

Chemical Analysis Report

TLH-ROC-2018-08-23-01

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

Event Description: **8Run 6**
Request ID: **RQ-2018-08-20-59**
Customer: **TLH-ROC**
Project ID: **SMP**

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Date Certified: 12-SEP-2018 14:13



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: CHIPOLA RIVER

Collection Date/Time: 08/23/2018 10:10

Field ID: G2TLHR0011

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019913	EPA 180.1 Rev. 2.0	Turbidity	5.0		NTU	P350734	
	EPA 300.0 Rev. 2.1	Chloride	4.9		mg Cl/L	P350933	
		Sulfate	1.4		mg SO4/L	P350935	
	SM 2120 B	Color (true)	35		PCU	P350729	
	SM 2320 B-97	Total Alkalinity	89		mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	112		mg/L	P351067	
	SM 2540 D-97	TSS	5	I	mg/L	P351029	
	SM 4500 F-C-97	Fluoride	0.046	I	mg F/L	P351145	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P351010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P350825	
2019916	EPA 353.2 Rev. 2.0	NO2NO3-N	0.92		mg N/L	P351125	
	EPA 365.1 Rev. 2.0	Total-P	0.027		mg P/L	P350910	
	SM 5310 B-00	Organic Carbon	4.7		mg C/L	P350876	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.01	I	mg P/L	P350697	
	dissolved						
2019919	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.01	I	mg P/L	P350697	

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: TENMILE CREEK @ CR274

Collection Date/Time: 08/23/2018 10:40

Field ID: G2TLHR0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019922	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P350734	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P350933	
		Sulfate	0.49	I	mg SO4/L	P350935	
	SM 2120 B	Color (true)	230		PCU	P350729	
	SM 2320 B-97	Total Alkalinity	0.65	U	mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	50		mg/L	P351067	
	SM 2540 D-97	TSS	4	I	mg/L	P351029	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351145	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P351010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.63		mg N/L	P350825	
2019923	EPA 353.2 Rev. 2.0	NO2NO3-N	0.021		mg N/L	P350857	
	EPA 365.1 Rev. 2.0	Total-P	0.011		mg P/L	P350910	
	SM 5310 B-00	Organic Carbon	18		mg C/L	P350877	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.004	U	mg P/L	P350697	
	dissolved						
2019940	EPA 8321B	2,4-D	0.0020	U	ug/L	P350709	MS
		Sucralose**	0.19		ug/L	P350691	
		Bentazon	8.0E-04	U	ug/L	P350709	
		MCP	0.0020	U	ug/L	P350709	MS
		Triclopyr**	0.0040	U	ug/L	P350709	MS
		Imidacloprid	0.0020	U	ug/L	P350709	
		Diuron	0.0020	U	ug/L	P350709	
		Pyraclostrobin**	0.0020	U	ug/L	P350709	
		Primidone**	0.0040	U	ug/L	P350709	
		Linuron	0.0040	U	ug/L	P350709	
		Acetaminophen**	0.0080	U	ug/L	P350709	
		Fenuron	0.016	U	ug/L	P350709	
		Imazapyr**	0.0040	U	ug/L	P350709	
		Carbamazepine**	8.0E-04	U	ug/L	P350709	
		Fluridone**	4.0E-04	U	ug/L	P350709	
		Hydrocodone**	8.0E-04	U	ug/L	P350709	
		Naproxen**	0.0080	U	ug/L	P350709	
		Ibuprofen**	0.020	U	ug/L	P350709	

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: WILSON MILL CREEK @ CR274

Collection Date/Time: 08/23/2018 11:10

Field ID: G2TLHR0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019925	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P350734	
	EPA 300.0 Rev. 2.1	Chloride	7.7		mg Cl/L	P350933	
		Sulfate	0.65		mg SO4/L	P350935	
	SM 2120 B	Color (true)	44	A	PCU	P350729	
	SM 2320 B-97	Total Alkalinity	12		mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	70		mg/L	P351068	
	SM 2540 D-97	TSS	3	I	mg/L	P351030	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P351145	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P351010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.56		mg N/L	P350825	
2019926	EPA 353.2 Rev. 2.0	NO2NO3-N	2.3		mg N/L	P351125	
	EPA 365.1 Rev. 2.0	Total-P	0.006		mg P/L	P350910	
	SM 5310 B-00	Organic Carbon	5.7		mg C/L	P350877	
	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P350697	
	EPA 8321B	Aldicarb	0.020	U	ug/L	P350709	
2019941		Aldicarb Sulfone	0.0020	U	ug/L	P350709	
		Aldicarb Sulfoxide	0.0020	UJ	ug/L	P350709	MS
		Carbaryl	0.0020	U	ug/L	P350709	
		Carbofuran	0.0020	U	ug/L	P350709	
		3-Hydroxycarbofuran	0.0020	U	ug/L	P350709	
		Methiocarb	0.0020	U	ug/L	P350709	
		Methomyl	0.0020	U	ug/L	P350709	
		Oxamyl	0.0020	U	ug/L	P350709	
		Propoxur	0.0020	U	ug/L	P350709	
		2,4-D	0.0020	UJ	ug/L	P350709	MS
2019942		Sucralose**	0.041		ug/L	P350691	
		Bentazon	0.0045		ug/L	P350709	
		MCP	0.0020	UJ	ug/L	P350709	MS
		Triclopyr**	0.0040	UJ	ug/L	P350709	MS
		Imidacloprid	0.0065	I	ug/L	P350709	
		Diuron	0.0020	U	ug/L	P350709	
		Pyraclostrobin**	0.0020	U	ug/L	P350709	
		Primidone**	0.0040	U	ug/L	P350709	
		Linuron	0.0040	U	ug/L	P350709	
		Acetaminophen**	0.0080	U	ug/L	P350709	
		Fenuron	0.016	U	ug/L	P350709	
		Imazapyr**	0.0040	U	ug/L	P350709	
		Carbamazepine**	8.0E-04	U	ug/L	P350709	
		Fluridone**	4.0E-04	U	ug/L	P350709	
		Hydrocodone**	8.0E-04	U	ug/L	P350709	
		Naproxen**	0.0080	U	ug/L	P350709	
		Ibuprofen**	0.020	U	ug/L	P350709	
		Glyphosate**	0.10	U	ug/L	P350691	

Field ID: G2TLHR0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019942	EPA 8321B	AMPA**	0.10	U	ug/L	P350691	
		Endothall**	0.10	U	ug/L	P350691	
		Glufosinate**	0.10	U	ug/L	P350691	
		Acesulfame K**	0.10	U	ug/L	P350691	
2019943	EPA 8270D	Aldrin	4.4	U	ng/L	P350656	
		Alpha-BHC	2.2	U	ng/L	P350656	
		Beta-BHC	4.4	U	ng/L	P350656	
		Delta-BHC	4.4	U	ng/L	P350656	MS
		Gamma-BHC	4.4	U	ng/L	P350656	
		Carbophenothion	4.4	U	ng/L	P350656	
		Chlorothalonil	2.2	U	ng/L	P350656	RPD
		Cypermethrin	22	U	ng/L	P350656	
		DDD-p,p'	3.3	U	ng/L	P350656	
		DDE-p,p'	3.3	U	ng/L	P350656	
		DDT-p,p'	3.3	U	ng/L	P350656	
		Dieldrin	4.4	U	ng/L	P350656	
		Endosulfan I	4.4	U	ng/L	P350656	
		Endosulfan II	4.4	U	ng/L	P350656	
		Endosulfan Sulfate	2.2	U	ng/L	P350656	
		Endrin	2.2	U	ng/L	P350656	
		Endrin Aldehyde	2.2	U	ng/L	P350656	
		Heptachlor	1.6	U	ng/L	P350656	
		Heptachlor Epoxide	2.2	U	ng/L	P350656	
		Methoxychlor	4.4	U	ng/L	P350656	
		Mirex	2.2	U	ng/L	P350656	
		Permethrin	11	U	ng/L	P350656	
		Trifluralin	1.1	U	ng/L	P350656	
		Alpha-Chlordane	1.1	U	ng/L	P350656	
		Gamma-Chlordane	1.1	U	ng/L	P350656	
		Endrin Ketone	2.2	U	ng/L	P350656	MS
		Dicofol	33	U	ng/L	P350656	
	EPA 8276	Chlordane	2.9	UQ	ng/L	P351047	
		Toxaphene	34	UQ	ng/L	P351047	
2019944	EPA 8270D	Alachlor	0.25	U	ng/L	P350647	
		Ametryn	0.33	U	ng/L	P350647	
		Atrazine	3.5		ng/L	P350647	
		Atrazine Desethyl	2.0	IJ	ng/L	P350647	RPD
		Azinphos Methyl	2.3	U	ng/L	P350647	
		Bromacil	0.51	U	ng/L	P350647	
		Butylate	0.40	U	ng/L	P350647	RPD
		Chlorpyrifos Ethyl	0.25	U	ng/L	P350647	
		Chlorpyrifos Methyl	0.10	U	ng/L	P350647	
		Demeton	2.0	U	ng/L	P350647	
		Diazinon	0.13	U	ng/L	P350647	
		Disulfoton	0.51	U	ng/L	P350647	

