LFB	Mevinphos	12.1	LCS	P	0 - 30
LFB	Molinate	6.54	LCS	P	0 - 30
LFB	Norflurazon	0.681	LCS	P	0 - 30
LFB	Parathion Ethyl	3.07	LCS	P	0 - 30
LFB	Parathion Methyl	1.43	LCS	P	0 - 30
LFB	Pendimethalin	8.66	LCS	P	0 - 30
LFB	Phorate	16.6	LCS	P	0 - 30
LFB	Prometon	4.53	LCS	P	0 - 30
LFB	Prometryn	4.69	LCS	P	0 - 30
LFB	Simazine	0.672	LCS	P	0 - 30
LFB	Terbufos	17.7	LCS	P	0 - 30
LFB	Terbuthylazine	2.79	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942492	Aldrin	8.49	Spike	P	0 - 30
1942492	Alpha-BHC	5.48	Spike	P	0 - 30
1942492	Alpha-Chlordane	1.30	Spike	P	0 - 30
1942492	Beta-BHC	6.46	Spike	P	0 - 30
1942492	Carbophenothion	2.94	Spike	P	0 - 30
1942492	Chlorothalonil	12.6	Spike	P	0 - 30
1942492	Cypermethrin	11.3	Spike	P	0 - 30
1942492	DDD-p,p'	8.24	Spike	P	0 - 30
1942492	DDE-p,p'	2.60	Spike	P	0 - 30
1942492	DDT-p,p'	1.18	Spike	P	0 - 30
1942492	Delta-BHC	5.85	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942492	Dicofol	0.997	Spike	P	0 - 30
1942492	Dieldrin	2.94	Spike	P	0 - 30
1942492	Endosulfan I	8.61	Spike	P	0 - 30
1942492	Endosulfan II	9.79	Spike	P	0 - 30
1942492	Endosulfan Sulfate	8.15	Spike	P	0 - 30
1942492	Endrin	3.74	Spike	P	0 - 30
1942492	Endrin Aldehyde	1.59	Spike	P	0 - 30
1942492	Endrin Ketone	10.7	Spike	P	0 - 30
1942492	Gamma-BHC	0.233	Spike	P	0 - 30
1942492	Gamma-Chlordane	2.71	Spike	P	0 - 30
1942492	Heptachlor	7.30	Spike	P	0 - 30
1942492	Heptachlor Epoxide	1.34	Spike	P	0 - 30
1942492	Methoxychlor	3.84	Spike	P	0 - 30
1942492	Mirex	0.381	Spike	P	0 - 30
1942492	Permethrin	0.192	Spike	P	0 - 30
1942492	Trifluralin	4.49	Spike	P	0 - 30
LFB	Aldrin	17.0	LCS	P	0 - 30
LFB	Alpha-BHC	1.86	LCS	P	0 - 30
LFB	Alpha-Chlordane	4.74	LCS	P	0 - 30
LFB	Beta-BHC	2.97	LCS	P	0 - 30
LFB	Carbophenothion	2.65	LCS	P	0 - 30
LFB	Chlorothalonil	1.57	LCS	P	0 - 30
LFB	Cypermethrin	14.0	LCS	P	0 - 30
LFB	DDD-p,p'	8.73	LCS	P	0 - 30
LFB	DDE-p,p'	4.61	LCS	P	0 - 30
LFB	DDT-p,p'	3.01	LCS	P	0 - 30
LFB	Delta-BHC	4.56	LCS	P	0 - 30
LFB	Dicofol	4.73	LCS	P	0 - 30
LFB	Dieldrin	4.01	LCS	P	0 - 30
LFB	Endosulfan I	2.69	LCS	P	0 - 30
LFB	Endosulfan II	8.03	LCS	P	0 - 30
LFB	Endosulfan Sulfate	9.88	LCS	P	0 - 30
LFB	Endrin	4.82	LCS	P	0 - 30
LFB	Endrin Aldehyde	3.96	LCS	P	0 - 30
LFB	Endrin Ketone	6.43	LCS	P	0 - 30
LFB	Gamma-BHC	2.54	LCS	P	0 - 30
LFB	Gamma-Chlordane	5.56	LCS	P	0 - 30
LFB	Heptachlor	2.11	LCS	P	0 - 30
LFB	Heptachlor Epoxide	3.32	LCS	P	0 - 30
LFB	Methoxychlor	1.00	LCS	P	0 - 30
LFB	Mirex	7.45	LCS	P	0 - 30
LFB	Permethrin	7.74	LCS	P	0 - 30
LFB	Trifluralin	1.77	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941868	Chlordane	6.86	Spike	P	0 - 30
1941868	Toxaphene	4.33	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8276
Batch ID: P335149

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	7.80	LCS	P	0 - 30
LFB	Toxaphene	7.55	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334530

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941867	Pyraclostrobin	2.48	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334531

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1941867	Glyphosate	3.41	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P334664

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942837	Sucralose	3.79	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P334663

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942861	Color (true)	2.71	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P335163

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942957	Total Alkalinity	1.14	Sample	P	0 - 4.8

Reference Method: SM 2540 C-97
Batch ID: P335224

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942829	TDS	3.00	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P335167

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942957	Fluoride	0.0	Spike	P	0 - 3.0

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P335235

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1942482	Organic Carbon	0.353	Spike	P	0 - 20

Reference Method: USGS O-2060-01
Batch ID: P334632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1943517	Acetaminophen	20.8	Spike	P	0 - 30
1943517	Carbamazepine	4.53	Spike	P	0 - 30
1943517	Diuron	12.7	Spike	P	0 - 30
1943517	Fenuron	5.70	Spike	P	0 - 30
1943517	Fluridone	7.40	Spike	P	0 - 30
1943517	Imidacloprid	3.67	Spike	P	0 - 30
1943517	Linuron	4.24	Spike	P	0 - 30
1943517	Primidone	10.1	Spike	P	0 - 30
1943612	2,4-D	5.01	Spike	P	0 - 30
1943612	Bentazon	3.76	Spike	P	0 - 30
1943612	MCP	15.2	Spike	P	0 - 30
1943612	Triclopyr	18.9	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: 1942837
Field Sample ID: G1TLHR0035-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	60.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	60.4	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	92.1	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Diuron-d6	71.6	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Diuron-d6	71.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.0	P	40 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	61.7	P	40 - 160
EPA 8321B	Sucralose-d6	61.7	P	40 - 160
USGS O-2060-01	2,4-D-d3	81.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	60.4	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	92.1	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Diuron-d6	71.6	P	30 - 160
USGS O-2060-01	Primidone-d5	104	P	30 - 160
USGS O-2060-01	Sucralose-d6	61.7	P	40 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 1942838

Field Sample ID: G1TLHR0048-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	129	P	30 - 160
EPA 8321B	Carbamazepine-d10	129	P	30 - 160
EPA 8321B	Diuron-d6	96.9	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Diuron-d6	96.9	P	30 - 160
EPA 8321B	Diuron-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	88.9	P	40 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Primidone-d5	119	P	30 - 160
EPA 8321B	Sucralose-d6	84.9	P	40 - 160
EPA 8321B	Sucralose-d6	84.9	P	40 - 160
USGS O-2060-01	2,4-D-d3	61.6	P	30 - 160
USGS O-2060-01	Acetaminophen-d4	104	P	30 - 160
USGS O-2060-01	Carbamazepine-d10	129	P	30 - 160
USGS O-2060-01	Diuron-d6	96.9	P	30 - 160
USGS O-2060-01	Diuron-d6	101	P	30 - 160
USGS O-2060-01	Primidone-d5	119	P	30 - 160
USGS O-2060-01	Sucralose-d6	84.9	P	40 - 160

Lab Sample ID: 1942839

Field Sample ID: G1TLHR0035-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	51.4	P	39 - 118
EPA 8270D	Tetrachloro-m-xylene	33.2	P	32 - 103
EPA 8276	Decachlorobiphenyl	45.3	P	31 - 100