Field ID: G2TLHR0032

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019944	EPA 8270D	EPTC	1.3	U	ng/L	P350647	
		Ethion	0.15	U	ng/L	P350647	
		Ethoprop	0.10	U	ng/L	P350647	
		Fenamiphos	0.25	U	ng/L	P350647	
		Fipronil	0.25	U	ng/L	P350647	
		Fipronil Sulfide	0.15	U	ng/L	P350647	
		Fipronil Sulfone	0.15	U	ng/L	P350647	
		Hexazinone	0.51	U	ng/L	P350647	
		Malathion	0.35	U	ng/L	P350647	
		Metribuzin	0.20	U	ng/L	P350647	
		Mevinphos	0.51	U	ng/L	P350647	
		Molinate	0.30	U	ng/L	P350647	
		Norflurazon	0.51	U	ng/L	P350647	
		Pendimethalin	1.0	U	ng/L	P350647	
		Phorate	0.25	U	ng/L	P350647	
		Prometon	0.91	U	ng/L	P350647	
		Prometryn	0.20	U	ng/L	P350647	
		Simazine	0.51	U	ng/L	P350647	
		Terbufos	0.10	U	ng/L	P350647	
		Terbutylazine	0.43	U	ng/L	P350647	
		Fonofos	0.20	U	ng/L	P350647	
		Metalaxyl	0.25	U	ng/L	P350647	
		Metolachlor	13		ng/L	P350647	
		Acetochlor	0.25	U	ng/L	P350647	
		Cyanazine	0.51	UJ	ng/L	P350647	RPD
		Parathion Ethyl	0.25	U	ng/L	P350647	
		Parathion Methyl	0.25	U	ng/L	P350647	
2019945	EPA 200.7 Rev. 4.4	Calcium	7.20		mg/L	P350867	
		Iron	460		ug/L	P350867	
		Magnesium	3.03		mg/L	P350867	
		Potassium	1.9		mg/L	P350867	
		Sodium	1.6	I	mg/L	P350867	
		Zinc	5.0	U	ug/L	P350867	
	EPA 200.8 Rev. 5.4	Arsenic	0.31		ug/L	P350867	
		Cadmium	0.020	U	ug/L	P350867	
		Chromium	0.40	U	ug/L	P350867	
		Copper	0.21	I	ug/L	P350867	
		Lead	0.15	I	ug/L	P350867	
		Nickel	0.35	I	ug/L	P350867	
		Silver	0.010	U	ug/L	P350867	

Ref. Method and Comment:

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

EPA 8321B: Refer to the narrative for an explanation of QC Codes.

EPA 8276: The sample is expired for preparation due to the need for re-extraction. Insufficient sample to perform duplicate matrix spikes.

EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Sample Location: CHIPOLA RIVER @ MAGNOLIA R

Collection Date/Time: 08/23/2018 11:50

Field ID: G2TLHR0016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019914	EPA 180.1 Rev. 2.0	Turbidity	7.3	A	NTU	P350734	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P350933	
		Sulfate	1.2		mg SO4/L	P350935	
	SM 2120 B	Color (true)	30		PCU	P350729	
	SM 2320 B-97	Total Alkalinity	94		mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	121		mg/L	P351067	
	SM 2540 D-97	TSS	6	I	mg/L	P351029	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P351145	
2019917	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P351010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P350825	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.0		mg N/L	P351125	
	EPA 365.1 Rev. 2.0	Total-P	0.035		mg P/L	P350910	
	SM 5310 B-00	Organic Carbon	4.5		mg C/L	P350877	
2019920	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.013		mg P/L	P350697	

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: Blue Hole Spring @ Caverns State Park

Collection Date/Time: 08/23/2018 12:25

Field ID: G2TLHR0009

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2019915	EPA 180.1 Rev. 2.0	Turbidity	4.0		NTU	P350734	
	EPA 300.0 Rev. 2.1	Chloride	4.4		mg Cl/L	P350933	
		Sulfate	0.89		mg SO4/L	P350935	
	SM 2120 B	Color (true)	26		PCU	P350729	
	SM 2320 B-97	Total Alkalinity	107		mg CaCO3/L	P351049	
	SM 2540 C-97	TDS	124		mg/L	P351067	
	SM 2540 D-97	TSS	3	I	mg/L	P351029	
	SM 4500 F-C-97	Fluoride	0.045	I	mg F/L	P351145	
2019918	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P351010	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.35		mg N/L	P350825	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P351125	
	EPA 365.1 Rev. 2.0	Total-P	0.030		mg P/L	P350910	
	SM 5310 B-00	Organic Carbon	4.1		mg C/L	P350877	
2019921	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.016		mg P/L	P350697	

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: P350734

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350867

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: P350867

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351010

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350825

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350857

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351125

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350910

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350697

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

Reference Method: EPA 8270D
Batch ID: P350647

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P350647

Component	Result	Code	Units
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: P350656

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

Reference Method: EPA 8276
Batch ID: P351047

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P350691

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.10	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P350709

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
3-Hydroxycarbofuran	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Aldicarb	0.020	U	ug/L
Aldicarb Sulfone	0.0020	U	ug/L
Aldicarb Sulfoxide	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Carbaryl	0.0020	U	ug/L
Carbofuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	4.0E-04	U	ug/L
Hydrocodone	8.0E-04	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Methiocarb	0.0020	U	ug/L
Methomyl	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Oxamyl	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Propoxur	0.0020	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P350729

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P351049

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-97
Batch ID: P351067

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P351068

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351029

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P351030

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P350876

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

Reference Method: SM 5310 B-00
Batch ID: P350877

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	106		P	85 - 115
Magnesium	108		P	85 - 115
Potassium	98.1		P	85 - 115
Sodium	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350867

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	98.4		P	85 - 115
Cadmium	99.0		P	85 - 115
Chromium	96.6		P	85 - 115
Copper	94.8		P	85 - 115
Lead	97.8		P	85 - 115
Nickel	96.0		P	85 - 115
Silver	96.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	107		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351010

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350825

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350857

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P351125

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

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P350910

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P350697

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

Reference Method: EPA 8270D
 Batch ID: P350647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	108	106	P/P	74 - 119
Alachlor	108	106	P/P	75 - 118
Ametryn	109	110	P/P	59 - 137
Atrazine	110	109	P/P	73 - 120
Atrazine Desethyl	107	74.0	P/P	19 - 129
Azinphos Methyl	129	120	P/P	65 - 181
Bromacil	95.9	96.0	P/P	43 - 123
Butylate	76.1	82.3	P/P	28 - 85.0
Chlorpyrifos Ethyl	102	107	P/P	55 - 112
Chlorpyrifos Methyl	103	101	P/P	35 - 124
Cyanazine	189	123	P/P	26 - 262
Demeton	87.8	88.8	P/P	43 - 122
Diazinon	113	111	P/P	72 - 120
Disulfoton	98.4	91.1	P/P	45 - 137
EPTC	78.2	82.0	P/P	28 - 95.0
Ethion	107	110	P/P	63 - 127
Ethoprop	102	102	P/P	63 - 109
Fenamiphos	104	103	P/P	66 - 136
Fipronil	104	108	P/P	63 - 126
Fipronil Sulfide	95.0	102	P/P	59 - 123
Fipronil Sulfone	88.6	101	P/P	56 - 122
Fonofos	100	95.2	P/P	64 - 114
Hexazinone	106	108	P/P	49 - 144
Malathion	111	117	P/P	68 - 131
Metalaxyl	108	92.5	P/P	57 - 126
Metolachlor	110	112	P/P	75 - 118
Metribuzin	152	113	P/P	46 - 169
Mevinphos	97.8	84.7	P/P	34 - 126
Molinate	79.2	85.0	P/P	37 - 101
Norflurazon	95.6	103	P/P	63 - 127
Parathion Ethyl	103	103	P/P	78 - 109
Parathion Methyl	107	102	P/P	74 - 123
Pendimethalin	123	127	P/P	51 - 130
Phorate	92.8	87.1	P/P	53 - 116

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
Batch ID: P350647

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometon	104	99.9	P/P	66 - 124
Prometryn	104	104	P/P	66 - 124
Simazine	109	108	P/P	62 - 134
Terbufos	103	96.8	P/P	59 - 115
Terbutylazine	107	109	P/P	76 - 113

Reference Method: EPA 8270D
Batch ID: P350656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	65.9	76.9	P/P	24 - 89.0
Alpha-BHC	81.5	94.8	P/P	58 - 117
Alpha-Chlordane	85.2	94.2	P/P	56 - 115
Beta-BHC	105	115	P/P	55 - 137
Carbophenothion	89.9	69.8	P/P	37 - 145
Chlorothalonil	85.0	90.1	P/P	26 - 163
Cypermethrin	86.8	96.9	P/P	42 - 156
DDD-p,p'	109	116	P/P	59 - 129
DDE-p,p'	83.9	93.8	P/P	52 - 117
DDT-p,p'	93.2	102	P/P	48 - 128
Delta-BHC	114	118	P/P	59 - 158
Dicofol	91.3	95.3	P/P	19 - 124
Dieldrin	90.9	98.6	P/P	57 - 126
Endosulfan I	92.0	98.9	P/P	59 - 133
Endosulfan II	97.5	112	P/P	58 - 148
Endosulfan Sulfate	116	115	P/P	56 - 135
Endrin	95.7	102	P/P	50 - 140
Endrin Aldehyde	111	88.3	P/P	47 - 141
Endrin Ketone	114	113	P/P	63 - 123
Gamma-BHC	105	115	P/P	59 - 132
Gamma-Chlordane	82.8	91.8	P/P	55 - 112
Heptachlor	70.2	79.0	P/P	45 - 102
Heptachlor Epoxide	89.8	98.7	P/P	61 - 116
Methoxychlor	103	116	P/P	60 - 133
Mirex	76.6	82.3	P/P	40 - 98.0
Permethrin	87.2	95.9	P/P	45 - 131
Trifluralin	77.0	83.4	P/P	38 - 179

Reference Method: EPA 8276
Batch ID: P351047

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chlordane	84.9	77.3	P/P	47 - 125
Toxaphene	71.0	63.9	P/P	46 - 147

Reference Method: EPA 8321B
Batch ID: P350691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	99.2		P	40 - 150
Endothall	90.2		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P350691

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glufosinate	96.2		P	40 - 150
Glyphosate	83.1		P	40 - 140
Sucralose	122		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350709

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.9		P	40 - 150
3-Hydroxycarbofuran	69.9		P	40 - 150
Acetaminophen	99.9		P	30 - 150
Aldicarb	74.3		P	30 - 150
Aldicarb Sulfone	93.0		P	40 - 150
Aldicarb Sulfoxide	101		P	40 - 150
Bentazon	104		P	30 - 150
Carbamazepine	74.9		P	40 - 150
Carbaryl	62.3		P	40 - 150
Carbofuran	65.5		P	40 - 150
Diuron	69.4		P	40 - 150
Fenuron	82.4		P	40 - 150
Fluridone	78.6		P	40 - 150
Hydrocodone	87.9		P	40 - 150
Ibuprofen	107		P	40 - 150
Imazapyr	84.9		P	40 - 150
Imidacloprid	100		P	40 - 160
Linuron	64.0		P	40 - 150
MCPP	116		P	40 - 150
Methiocarb	54.0		P	40 - 150
Methomyl	78.0		P	40 - 150
Naproxen	123		P	40 - 150
Oxamyl	94.5		P	40 - 150
Primidone	101		P	40 - 150
Propoxur	59.7		P	40 - 150
Pyraclostrobin	71.7		P	40 - 150
Triclopyr	112		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P350729

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	96.4		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P351049

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	98 - 107

Reference Method: SM 4500 F-C-97
Batch ID: P351145

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

Reference Method: SM 4500 F-C-97
Batch ID: P351145

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

Reference Method: SM 5310 B-00
Batch ID: P350876

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.4		P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P350877

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	95.6		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019961	Calcium	109	106	P/P	80 - 120
2019961	Iron	106	103	P/P	80 - 120
2019961	Magnesium	109	106	P/P	80 - 120
2019961	Potassium	104	101	P/P	80 - 120
2019961	Sodium	99.7	97.7	P/P	80 - 120
2019961	Zinc	102	102	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350867

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019961	Arsenic	102	102	P/P	80 - 120
2019961	Cadmium	102	102	P/P	80 - 120
2019961	Chromium	99.0	99.2	P/P	80 - 120
2019961	Copper	98.3	98.2	P/P	80 - 120
2019961	Lead	100	99.3	P/P	80 - 120
2019961	Nickel	98.6	98.2	P/P	80 - 120
2019961	Silver	98.3	97.8	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019572	Chloride	107		P	90 - 110
2019922	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019572	Sulfate	106		P	90 - 110
2019922	Sulfate	102		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351010

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019632	Ammonia-N	99.6	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350825

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019693	Kjeldahl Nitrogen	91.0	94.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350857

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019692	NO2NO3-N	98.0	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351125

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2020368	NO2NO3-N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350910

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019918	Total-P	100	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350697

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019637	O-Phosphate-P	93.9	95.1	P/P	90 - 110

Reference Method: EPA 8270D
Batch ID: P350647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018950	Acetochlor	105	106	P/P	67 - 125
2018950	Alachlor	105	108	P/P	69 - 123
2018950	Ametryn	98.0	112	P/P	52 - 151
2018950	Atrazine	111	110	P/P	71 - 125
2018950	Atrazine Desethyl	73.6	74.9	P/P	10 - 129
2018950	Azinphos Methyl	116	115	P/P	48 - 200
2018950	Bromacil	95.6	97.4	P/P	46 - 130
2018950	Butylate	56.1	80.1	P/P	10 - 85.0
2018950	Chlorpyrifos Ethyl	109	111	P/P	54 - 115
2018950	Chlorpyrifos Methyl	104	101	P/P	44 - 117
2018950	Cyanazine	134	155	P/P	10 - 262
2018950	Demeton	80.6	73.9	P/P	24 - 145
2018950	Diazinon	105	109	P/P	66 - 129
2018950	Disulfoton	90.2	88.1	P/P	45 - 139
2018950	EPTC	52.5	69.9	P/P	10 - 86.0
2018950	Ethion	115	114	P/P	59 - 133
2018950	Ethoprop	90.5	93.5	P/P	54 - 116
2018950	Fenamiphos	113	114	P/P	55 - 140
2018950	Fipronil	109	106	P/P	37 - 142
2018950	Fipronil Sulfide	109	105	P/P	37 - 130
2018950	Fipronil Sulfone	108	99.0	P/P	18 - 143
2018950	Fonofos	92.3	92.5	P/P	55 - 118
2018950	Hexazinone	109	113	P/P	62 - 140
2018950	Malathion	119	119	P/P	64 - 132
2018950	Metalaxyl	100	103	P/P	55 - 129
2018950	Metolachlor	109	111	P/P	56 - 137
2018950	Metribuzin	118	119	P/P	16 - 218
2018950	Mevinphos	74.5	80.9	P/P	34 - 129
2018950	Molinate	62.3	72.5	P/P	16 - 99.0
2018950	Norflurazon	102	99.7	P/P	43 - 135
2018950	Parathion Ethyl	104	104	P/P	71 - 112
2018950	Parathion Methyl	104	102	P/P	65 - 127
2018950	Pendimethalin	124	125	P/P	35 - 159
2018950	Phorate	81.2	81.8	P/P	41 - 129

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8270D
Batch ID: P350647

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018950	Prometon	103	106	P/P	56 - 140
2018950	Prometryn	104	106	P/P	65 - 130
2018950	Simazine	105	106	P/P	54 - 148
2018950	Terbufos	94.1	95.9	P/P	53 - 126
2018950	Terbuthylazine	109	110	P/P	73 - 114