Lab Sample ID: 1942840

Field Sample ID: G1TLHR0048-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	15.3	F	39 - 118
EPA 8270D	Tetrachloro-m-xylene	4.55	F	32 - 103
EPA 8276	Decachlorobiphenyl	14.7	F	31 - 100

Lab Sample ID: 1942841

Field Sample ID: G1TLHR0035-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	91.7	P	53 - 135
EPA 8270D	Simazine-d10	76.1	P	71 - 126

Lab Sample ID: 1942842

Field Sample ID: G1TLHR0048-2017-04

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	88.2	P	53 - 135
EPA 8270D	Simazine-d10	79.0	P	71 - 126

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A80005

Included Lab Sample IDs: 1942829, 1942830

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

Reference Method: SM 2120 B

Run ID: A80032

Included Lab Sample IDs: 1942829, 1942830

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A80040

Included Lab Sample IDs: 1942833, 1942834

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

Reference Method: EPA 8321B

Run ID: A80066

Included Lab Sample IDs: 1942837, 1942838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	95.2	94.7	P/P	70 - 160

Reference Method: EPA 8321B

Run ID: A80072

Included Lab Sample IDs: 1942837, 1942838

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A80134

Included Lab Sample IDs: 1942829, 1942830

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	100	P/P	90 - 110
Chloride	100	99.5	P/P	90 - 110
Sulfate	100	100	P/P	90 - 110
Sulfate	100	98.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A80140

Included Lab Sample IDs: 1942843, 1942844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	106	108	P/P	90 - 110
Cadmium	107	106	P/P	90 - 110
Chromium	106	107	P/P	90 - 110
Copper	103	105	P/P	90 - 110
Lead	97.9	98.8	P/P	90 - 110
Nickel	103	106	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A80140
Included Lab Sample IDs: 1942843, 1942844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Silver	98.3	97.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A80141
Included Lab Sample IDs: 1942843, 1942844

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	101	100	P/P	90 - 110
Iron	100	100	P/P	90 - 110
Magnesium	99.7	99.9	P/P	90 - 110
Potassium	99.0	99.2	P/P	90 - 110
Sodium	99.7	98.8	P/P	90 - 110
Zinc	99.3	99.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A80142
Included Lab Sample IDs: 1942831

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A80180
Included Lab Sample IDs: 1942832

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A80183
Included Lab Sample IDs: 1942843

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

Reference Method: SM 2320 B-97
Run ID: A80224
Included Lab Sample IDs: 1942829, 1942830

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	102	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Run ID: A80224
Included Lab Sample IDs: 1942829, 1942830

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

Quality Assurance Report Calibration Verification

Reference Method: USGS O-2060-01

Run ID: A80228

Included Lab Sample IDs: 1942837, 1942838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	105	112	P/P	50 - 150
Bentazon	94.8	91.7	P/P	50 - 150
MCPP	125	119	P/P	50 - 150
Triclopyr	110	101	P/P	50 - 150

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A80229

Included Lab Sample IDs: 1942831, 1942832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	103	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A80249

Included Lab Sample IDs: 1942831, 1942832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	106	106	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A80250

Included Lab Sample IDs: 1942831, 1942832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.9	95.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A80274

Included Lab Sample IDs: 1942837, 1942838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	102	129	P/P	60 - 150

Reference Method: USGS O-2060-01

Run ID: A80279

Included Lab Sample IDs: 1942837, 1942838

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	111	124	P/P	60 - 150
Carbamazepine	115	116	P/P	60 - 150
Diuron	120	129	P/P	60 - 150
Fenuron	112	111	P/P	60 - 150
Fluridone	110	110	P/P	60 - 160
Imidacloprid	102	104	P/P	60 - 150
Linuron	106	118	P/P	60 - 150
Primidone	100	112	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A80291

Included Lab Sample IDs: 1942831, 1942832

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.4	94.3	P/P	90 - 110

Reference Method: EPA 8276

Run ID: A80441

Included Lab Sample IDs: 1942839, 1942840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	112		P	80 - 120
Chlordane	89.2		P	80 - 120
Toxaphene	119		P	80 - 120
Toxaphene	99.7		P	80 - 120