Reference Method: EPA 8270D
Batch ID: P350656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2018949	Aldrin	68.1	58.1	P/P	26 - 96.0
2018949	Alpha-BHC	95.3	73.0	P/P	51 - 123
2018949	Alpha-Chlordane	90.3	78.8	P/P	45 - 120
2018949	Beta-BHC	120	105	P/P	43 - 146
2018949	Carbophenothion	93.3	101	P/P	26 - 179
2018949	Chlorothalonil	125	78.4	P/P	10 - 215
2018949	Cypermethrin	110	86.6	P/P	35 - 169
2018949	DDD-p,p'	112	99.8	P/P	49 - 131
2018949	DDE-p,p'	85.9	74.5	P/P	39 - 127
2018949	DDT-p,p'	96.9	86.2	P/P	49 - 120
2018949	Delta-BHC	229	204	F/F	49 - 187
2018949	Dicofol	118	114	P/P	10 - 129
2018949	Dieldrin	98.0	88.6	P/P	46 - 132
2018949	Endosulfan I	111	96.0	P/P	57 - 130
2018949	Endosulfan II	115	116	P/P	52 - 148
2018949	Endosulfan Sulfate	123	115	P/P	55 - 129
2018949	Endrin	106	91.6	P/P	45 - 133
2018949	Endrin Aldehyde	114	92.3	P/P	26 - 140
2018949	Endrin Ketone	139	122	F/P	60 - 125
2018949	Gamma-BHC	120	105	P/P	50 - 145
2018949	Gamma-Chlordane	88.1	75.0	P/P	44 - 118
2018949	Heptachlor	75.9	65.0	P/P	35 - 106
2018949	Heptachlor Epoxide	96.6	86.4	P/P	52 - 123
2018949	Methoxychlor	117	108	P/P	54 - 132
2018949	Mirex	78.0	62.0	P/P	36 - 107
2018949	Permethrin	99.7	82.4	P/P	47 - 135
2018949	Trifluralin	86.6	73.8	P/P	32 - 228

Reference Method: EPA 8276
Batch ID: P351047

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019943	Chlordane	50.5		P	41 - 134
2019943	Toxaphene	59.4		P	39 - 158

Reference Method: EPA 8321B
Batch ID: P350691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019942	Acesulfame K	89.7	94.1	P/P	40 - 150
2019942	AMPA	111	115	P/P	40 - 150
2019942	Endothall	107	102	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P350691

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019942	Glufosinate	83.3	90.1	P/P	40 - 150
2019942	Glyphosate	75.7	77.3	P/P	40 - 140
2019942	Sucralose	117	118	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P350709

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019941	3-Hydroxycarbofuran	60.7	62.8	P/P	40 - 150
2019941	Aldicarb	51.1	56.2	P/P	30 - 150
2019941	Aldicarb Sulfone	78.0	75.4	P/P	40 - 150
2019941	Aldicarb Sulfoxide	35.3	35.7	F/F	40 - 150
2019941	Carbaryl	55.9	61.5	P/P	40 - 150
2019941	Carbofuran	76.7	71.5	P/P	40 - 150
2019941	Methiocarb	53.9	51.8	P/P	40 - 150
2019941	Methomyl	62.1	58.6	P/P	40 - 150
2019941	Oxamyl	68.4	77.1	P/P	40 - 150
2019941	Propoxur	54.8	52.7	P/P	40 - 150
2019942	2,4-D	168	151	F/F	40 - 150
2019942	Acetaminophen	125	119	P/P	30 - 150
2019942	Bentazon	91.9	83.2	P/P	30 - 150
2019942	Carbamazepine	72.0	69.8	P/P	40 - 150
2019942	Diuron	61.8	61.6	P/P	40 - 150
2019942	Fenuron	57.7	55.8	P/P	40 - 150
2019942	Fluridone	80.4	67.4	P/P	40 - 150
2019942	Hydrocodone	82.9	79.2	P/P	40 - 150
2019942	Ibuprofen	95.9	90.0	P/P	40 - 150
2019942	Imazapyr	107	101	P/P	40 - 150
2019942	Imidacloprid	129	131	P/P	40 - 160
2019942	Linuron	67.0	59.5	P/P	40 - 150
2019942	MCPP	177	155	F/F	40 - 150
2019942	Naproxen	133	127	P/P	40 - 150
2019942	Primidone	80.9	69.3	P/P	40 - 150
2019942	Pyraclostrobin	71.2	70.6	P/P	40 - 150
2019942	Triclopyr	215	217	F/F	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019575	Fluoride	104	104	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P350876

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019393	Organic Carbon	99.6	99.4	P/P	85 - 115

Reference Method: SM 5310 B-00
Batch ID: P350877

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

Reference Method: SM 5310 B-00
Batch ID: P350877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2019917	Organic Carbon	97.9	97.1	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P350734

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019914	Turbidity	3.95	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P350867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019961	Calcium	2.19	Spike	P	0 - 20
2019961	Iron	2.64	Spike	P	0 - 20
2019961	Magnesium	2.60	Spike	P	0 - 20
2019961	Potassium	2.20	Spike	P	0 - 20
2019961	Sodium	1.57	Spike	P	0 - 20
2019961	Zinc	0.193	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P350867

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019961	Arsenic	0.243	Spike	P	0 - 20
2019961	Cadmium	0.615	Spike	P	0 - 20
2019961	Chromium	0.173	Spike	P	0 - 20
2019961	Copper	0.178	Spike	P	0 - 20
2019961	Lead	1.05	Spike	P	0 - 20
2019961	Nickel	0.336	Spike	P	0 - 20
2019961	Silver	0.542	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019572	Chloride	3.75	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P350935

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019572	Sulfate	4.20	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P351010

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019632	Ammonia-N	2.04	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P350825

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019693	Kjeldahl Nitrogen	2.61	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P350857

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019692	NO2NO3-N	2.02	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P351125

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020368	NO2NO3-N	1.23	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P350910

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019918	Total-P	0.492	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P350697

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019637	O-Phosphate-P	1.27	Spike	P	0 - 20

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018950	Acetochlor	0.802	Spike	P	0 - 30
2018950	Alachlor	2.64	Spike	P	0 - 30
2018950	Ametryn	12.9	Spike	P	0 - 30
2018950	Atrazine	0.292	Spike	P	0 - 30
2018950	Atrazine Desethyl	1.83	Spike	P	0 - 30
2018950	Azinphos Methyl	0.996	Spike	P	0 - 30
2018950	Bromacil	1.80	Spike	P	0 - 30
2018950	Butylate	35.3	Spike	F	0 - 30
2018950	Chlorpyrifos Ethyl	2.08	Spike	P	0 - 30
2018950	Chlorpyrifos Methyl	2.87	Spike	P	0 - 30
2018950	Cyanazine	14.7	Spike	P	0 - 30
2018950	Demeton	8.71	Spike	P	0 - 30
2018950	Diazinon	3.87	Spike	P	0 - 30
2018950	Disulfoton	2.28	Spike	P	0 - 30
2018950	EPTC	28.4	Spike	P	0 - 30
2018950	Ethion	1.45	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018950	Ethoprop	3.18	Spike	P	0 - 30
2018950	Fenamiphos	1.11	Spike	P	0 - 30
2018950	Fipronil	2.36	Spike	P	0 - 30
2018950	Fipronil Sulfide	3.48	Spike	P	0 - 30
2018950	Fipronil Sulfone	8.22	Spike	P	0 - 30
2018950	Fonofos	0.276	Spike	P	0 - 30
2018950	Hexazinone	3.38	Spike	P	0 - 30
2018950	Malathion	0.231	Spike	P	0 - 30
2018950	Metalaxyl	2.15	Spike	P	0 - 30
2018950	Metolachlor	1.85	Spike	P	0 - 30
2018950	Metribuzin	0.857	Spike	P	0 - 30
2018950	Mevinphos	8.35	Spike	P	0 - 30
2018950	Molinate	15.2	Spike	P	0 - 30
2018950	Norflurazon	2.60	Spike	P	0 - 30
2018950	Parathion Ethyl	0.0953	Spike	P	0 - 30
2018950	Parathion Methyl	2.05	Spike	P	0 - 30
2018950	Pendimethalin	1.12	Spike	P	0 - 30
2018950	Phorate	0.716	Spike	P	0 - 30
2018950	Prometon	2.30	Spike	P	0 - 30
2018950	Prometryn	1.27	Spike	P	0 - 30
2018950	Simazine	1.26	Spike	P	0 - 30
2018950	Terbufos	1.97	Spike	P	0 - 30
2018950	Terbuthylazine	1.04	Spike	P	0 - 30
LFB	Acetochlor	1.33	LCS	P	0 - 30
LFB	Alachlor	1.58	LCS	P	0 - 30
LFB	Ametryn	0.531	LCS	P	0 - 30
LFB	Atrazine	1.19	LCS	P	0 - 30
LFB	Atrazine Desethyl	36.4	LCS	F	0 - 30
LFB	Azinphos Methyl	7.24	LCS	P	0 - 30
LFB	Bromacil	0.0381	LCS	P	0 - 30
LFB	Butylate	7.89	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	4.76	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	1.83	LCS	P	0 - 30
LFB	Cyanazine	42.7	LCS	F	0 - 30
LFB	Demeton	1.15	LCS	P	0 - 30
LFB	Diazinon	2.24	LCS	P	0 - 30
LFB	Disulfoton	7.70	LCS	P	0 - 30
LFB	EPTC	4.71	LCS	P	0 - 30
LFB	Ethion	2.73	LCS	P	0 - 30
LFB	Ethoprop	0.348	LCS	P	0 - 30
LFB	Fenamiphos	1.04	LCS	P	0 - 30
LFB	Fipronil	4.14	LCS	P	0 - 30
LFB	Fipronil Sulfide	7.60	LCS	P	0 - 30
LFB	Fipronil Sulfone	12.7	LCS	P	0 - 30
LFB	Fonofos	4.93	LCS	P	0 - 30
LFB	Hexazinone	1.80	LCS	P	0 - 30
LFB	Malathion	4.51	LCS	P	0 - 30
LFB	Metalaxyl	15.2	LCS	P	0 - 30
LFB	Metolachlor	1.93	LCS	P	0 - 30
LFB	Metribuzin	29.8	LCS	P	0 - 30
LFB	Mevinphos	14.3	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350647