Reference Method: EPA 8270D

Run ID: A80461

Included Lab Sample IDs: 1942840

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	100		P	80 - 120
Alpha-BHC	100		P	80 - 120
Alpha-Chlordane	101		P	80 - 120
Beta-BHC	103		P	80 - 120
Carbophenothion	108		P	80 - 120
Chlorothalonil	80.1		P	80 - 120
Cypermethrin	96.2		P	80 - 120
DDD-p,p'	95.8		P	80 - 120
DDE-p,p'	103		P	80 - 120
DDT-p,p'	107		P	80 - 120
Delta-BHC	94.6		P	80 - 120
Dicofol	118		P	80 - 120
Dieldrin	100		P	80 - 120
Endosulfan I	97.5		P	80 - 120
Endosulfan II	102		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	98.1		P	80 - 120
Endrin Aldehyde	94.8		P	80 - 120
Endrin Ketone	101		P	80 - 120
Gamma-BHC	99.0		P	80 - 120
Gamma-Chlordane	101		P	80 - 120
Heptachlor	97.5		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Methoxychlor	106		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	94.7		P	80 - 120
Trifluralin	99.0		P	80 - 120

Reference Method: EPA 8270D

Run ID: A80465

Included Lab Sample IDs: 1942839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	99.0		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80465

Included Lab Sample IDs: 1942839

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Alpha-BHC	99.2		P	80 - 120
Alpha-Chlordane	100		P	80 - 120
Beta-BHC	98.4		P	80 - 120
Carbophenothion	95.4		P	80 - 120
Chlorothalonil	92.8		P	80 - 120
Cypermethrin	101		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	102		P	80 - 120
DDT-p,p'	109		P	80 - 120
Delta-BHC	101		P	80 - 120
Dicofol	91.2		P	80 - 120
Dieldrin	101		P	80 - 120
Endosulfan I	96.2		P	80 - 120
Endosulfan II	106		P	80 - 120
Endosulfan Sulfate	101		P	80 - 120
Endrin	101		P	80 - 120
Endrin Aldehyde	99.4		P	80 - 120
Endrin Ketone	99.0		P	80 - 120
Gamma-BHC	110		P	80 - 120
Gamma-Chlordane	100		P	80 - 120
Heptachlor	96.0		P	80 - 120
Heptachlor Epoxide	101		P	80 - 120
Methoxychlor	107		P	80 - 120
Mirex	100		P	80 - 120
Permethrin	92.7		P	80 - 120
Trifluralin	99.5		P	80 - 120

Reference Method: EPA 8270D

Run ID: A80469

Included Lab Sample IDs: 1942841, 1942842

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	99.0		P	80 - 120
Alachlor	100		P	80 - 120
Ametryn	98.5		P	80 - 120
Atrazine	96.7		P	80 - 120
Atrazine Desethyl	93.4		P	80 - 120
Azinphos Methyl	95.7		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	99.5		P	80 - 120
Chlorpyrifos Ethyl	100		P	80 - 120
Chlorpyrifos Methyl	98.4		P	80 - 120
Cyanazine	100		P	80 - 120
Demeton	101		P	80 - 120
Diazinon	96.3		P	80 - 120
Disulfoton	96.6		P	80 - 120
EPTC	101		P	80 - 120
Ethion	97.8		P	80 - 120
Ethoprop	97.8		P	80 - 120
Fenamiphos	95.2		P	80 - 120
Fipronil	99.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A80469