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Molinate	7.02	LCS	P	0 - 30
LFB	Norflurazon	7.28	LCS	P	0 - 30
LFB	Parathion Ethyl	0.191	LCS	P	0 - 30
LFB	Parathion Methyl	4.51	LCS	P	0 - 30
LFB	Pendimethalin	3.67	LCS	P	0 - 30
LFB	Phorate	6.35	LCS	P	0 - 30
LFB	Prometon	4.41	LCS	P	0 - 30
LFB	Prometryn	0.339	LCS	P	0 - 30
LFB	Simazine	0.826	LCS	P	0 - 30
LFB	Terbufos	6.32	LCS	P	0 - 30
LFB	Terbuthylazine	1.72	LCS	P	0 - 30

Reference Method: EPA 8270D
Batch ID: P350656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2018949	Aldrin	15.8	Spike	P	0 - 30
2018949	Alpha-BHC	26.5	Spike	P	0 - 30
2018949	Alpha-Chlordane	13.5	Spike	P	0 - 30
2018949	Beta-BHC	13.4	Spike	P	0 - 30
2018949	Carbophenothion	8.30	Spike	P	0 - 30
2018949	Chlorothalonil	45.4	Spike	F	0 - 30
2018949	Cypermethrin	24.2	Spike	P	0 - 30
2018949	DDD-p,p'	11.3	Spike	P	0 - 30
2018949	DDE-p,p'	14.2	Spike	P	0 - 30
2018949	DDT-p,p'	11.7	Spike	P	0 - 30
2018949	Delta-BHC	11.6	Spike	P	0 - 30
2018949	Dicofol	3.40	Spike	P	0 - 30
2018949	Dieldrin	10.0	Spike	P	0 - 30
2018949	Endosulfan I	14.6	Spike	P	0 - 30
2018949	Endosulfan II	0.391	Spike	P	0 - 30
2018949	Endosulfan Sulfate	6.73	Spike	P	0 - 30
2018949	Endrin	14.3	Spike	P	0 - 30
2018949	Endrin Aldehyde	21.2	Spike	P	0 - 30
2018949	Endrin Ketone	13.2	Spike	P	0 - 30
2018949	Gamma-BHC	13.4	Spike	P	0 - 30
2018949	Gamma-Chlordane	16.0	Spike	P	0 - 30
2018949	Heptachlor	15.5	Spike	P	0 - 30
2018949	Heptachlor Epoxide	11.2	Spike	P	0 - 30
2018949	Methoxychlor	8.66	Spike	P	0 - 30
2018949	Mirex	22.9	Spike	P	0 - 30
2018949	Permethrin	19.1	Spike	P	0 - 30
2018949	Trifluralin	15.9	Spike	P	0 - 30
LFB	Aldrin	15.4	LCS	P	0 - 30
LFB	Alpha-BHC	15.1	LCS	P	0 - 30
LFB	Alpha-Chlordane	10.0	LCS	P	0 - 30
LFB	Beta-BHC	8.88	LCS	P	0 - 30
LFB	Carbophenothion	25.1	LCS	P	0 - 30
LFB	Chlorothalonil	5.90	LCS	P	0 - 30
LFB	Cypermethrin	11.0	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P350656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	DDD-p,p'	6.14	LCS	P	0 - 30
LFB	DDE-p,p'	11.2	LCS	P	0 - 30
LFB	DDT-p,p'	8.76	LCS	P	0 - 30
LFB	Delta-BHC	4.04	LCS	P	0 - 30
LFB	Dicofol	4.25	LCS	P	0 - 30
LFB	Dieldrin	8.14	LCS	P	0 - 30
LFB	Endosulfan I	7.22	LCS	P	0 - 30
LFB	Endosulfan II	13.4	LCS	P	0 - 30
LFB	Endosulfan Sulfate	0.183	LCS	P	0 - 30
LFB	Endrin	6.13	LCS	P	0 - 30
LFB	Endrin Aldehyde	23.1	LCS	P	0 - 30
LFB	Endrin Ketone	0.862	LCS	P	0 - 30
LFB	Gamma-BHC	8.88	LCS	P	0 - 30
LFB	Gamma-Chlordane	10.4	LCS	P	0 - 30
LFB	Heptachlor	11.9	LCS	P	0 - 30
LFB	Heptachlor Epoxide	9.46	LCS	P	0 - 30
LFB	Methoxychlor	12.4	LCS	P	0 - 30
LFB	Mirex	7.16	LCS	P	0 - 30
LFB	Permethrin	9.42	LCS	P	0 - 30
LFB	Trifluralin	8.05	LCS	P	0 - 30

Reference Method: EPA 8276
Batch ID: P351047

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Chlordane	9.34	LCS	P	0 - 30
LFB	Toxaphene	10.5	LCS	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350691

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019942	Acesulfame K	4.74	Spike	P	0 - 30
2019942	AMPA	2.82	Spike	P	0 - 30
2019942	Endothall	5.18	Spike	P	0 - 30
2019942	Glufosinate	7.88	Spike	P	0 - 30
2019942	Glyphosate	2.08	Spike	P	0 - 30
2019942	Sucralose	0.944	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P350709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019941	3-Hydroxycarbofuran	3.40	Spike	P	0 - 30
2019941	Aldicarb	9.51	Spike	P	0 - 30
2019941	Aldicarb Sulfone	3.41	Spike	P	0 - 30
2019941	Aldicarb Sulfoxide	1.34	Spike	P	0 - 30
2019941	Carbaryl	9.56	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P350709

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019941	Carbofuran	6.96	Spike	P	0 - 30
2019941	Methiocarb	3.94	Spike	P	0 - 30
2019941	Methomyl	5.79	Spike	P	0 - 30
2019941	Oxamyl	12.0	Spike	P	0 - 30
2019941	Propoxur	3.93	Spike	P	0 - 30
2019942	2,4-D	10.6	Spike	P	0 - 30
2019942	Acetaminophen	4.47	Spike	P	0 - 30
2019942	Bentazon	9.34	Spike	P	0 - 30
2019942	Carbamazepine	3.17	Spike	P	0 - 30
2019942	Diuron	0.337	Spike	P	0 - 30
2019942	Fenuron	3.43	Spike	P	0 - 30
2019942	Fluridone	17.6	Spike	P	0 - 30
2019942	Hydrocodone	4.54	Spike	P	0 - 30
2019942	Ibuprofen	6.34	Spike	P	0 - 30
2019942	Imazapyr	5.58	Spike	P	0 - 30
2019942	Imidacloprid	1.86	Spike	P	0 - 30
2019942	Linuron	11.9	Spike	P	0 - 30
2019942	MCPP	13.3	Spike	P	0 - 30
2019942	Naproxen	4.53	Spike	P	0 - 30
2019942	Primidone	15.5	Spike	P	0 - 30
2019942	Pyraclostrobin	0.934	Spike	P	0 - 30
2019942	Triclopyr	1.07	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P350729

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019925	Color (true)	2.73	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P351049

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	Total Alkalinity	0.917	Sample	P	0 - 1.6

Reference Method: SM 2540 C-97
Batch ID: P351067

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	TDS	6.84	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P351068

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2020073	TDS	4.03	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P351145

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019575	Fluoride	0.0	Spike	P	0 - 3.5