Included Lab Sample IDs: 1942841, 1942842

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fipronil Sulfide	97.7		P	80 - 120
Fipronil Sulfone	98.7		P	80 - 120
Fonofos	99.1		P	80 - 120
Hexazinone	96.9		P	80 - 120
Malathion	99.5		P	80 - 120
Metalaxyl	103		P	80 - 120
Metolachlor	105		P	80 - 120
Metribuzin	93.4		P	80 - 120
Mevinphos	98.2		P	80 - 120
Molinate	97.7		P	80 - 120
Norflurazon	99.2		P	80 - 120
Parathion Ethyl	91.2		P	80 - 120
Parathion Methyl	93.1		P	80 - 120
Pendimethalin	88.2		P	80 - 120
Phorate	96.9		P	80 - 120
Prometon	98.9		P	80 - 120
Prometryn	101		P	80 - 120
Simazine	95.2		P	80 - 120
Terbufos	95.4		P	80 - 120
Terbutylazine	98.1		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						0.0	
EPA 200.7 Rev. 4.4	Calcium	102	101					0.811
	Iron	105	105	104	103			0.648
	Magnesium	102	101	100				0.810
	Potassium	99.5	99.9	99.1	100			0.854
	Sodium	100	103	101				1.42
	Zinc	101	100	97.3	96.7			0.523
EPA 200.8 Rev. 5.4	Arsenic	104	104	106	99.0			6.58
	Cadmium	107	107	107	100			6.74
	Chromium	104	102	103	96.9			5.61
	Copper	98.3	96.4	94.0	88.0			6.47
	Lead	95.7	95.5	96.8	89.7			7.56
	Nickel	101	97.4	98.3	91.2			7.38
	Silver	97.2	96.8	97.4	90.9			6.82
EPA 300.0 Rev. 2.1	Chloride	98.9	93.9	98.3			0.802	
	Sulfate	99.1	94.1	98.2			1.77	
EPA 350.1 Rev. 2.0	Ammonia-N	98.7	102	101				0.853
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8	105	100				3.95
EPA 353.2 Rev. 2.0	NO2NO3-N	109	110	110				0.277
EPA 365.1 Rev. 2.0	Total-P	105	98.6	98.8				0.160

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	SMP
EPA 365.1 Rev. 2.0 dissolved EPA 8270D	O-Phosphate-P	99.6		99.4	99.9		0.502
	Acetochlor	80.9	83.6	86.3	90.1	3.35	4.31
	Alachlor	81.9	84.3			2.85	1.29
	Aldrin	73.4	61.9	69.3	75.4	17.0	8.49
	Alpha-BHC	82.7	84.2	89.7	94.7	1.86	5.48
	Alpha-Chlordane	89.4	85.2	92.7	91.5	4.74	1.30
	Ametryn	71.1	70.6	70.4	75.0	0.612	6.34
	Atrazine	90.7	98.4	97.2	98.5	8.19	1.15
	Atrazine Desethyl	119	113	79.1	65.6	5.55	16.0
	Azinphos Methyl	124	120	106	110	3.70	3.40
	Beta-BHC	90.5	93.2	86.3	92.0	2.97	6.46
	Bromacil	84.5	77.7	71.9	87.1	8.31	19.2
	Butylate	44.7	47.7	48.3	59.4	6.57	20.6
	Carbophenothion	92.5	90.1	125	129	2.65	2.94
	Chlorothalonil	93.8	95.3	112	127	1.57	12.6
	Chlorpyrifos Ethyl	92.2	91.7	81.4	85.7	0.468	5.16
	Chlorpyrifos Methyl	101	93.6	80.8	82.3	7.84	1.83
	Cyanazine	212	190	268	211	10.8	23.7
	Cypermethrin	105	91.0	105	117	14.0	11.3
	DDD-p,p'	100	92.1	97.1	105	8.73	8.24
	DDE-p,p'	91.0	86.9	87.4	85.1	4.61	2.60
	DDT-p,p'	88.9	86.3	98.3	97.2	3.01	1.18
	Delta-BHC	85.3	89.3	101	95.3	4.56	5.85
	Demeton	97.2	53.3	62.5	43.8	58.4	35.1
	Diazinon	88.2	85.5	88.2	86.3	3.05	2.21
	Dicofol	76.3	80.0	70.4	71.1	4.73	0.997
	Dieldrin	89.3	85.8	93.5	96.3	4.01	2.94
	Disulfoton	106	76.4	77.6	76.2	32.4	1.80
	Endosulfan I	90.8	88.4	94.8	103	2.69	8.61
	Endosulfan II	106	97.5	98.5	109	8.03	9.79
	Endosulfan Sulfate	95.9	86.9	90.2	97.8	9.88	8.15
	Endrin	89.6	85.3	94.1	97.7	4.82	3.74
	Endrin Aldehyde	111	107	117	115	3.96	1.59
	Endrin Ketone	97.8	91.7	90.8	101	6.43	10.7
	EPTC	41.0	45.2	39.8	50.2	9.76	23.1
	Ethion	109	84.7	89.9	95.4	25.3	5.87
	Ethoprop	136	87.7	90.5	79.7	43.0	12.7
	Fenamiphos	96.2	93.3	79.3	91.6	3.00	14.5
	Fipronil	85.4	79.5	78.8	90.6	7.10	13.9
	Fipronil Sulfide	93.3	81.8	68.6	81.5	13.1	17.2
	Fipronil Sulfone	89.9	76.0	68.0	80.9	16.8	17.4
	Fonofos	102	90.0	81.0	75.6	12.8	6.90
	Gamma-BHC	83.8	85.9	88.8	89.0	2.54	0.233
	Gamma-Chlordane	86.8	82.1	90.4	88.0	5.56	2.71
	Heptachlor	79.1	77.5	86.0	79.9	2.11	7.30
	Heptachlor Epoxide	89.3	86.4	91.2	92.5	3.32	1.34
	Hexazinone	87.9	85.9	110	124	2.28	8.78
	Malathion	109	101	86.6	95.9	7.77	10.2
	Metalaxyl	84.2	79.0	83.8	98.3	6.45	16.0
	Methoxychlor	112	110	121	126	1.00	3.84
	Metolachlor	84.3	85.2	83.5	98.3	0.967	11.5
	Metribuzin	168	163	117	132	3.31	11.3
	Mevinphos	83.1	73.6	65.7	69.8	12.1	6.06
	Mirex	80.5	74.7	87.3	86.9	7.45	0.381

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Molinate	50.5	54.0	62.6	62.6	6.54	0.0110
	Norflurazon	78.8	78.3	82.6	91.7	0.681	10.5
	Parathion Ethyl	88.4	91.2	92.1	91.0	3.07	1.18
	Parathion Methyl	99.8	98.4	95.6	94.4	1.43	1.30
	Pendimethalin	79.7	86.9	93.2	92.7	8.66	0.495
	Permethrin	89.9	83.2	97.3	97.4	7.74	0.192
	Phorate	92.4	78.3	58.3	67.8	16.6	15.1
	Prometon	82.6	78.9	87.4	92.5	4.53	5.65
	Prometryn	83.5	79.7	74.1	91.3	4.69	20.8
	Simazine	97.7	97.0	88.3	94.1	0.672	6.39
	Terbufos	107	89.6	83.3	78.7	17.7	5.62
	Terbutylazine	94.5	91.9	90.8	94.0	2.79	3.54
	Trifluralin	80.7	79.3	93.0	88.9	1.77	4.49
	Chlordane	83.1	76.8	71.2	76.3	7.80	6.86
EPA 8276	Toxaphene	121	112	96.0	100	7.55	4.33
EPA 8321B	Glyphosate	89.6		96.6	93.4		3.41
	Pyraclostrobin	79.2		83.6	85.6		2.48
	Sucralose	102		71.7	69.0		3.79
SM 2120 B	Color (true)					2.71	
SM 2320 B-97	Total Alkalinity	107				1.14	
SM 2540 C-97	TDS					3.00	
SM 4500 F-C-97	Fluoride	99.2		99.0	99.0		0.0
SM 5310 B-00	Organic Carbon	94.6		96.6			0.353
USGS O-2060-01	2,4-D	52.5		98.1	103		5.01
	Acetaminophen	102		128	104		20.8
	Bentazon	48.3		52.5	54.5		3.76
	Carbamazepine	119		76.8	73.4		4.53
	Diuron	114		85.3	74.9		12.7
	Fenuron	114		91.4	86.3		5.70
	Fluridone	111		95.4	86.3		7.40
	Imidacloprid	114		128	123		3.67
	Linuron	106		95.9	91.9		4.24
	MCPP	57.5		90.8	106		15.2
	Primidone	115		98.6	89.2		10.1
	Triclopyr	53.3		82.9	100		18.9