Reference Method: SM 5310 B-00
Batch ID: P350876

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019393	Organic Carbon	0.111	Spike	P	0 - 20

Reference Method: SM 5310 B-00
Batch ID: P350877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2019917	Organic Carbon	0.666	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2019940
Field Sample ID: G2TLHR0001

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	129	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.4	P	30 - 160
EPA 8321B	Diuron-d6	68.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	114	P	30 - 160
EPA 8321B	Primidone-d5	55.6	P	30 - 160
EPA 8321B	Sucralose-d6	139	P	40 - 160

Lab Sample ID: 2019941
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Carbaryl-d7	52.1	P	30 - 160

Lab Sample ID: 2019942
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.3	P	30 - 160
EPA 8321B	Diuron-d6	70.8	P	30 - 160
EPA 8321B	Endothall-d6	112	P	40 - 160
EPA 8321B	Endothall-d6	112	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 160
EPA 8321B	Glyphosate 13C 15N	107	P	40 - 160
EPA 8321B	Ibuprofen-d3	103	P	30 - 160
EPA 8321B	Primidone-d5	80.4	P	30 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160
EPA 8321B	Sucralose-d6	131	P	40 - 160

Lab Sample ID: 2019943
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Decachlorobiphenyl	59.4	P	37 - 117
EPA 8270D	Tetrachloro-m-xylene	43.2	P	34 - 101
EPA 8276	Decachlorobiphenyl	51.7	P	31 - 108
EPA 8276	PCNB	81.9	P	62 - 142

Lab Sample ID: 2019944
Field Sample ID: G2TLHR0032

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Simazine-d10	98.2	P	71 - 126
EPA 8270D	Terbufos-d10	109	P	59 - 149

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A86099

Included Lab Sample IDs: 2019919, 2019920, 2019921, 2019924, 2019927

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	96.3	97.2	P/P	90 - 110
O-Phosphate-P	97.5	97.0	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A86107

Included Lab Sample IDs: 2019913, 2019914, 2019915, 2019922, 2019925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.4	96.7	P/P	90 - 115
Color (true)	97.8	97.4	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A86109

Included Lab Sample IDs: 2019913, 2019914, 2019915, 2019922, 2019925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	102	P/P	95 - 105

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A86155

Included Lab Sample IDs: 2019923

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A86162

Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019923, 2019926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.2	96.5	P/P	90 - 110
Organic Carbon	96.1	94.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A86169

Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019923, 2019926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	98.6	96.2	P/P	90 - 110
Kjeldahl Nitrogen	98.9	98.6	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A86171

Included Lab Sample IDs: 2019942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	101	108	P/P	60 - 160
Glufosinate	99.3	98.1	P/P	60 - 160
Glyphosate	102	99.8	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D

Run ID: A86186

Included Lab Sample IDs: 2019943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	93.5		P	80 - 120
Alpha-BHC	97.4		P	80 - 120
Alpha-Chlordane	96.5		P	80 - 120
Beta-BHC	112		P	80 - 120
Carbophenothion	91.1		P	80 - 120
Chlorothalonil	96.0		P	80 - 120
Cypermethrin	95.6		P	80 - 120
DDD-p,p'	104		P	80 - 120
DDE-p,p'	95.4		P	80 - 120
DDT-p,p'	106		P	80 - 120
Delta-BHC	118		P	80 - 120
Dicofol	106		P	80 - 120
Dieldrin	95.6		P	80 - 120
Endosulfan I	93.1		P	80 - 120
Endosulfan II	96.2		P	80 - 120
Endosulfan Sulfate	111		P	80 - 120
Endrin	93.7		P	80 - 120
Endrin Aldehyde	103		P	80 - 120
Endrin Ketone	104		P	80 - 120
Gamma-BHC	112		P	80 - 120
Gamma-Chlordane	96.0		P	80 - 120
Heptachlor	93.0		P	80 - 120
Heptachlor Epoxide	97.5		P	80 - 120
Methoxychlor	105		P	80 - 120
Mirex	102		P	80 - 120
Permethrin	99.6		P	80 - 120
Trifluralin	93.1		P	80 - 120

Reference Method: EPA 8321B

Run ID: A86190

Included Lab Sample IDs: 2019942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	131	87.9	P/P	60 - 160
Endothall	93.0	78.8	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A86194

Included Lab Sample IDs: 2019913, 2019914, 2019915, 2019922, 2019925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	103	P/P	90 - 110
Chloride	103	107	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	102	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86208

Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019923, 2019926

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A86208

Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019923, 2019926

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A86211

Included Lab Sample IDs: 2019945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	105	P/P	95 - 105
Iron	104	104	P/P	95 - 105
Magnesium	103	103	P/P	95 - 105
Potassium	99.4	97.8	P/P	95 - 105
Sodium	101	99.4	P/P	95 - 105
Zinc	101	103	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A86218

Included Lab Sample IDs: 2019940, 2019942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	123	120	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A86219

Included Lab Sample IDs: 2019940, 2019942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.0	96.9	P/P	50 - 150
3-Hydroxycarbofuran	87.6	89.5	P/P	50 - 150
Acetaminophen	106	109	P/P	60 - 160
Aldicarb	70.4	119	P/P	60 - 150
Aldicarb Sulfone	109	95.2	P/P	50 - 150
Aldicarb Sulfoxide	114	117	P/P	50 - 150
Bentazon	98.2	103	P/P	50 - 160
Carbamazepine	99.0	109	P/P	60 - 160
Carbaryl	97.3	99.3	P/P	60 - 150
Carbofuran	86.6	86.4	P/P	50 - 150
Diuron	87.6	96.2	P/P	60 - 150
Fenuron	93.0	97.8	P/P	60 - 150
Fluridone	83.3	91.9	P/P	60 - 160
Hydrocodone	98.0	105	P/P	60 - 150
Ibuprofen	111	126	P/P	50 - 160
Imazapyr	76.9	79.5	P/P	50 - 150
Imidacloprid	88.3	85.2	P/P	60 - 150
Linuron	100	104	P/P	60 - 150
MCPP	90.2	102	P/P	50 - 150
Methiocarb	98.1	92.6	P/P	50 - 150
Methomyl	103	98.4	P/P	50 - 150
Naproxen	114	112	P/P	50 - 160
Oxamyl	103	89.0	P/P	50 - 150
Primidone	99.5	99.6	P/P	60 - 150
Propoxur	85.7	104	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A86219

Included Lab Sample IDs: 2019940, 2019942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	95.1	92.4	P/P	60 - 150
Triclopyr	109	109	P/P	50 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A86236

Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019923, 2019926

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A86251

Included Lab Sample IDs: 2019945

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	95.4	95.5	P/P	90 - 110
Cadmium	94.6	95.4	P/P	90 - 110
Chromium	92.9	93.8	P/P	90 - 110
Copper	93.7	93.4	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Nickel	94.2	93.3	P/P	90 - 110
Silver	94.1	95.3	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A86252

Included Lab Sample IDs: 2019913, 2019914, 2019915, 2019922, 2019925

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

Reference Method: EPA 8270D

Run ID: A86292

Included Lab Sample IDs: 2019944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	97.9		P	80 - 120
Alachlor	97.7		P	80 - 120
Ametryn	96.8		P	80 - 120
Atrazine	96.4		P	80 - 120
Atrazine Desethyl	97.6		P	80 - 120
Azinphos Methyl	99.9		P	80 - 120
Bromacil	96.3		P	80 - 120
Butylate	99.3		P	80 - 120
Chlorpyrifos Ethyl	97.8		P	80 - 120
Chlorpyrifos Methyl	97.4		P	80 - 120
Cyanazine	90.6		P	80 - 120
Demeton	100		P	80 - 120
Diazinon	97.9		P	80 - 120
Disulfoton	95.8		P	80 - 120
EPTC	96.2		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
Run ID: A86292
Included Lab Sample IDs: 2019944

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ethion	95.7		P	80 - 120
Ethoprop	102		P	80 - 120
Fenamiphos	93.3		P	80 - 120
Fipronil	93.9		P	80 - 120
Fipronil Sulfide	94.2		P	80 - 120
Fipronil Sulfone	94.2		P	80 - 120
Fonofos	95.3		P	80 - 120
Hexazinone	96.9		P	80 - 120
Malathion	99.6		P	80 - 120
Metaxyl	99.3		P	80 - 120
Metolachlor	102		P	80 - 120
Metribuzin	102		P	80 - 120
Mevinphos	94.1		P	80 - 120
Molinate	93.9		P	80 - 120
Norflurazon	94.1		P	80 - 120
Parathion Ethyl	91.5		P	80 - 120
Parathion Methyl	96.0		P	80 - 120
Pendimethalin	98.6		P	80 - 120
Phorate	96.6		P	80 - 120
Prometon	96.0		P	80 - 120
Prometryn	95.7		P	80 - 120
Simazine	95.4		P	80 - 120
Terbufos	97.2		P	80 - 120
Terbuthylazine	97.6		P	80 - 120