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1942829, 1942830
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1942843, 1942844
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1942843, 1942844
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1942829, 1942830
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1942829, 1942830
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1942831, 1942832
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1942831, 1942832
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1942831, 1942832

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1942831, 1942832
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1942833, 1942834
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	1942839, 1942840
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1942841, 1942842
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	1942839, 1942840
EPA 8321B / E31780	Analysis of sucralose in water matrices by HPLC/MS/MS	1942837, 1942838
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1942837, 1942838
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1942837, 1942838
SM 2120 B / E31780	True Color measured at 450 nm	1942829, 1942830
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	1942829, 1942830
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1942829, 1942830
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1942829, 1942830
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1942829, 1942830
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1942831, 1942832
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1942837, 1942838
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1942837, 1942838

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	11/02/2017			11/02/2017 17:33	DeAsia Armster	1942829, 1942830
EPA 200.7 Rev. 4.4	11/02/2017	11/07/2017	Elliott D. Healy	11/08/2017	Betina Topolski	1942843, 1942844
EPA 200.8 Rev. 5.4	11/02/2017	11/07/2017	Elliott D. Healy	11/08/2017	Nadine Brooks	1942843, 1942844
	11/02/2017	11/07/2017	Elliott D. Healy	11/09/2017	Robert K Palmer	1942843
EPA 300.0 Rev. 2.1	11/02/2017			11/08/2017	Julia Storbeck	1942829, 1942830
EPA 350.1 Rev. 2.0	11/02/2017			11/13/2017	Sofia Elnemr	1942831, 1942832
EPA 351.2 Rev. 2.0	11/02/2017	11/09/2017	Adrian Shelby	11/15/2017	Tanya Welborn	1942831, 1942832
EPA 353.2 Rev. 2.0	11/02/2017			11/14/2017	Beverly Y. Sanders	1942831, 1942832
EPA 365.1 Rev. 2.0	11/02/2017	11/07/2017	Sima Feizi	11/08/2017	Lipi Saha	1942831
	11/02/2017	11/07/2017	Sima Feizi	11/09/2017	Lipi Saha	1942832
EPA 365.1 Rev. 2.0 dissolved	11/02/2017			11/03/2017 15:01	Megan Treadwell	1942834
	11/02/2017			11/03/2017 15:04	Megan Treadwell	1942833
EPA 8270D	11/02/2017	11/06/2017	John Kaba	11/17/2017	Marek Topolski	1942841, 1942842
	11/02/2017	11/06/2017	Rasheda Ghaffari	11/14/2017	Goutam Palui	1942840
	11/02/2017	11/06/2017	Rasheda Ghaffari	11/18/2017	Goutam Palui	1942839
EPA 8276	11/02/2017	11/06/2017	Rasheda Ghaffari	11/20/2017	John P. Burgos	1942839, 1942840
EPA 8321B	11/02/2017	11/06/2017	Juyoung Kim	11/06/2017	Juyoung Kim	1942837, 1942838
	11/02/2017	11/13/2017	Juyoung Kim	11/13/2017	Juyoung Kim	1942837, 1942838
SM 2120 B	11/02/2017			11/02/2017 17:14	Tanya Welborn	1942830
	11/02/2017			11/02/2017 17:17	Tanya Welborn	1942829
SM 2320 B-97	11/02/2017			11/10/2017	Dale L. Simmons	1942829, 1942830
SM 2540 C-97	11/02/2017			11/06/2017	Yijie Li	1942829, 1942830
SM 2540 D-97	11/02/2017			11/06/2017	Yijie Li	1942829, 1942830
SM 4500 F-C-97	11/02/2017			11/10/2017	Dale L. Simmons	1942829, 1942830
SM 5310 B-00	11/02/2017			11/13/2017	Ping Hua	1942831, 1942832
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	11/02/2017	11/09/2017	Hoor Shaik	11/14/2017	Julie Michelle Frank	1942837, 1942838