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A86298
Included Lab Sample IDs: 2019916, 2019917, 2019918, 2019926

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

Reference Method: SM 4500 F-C-97
Run ID: A86303
Included Lab Sample IDs: 2019913, 2019914, 2019915, 2019922, 2019925

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	100	99.1	P/P	90 - 110
Fluoride	99.1	99.5	P/P	90 - 110

Reference Method: EPA 8276
Run ID: A86369
Included Lab Sample IDs: 2019943

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chlordane	94.4		P	80 - 120
Toxaphene	105		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						3.95	
EPA 200.7 Rev. 4.4	Calcium	108		109	106			2.19
	Iron	106		106	103			2.64
	Magnesium	108		109	106			2.60
	Potassium	98.1		104	101			2.20
	Sodium	102		99.7	97.7			1.57
	Zinc	101		102	102			0.193
EPA 200.8 Rev. 5.4	Arsenic	98.4		102	102			0.243
	Cadmium	99.0		102	102			0.615
	Chromium	96.6		99.0	99.2			0.173
	Copper	94.8		98.3	98.2			0.178
	Lead	97.8		100	99.3			1.05
	Nickel	96.0		98.6	98.2			0.336
	Silver	96.5		98.3	97.8			0.542
EPA 300.0 Rev. 2.1	Chloride	107		107	104		3.75	
	Sulfate	104		106	102		4.20	
EPA 350.1 Rev. 2.0	Ammonia-N	100		99.6	102			2.04
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105		91.0	94.7			2.61
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0		98.0	100			2.02
	NO2NO3-N	99.5		100				1.23
EPA 365.1 Rev. 2.0	Total-P	102		100	99.6			0.492
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.0		93.9	95.1			1.27
EPA 8270D	Acetochlor	108	106	105	106	1.33		0.802
	Alachlor	108	106	108	105	1.58		2.64
	Aldrin	76.9	65.9	68.1	58.1	15.4		15.8
	Alpha-BHC	94.8	81.5	95.3	73.0	15.1		26.5
	Alpha-Chlordane	94.2	85.2	90.3	78.8	10.0		13.5
	Ametryn	109	110	112	98.0	0.531		12.9
	Atrazine	110	109	111	110	1.19		0.292
	Atrazine Desethyl	107	74.0	73.6	74.9	36.4		1.83
	Azinphos Methyl	129	120	116	115	7.24		0.996
	Beta-BHC	115	105	120	105	8.88		13.4
	Bromacil	95.9	96.0	95.6	97.4	0.0381		1.80
	Butylate	76.1	82.3	56.1	80.1	7.89		35.3
	Carbophenothion	69.8	89.9	93.3	101	25.1		8.30
	Chlorothalonil	90.1	85.0	125	78.4	5.90		45.4
	Chlorpyrifos Ethyl	102	107	109	111	4.76		2.08
	Chlorpyrifos Methyl	103	101	104	101	1.83		2.87
	Cyanazine	189	123	134	155	42.7		14.7
	Cypermethrin	96.9	86.8	110	86.6	11.0		24.2
	DDD-p,p'	116	109	112	99.8	6.14		11.3
	DDE-p,p'	93.8	83.9	85.9	74.5	11.2		14.2
	DDT-p,p'	102	93.2	96.9	86.2	8.76		11.7
	Delta-BHC	118	114	229	204	4.04		11.6
	Demeton	87.8	88.8	73.9	80.6	1.15		8.71
	Diazinon	113	111	109	105	2.24		3.87
	Dicofol	95.3	91.3	118	114	4.25		3.40
	Dieldrin	98.6	90.9	98.0	88.6	8.14		10.0
	Disulfoton	98.4	91.1	88.1	90.2	7.70		2.28
	Endosulfan I	98.9	92.0	111	96.0	7.22		14.6
	Endosulfan II	112	97.5	115	116	13.4		0.391
	Endosulfan Sulfate	115	116	123	115	0.183		6.73
	Endrin	102	95.7	106	91.6	6.13		14.3
	Endrin Aldehyde	88.3	111	114	92.3	23.1		21.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Endrin Ketone	113	114	139	122	0.862	13.2
	EPTC	78.2	82.0	69.9	52.5	4.71	28.4
	Ethion	107	110	114	115	2.73	1.45
	Ethoprop	102	102	93.5	90.5	0.348	3.18
	Fenamiphos	104	103	114	113	1.04	1.11
	Fipronil	104	108	106	109	4.14	2.36
	Fipronil Sulfide	95.0	102	105	109	7.60	3.48
	Fipronil Sulfone	88.6	101	99.0	108	12.7	8.22
	Fonofos	100	95.2	92.3	92.5	4.93	0.276
	Gamma-BHC	115	105	120	105	8.88	13.4
	Gamma-Chlordane	91.8	82.8	88.1	75.0	10.4	16.0
	Heptachlor	79.0	70.2	75.9	65.0	11.9	15.5
	Heptachlor Epoxide	98.7	89.8	96.6	86.4	9.46	11.2
	Hexazinone	106	108	113	109	1.80	3.38
	Malathion	111	117	119	119	4.51	0.231
	Metalaxyl	108	92.5	100	103	15.2	2.15
	Methoxychlor	116	103	117	108	12.4	8.66
	Metolachlor	110	112	109	111	1.93	1.85
	Metribuzin	152	113	119	118	29.8	0.857
	Mevinphos	97.8	84.7	80.9	74.5	14.3	8.35
	Mirex	82.3	76.6	78.0	62.0	7.16	22.9
	Molinate	79.2	85.0	72.5	62.3	7.02	15.2
	Norflurazon	95.6	103	99.7	102	7.28	2.60
	Parathion Ethyl	103	103	104	104	0.191	0.0953
	Parathion Methyl	107	102	104	102	4.51	2.05
	Pendimethalin	123	127	125	124	3.67	1.12
	Permethrin	95.9	87.2	99.7	82.4	9.42	19.1
	Phorate	92.8	87.1	81.8	81.2	6.35	0.716
	Prometon	104	99.9	106	103	4.41	2.30
	Prometryn	104	104	104	106	0.339	1.27
	Simazine	109	108	105	106	0.826	1.26
	Terbufos	103	96.8	94.1	95.9	6.32	1.97
	Terbuthylazine	107	109	109	110	1.72	1.04
	Trifluralin	83.4	77.0	86.6	73.8	8.05	15.9
EPA 8276	Chlordane	84.9	77.3	50.5		9.34	
	Toxaphene	71.0	63.9	59.4		10.5	
EPA 8321B	2,4-D	96.9		168	151		10.6
	3-Hydroxycarbofuran	69.9		60.7	62.8		3.40
	Acesulfame K	101		89.7	94.1		4.74
	Acetaminophen	99.9		125	119		4.47
	Aldicarb	74.3		51.1	56.2		9.51
	Aldicarb Sulfone	93.0		78.0	75.4		3.41
	Aldicarb Sulfoxide	101		35.3	35.7		1.34
	AMPA	99.2		111	115		2.82
	Bentazon	104		91.9	83.2		9.34
	Carbamazepine	74.9		72.0	69.8		3.17
	Carbaryl	62.3		55.9	61.5		9.56
	Carbofuran	65.5		76.7	71.5		6.96
	Diuron	69.4		61.8	61.6		0.337
	Endothall	90.2		107	102		5.18
	Fenuron	82.4		57.7	55.8		3.43
	Fluridone	78.6		80.4	67.4		17.6
	Glufosinate	96.2		83.3	90.1		7.88
	Glyphosate	83.1		75.7	77.3		2.08

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	87.9	82.9	79.2		4.54
	Ibuprofen	107	95.9	90.0		6.34
	Imazapyr	84.9	107	101		5.58
	Imidacloprid	100	129	131		1.86
	Linuron	64.0	67.0	59.5		11.9
	MCP	116	177	155		13.3
	Methiocarb	54.0	53.9	51.8		3.94
	Methomyl	78.0	62.1	58.6		5.79
	Naproxen	123	133	127		4.53
	Oxamyl	94.5	68.4	77.1		12.0
	Primidone	101	80.9	69.3		15.5
	Propoxur	59.7	54.8	52.7		3.93
	Pyraclostrobin	71.7	71.2	70.6		0.934
	Sucralose	122	117	118		0.944
	Triclopyr	112	215	217		1.07
SM 2120 B	Color (true)	96.4			2.73	
SM 2320 B-97	Total Alkalinity	103			0.917	
SM 2540 C-97	TDS				6.84	
	TDS				4.03	
SM 4500 F-C-97	Fluoride	98.5	104	104		0.0
SM 5310 B-00	Organic Carbon	96.4	99.6	99.4		0.111
	Organic Carbon	95.6	97.9	97.1		0.666

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2019913, 2019914, 2019915, 2019922, 2019925
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2019945
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2019945
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2019913, 2019914, 2019915, 2019922, 2019925
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2019913, 2019914, 2019915, 2019922, 2019925
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2019916, 2019917, 2019918, 2019923, 2019926
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2019916, 2019917, 2019918, 2019923, 2019926
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2019916, 2019917, 2019918, 2019923, 2019926
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2019916, 2019917, 2019918, 2019923, 2019926
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2019919, 2019920, 2019921, 2019924, 2019927
EPA 8270D / E31780	Organochlorine pesticides in water matrices by GC/MS-SIM	2019943
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	2019944
EPA 8276 / E31780	Organochlorine pesticides in water matrices by GC/MS with Negative Chemical Ionization	2019943
EPA 8321B / E31780	Carbamates in water matrices by HPLC/MS/MS	2019941
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2019940, 2019942
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2019942
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2019940, 2019942

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2120 B / E31780	True Color measured at 450 nm	2019913, 2019914, 2019915, 2019922, 2019925
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2019913, 2019914, 2019915, 2019922, 2019925
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2019913, 2019914, 2019915, 2019922, 2019925
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2019913, 2019914, 2019915, 2019922, 2019925
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2019913, 2019914, 2019915, 2019922, 2019925
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2019916, 2019917, 2019918, 2019923, 2019926

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	08/23/2018			08/24/2018 17:05	Julia Storbeck	2019913, 2019914, 2019915, 2019922, 2019925
EPA 200.7 Rev. 4.4	08/23/2018	08/28/2018 17:10	Elliott D. Healy	08/30/2018 13:08	Betina Topolski	2019945
EPA 200.8 Rev. 5.4	08/23/2018	08/28/2018 17:10	Elliott D. Healy	08/31/2018 20:06	Allison Taylor	2019945
EPA 300.0 Rev. 2.1	08/23/2018			08/29/2018 23:16	Lipi Saha	2019922
	08/23/2018			08/30/2018 01:19	Lipi Saha	2019913
	08/23/2018			08/30/2018 01:32	Lipi Saha	2019914
	08/23/2018			08/30/2018 01:44	Lipi Saha	2019915
	08/23/2018			08/30/2018 01:56	Lipi Saha	2019925
EPA 350.1 Rev. 2.0	08/23/2018			08/28/2018 13:24	Ping Hua	2019916
	08/23/2018			08/28/2018 13:25	Ping Hua	2019917
	08/23/2018			08/28/2018 13:33	Ping Hua	2019918
	08/23/2018			08/28/2018 13:34	Ping Hua	2019923
	08/23/2018			08/28/2018 13:36	Ping Hua	2019926
EPA 351.2 Rev. 2.0	08/23/2018	08/28/2018 11:00	Adrian Shelby	08/29/2018 10:53	Joseph Suarez	2019916
	08/23/2018	08/28/2018 11:00	Adrian Shelby	08/29/2018 10:58	Joseph Suarez	2019917
	08/23/2018	08/28/2018 11:00	Adrian Shelby	08/29/2018 10:59	Joseph Suarez	2019918
	08/23/2018	08/28/2018 11:00	Adrian Shelby	08/29/2018 11:01	Joseph Suarez	2019923
	08/23/2018	08/28/2018 11:00	Adrian Shelby	08/29/2018 11:03	Joseph Suarez	2019926
EPA 353.2 Rev. 2.0	08/23/2018			08/28/2018 13:22	Lauren Bottorf	2019923
	08/23/2018			09/05/2018 13:15	Lauren Bottorf	2019916
	08/23/2018			09/05/2018 13:17	Lauren Bottorf	2019917
	08/23/2018			09/05/2018 13:18	Lauren Bottorf	2019918
	08/23/2018			09/05/2018 13:19	Lauren Bottorf	2019926
EPA 365.1 Rev. 2.0	08/23/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 12:26	Beverly Y. Sanders	2019916
	08/23/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 12:27	Beverly Y. Sanders	2019917, 2019918
	08/23/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 12:28	Beverly Y. Sanders	2019923
	08/23/2018	08/29/2018 13:20	Sima Feizi	08/30/2018 12:29	Beverly Y. Sanders	2019926
EPA 365.1 Rev. 2.0 dissolved	08/23/2018			08/23/2018 15:55	Julia Storbeck	2019919
	08/23/2018			08/23/2018 15:56	Julia Storbeck	2019920
	08/23/2018			08/23/2018 16:28	Julia Storbeck	2019921
	08/23/2018			08/23/2018 16:29	Julia Storbeck	2019924
	08/23/2018			08/23/2018 16:30	Julia Storbeck	2019927
EPA 8270D	08/23/2018	08/24/2018 08:00	Fe-Val Siddell	08/27/2018 17:46	Marek Topolski	2019944
	08/23/2018	08/27/2018 09:31	Rasheda Ghaffari	08/28/2018 20:38	Dinesh Mishra	2019943
EPA 8276	08/23/2018	09/04/2018 03:30	Rasheda Ghaffari	09/08/2018 03:13	Arthur Maknenko	2019943
EPA 8321B	08/23/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 04:55	Juyoung Kim	2019942
	08/23/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 05:29	Juyoung Kim	2019940
	08/23/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 19:19	Juyoung Kim	2019941
	08/23/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 22:12	Juyoung Kim	2019942

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	08/23/2018	08/29/2018 11:00	Hoor Shaik	08/30/2018 22:47	Juyoung Kim	2019940
	08/23/2018	08/29/2018 11:50	Mohammad Ghaffari	08/29/2018 12:44	Mohammad Ghaffari	2019942
	08/23/2018	08/29/2018 11:50	Mohammad Ghaffari	08/29/2018 14:51	Mohammad Ghaffari	2019942
	08/23/2018	08/29/2018 11:50	Mohammad Ghaffari	08/30/2018 11:30	Mohammad Ghaffari	2019942
	08/23/2018	08/29/2018 11:50	Mohammad Ghaffari	08/30/2018 11:45	Mohammad Ghaffari	2019940
SM 2120 B	08/23/2018			08/24/2018 15:47	Julia Storbeck	2019925
	08/23/2018			08/24/2018 15:48	Julia Storbeck	2019913
	08/23/2018			08/24/2018 15:49	Julia Storbeck	2019914, 2019915
	08/23/2018			08/24/2018 16:03	Julia Storbeck	2019922
SM 2320 B-97	08/23/2018			08/31/2018 00:07	Dale L. Simmons	2019913
	08/23/2018			08/31/2018 00:17	Dale L. Simmons	2019914
	08/23/2018			08/31/2018 00:27	Dale L. Simmons	2019915
	08/23/2018			08/31/2018 00:34	Dale L. Simmons	2019922
SM 2540 C-97	08/23/2018			08/31/2018 00:44	Dale L. Simmons	2019925
	08/23/2018			08/28/2018 15:02	Yijie Li	2019913, 2019914, 2019915, 2019922, 2019925
SM 2540 D-97	08/23/2018			08/28/2018 15:02	Yijie Li	2019913, 2019914, 2019915, 2019922, 2019925
SM 4500 F-C-97	08/23/2018			09/05/2018 16:39	Dale L. Simmons	2019913
	08/23/2018			09/05/2018 16:43	Dale L. Simmons	2019914
	08/23/2018			09/05/2018 16:47	Dale L. Simmons	2019915
	08/23/2018			09/05/2018 16:52	Dale L. Simmons	2019922
	08/23/2018			09/05/2018 17:18	Dale L. Simmons	2019925
SM 5310 B-00	08/23/2018			08/28/2018 23:21	Megan Treadwell	2019916
	08/23/2018			08/29/2018 00:03	Megan Treadwell	2019917
	08/23/2018			08/29/2018 01:28	Megan Treadwell	2019918
	08/23/2018			08/29/2018 01:41	Megan Treadwell	2019923
	08/23/2018			08/29/2018 01:55	Megan Treadwell	2019926