

Chemical Analysis Report

NW-DIST-2019-08-06-02

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

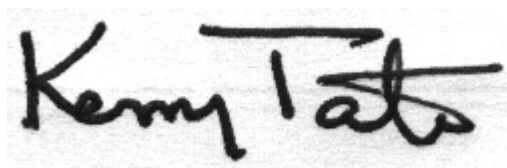
Event Description: **Navarre Run**
Request ID: **RQ-2019-07-22-12**
Customer: **NW-DIST**
Project ID: **SMP**

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

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Certified by: Kerry Tate, Ph.D., Environmental Administrator

Date Certified: 21-AUG-2019 09:28

A handwritten signature in black ink that reads "Kerry Tate". The signature is written in a cursive, flowing style with a horizontal line above the first name.

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: 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 by the Florida Department of Health Environmental Laboratory Certification Program 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: Discharge from Tiger Point Golf Course at
Maplewood Drive**

Collection Date/Time: 08/05/2019 10:35

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108778	EPA 180.1 Rev. 2.0	Turbidity	2.4		NTU	P368567	
	EPA 300.0	Bromide	0.064		mg Br/L	P368847	
	SM 2320 B-97	Total Alkalinity	28		mg CaCO3/L	P369140	
	SM 2540 D-97	TSS	2	I	mg/L	P368927	
	SM 4500 F-C-97	Fluoride	0.039	I	mg F/L	P369144	
2108779	EPA 350.1 Rev. 2.0	Ammonia-N	0.43		mg N/L	P369007	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P368692	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.015		mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.16		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P368643	
2108780	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.12		mg P/L	P368520	
2108816	EPA 8270E	Acetochlor	0.27	U	ng/L	P368795	
		Alachlor	0.27	U	ng/L	P368795	
		Ametryn	0.66	U	ng/L	P368795	
		Atrazine	0.50	I	ng/L	P368795	
		Atrazine Desethyl	1.6	U	ng/L	P368795	
		Azinphos Methyl	5.5	U	ng/L	P368795	
		Bromacil	0.55	U	ng/L	P368795	
		Butylate	0.44	U	ng/L	P368795	
		Chlorpyrifos Ethyl	0.27	U	ng/L	P368795	
		Chlorpyrifos Methyl	0.11	U	ng/L	P368795	
		Cyanazine	3.5	UJ	ng/L	P368795	CCV
		Demeton	7.6	U	ng/L	P368795	
		Diazinon	0.14	U	ng/L	P368795	
		Dimethenamid**	0.11	U	ng/L	P368795	MS, RPD
		Disulfoton	0.55	UJ	ng/L	P368795	RPD
		Dithiopyr**	2.5		ng/L	P368795	
		EPTC	1.4	U	ng/L	P368795	
		Ethion	0.16	U	ng/L	P368795	
		Ethoprop	0.11	U	ng/L	P368795	
		Fenamiphos	0.55	U	ng/L	P368795	
		Fipronil	1.3		ng/L	P368795	
		Fipronil Desulfinyl**	1.3		ng/L	P368795	
		Fipronil Sulfide	20		ng/L	P368795	
		Fipronil Sulfone	15		ng/L	P368795	
		Fonofos	0.22	U	ng/L	P368795	
		Hexazinone	0.55	U	ng/L	P368795	
		Malathion	0.38	U	ng/L	P368795	MS
		Metalaxyl	0.33	U	ng/L	P368795	
		Metolachlor	0.55	U	ng/L	P368795	
		Metribuzin	13		ng/L	P368795	MS
		Mevinphos	0.55	U	ng/L	P368795	

Field ID: G4NW0211

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108816	EPA 8270E	Molinate	0.33	U	ng/L	P368795	
		Norflurazon	0.55	U	ng/L	P368795	
		Oxadiazon**	10		ng/L	P368795	
		Parathion Ethyl	0.27	U	ng/L	P368795	
		Parathion Methyl	0.60	U	ng/L	P368795	
		Pendimethalin	1.1	U	ng/L	P368795	
		Phorate	0.27	U	ng/L	P368795	
		Prodiamine**	0.19	U	ng/L	P368795	
		Prometon	0.98	U	ng/L	P368795	MS, RPD
		Prometryn	0.22	U	ng/L	P368795	
		Simazine	0.55	U	ng/L	P368795	
		Tebuconazole**	0.55	UJ	ng/L	P368795	MS, RPD
		Terbufos	0.11	U	ng/L	P368795	
		Terbuthylazine	0.46	U	ng/L	P368795	

Ref. Method and Comment:

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

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

Sample Location: TOM KING CREEK

Collection Date/Time: 08/05/2019 11:30

Field ID: G4NW0193

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108772	EPA 180.1 Rev. 2.0	Turbidity	7.0		NTU	P368568	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P368656	
		Sulfate	8.9		mg SO4/L	P368988	
	SM 2120 B	Color (true)	45		PCU	P368523	
	SM 2320 B-97	Total Alkalinity	11		mg CaCO3/L	P368818	
	SM 2540 C-97	TDS	75		mg/L	P368938	
	SM 2540 D-97	TSS	2	I	mg/L	P368924	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P368828	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.008		mg N/L	P369007	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32		mg N/L	P368608	
2108774	EPA 353.2 Rev. 2.0	NO2NO3-N	1.1		mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.029		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	3.7		mg C/L	P368643	
	EPA 365.1 Rev. 2.0	O-Phosphate-P	0.016		mg P/L	P368518	
	dissolved						

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Williams Creek below Frankfort Avenue

Collection Date/Time: 08/05/2019 12:00

Field ID: G4NW0198

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2108773	EPA 180.1 Rev. 2.0	Turbidity	3.3		NTU	P368570	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P368656	
		Sulfate	4.8		mg SO4/L	P368988	
	SM 2120 B	Color (true)	76		PCU	P368523	
	SM 2320 B-97	Total Alkalinity	12		mg CaCO3/L	P369140	
	SM 2540 C-97	TDS	54		mg/L	P368938	
	SM 2540 D-97	TSS	2	I	mg/L	P368924	
	SM 4500 F-C-97	Fluoride	0.035	U	mg F/L	P369144	
2108775	EPA 350.1 Rev. 2.0	Ammonia-N	0.021		mg N/L	P368822	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.40		mg N/L	P368608	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.032		mg N/L	P368733	
	EPA 365.1 Rev. 2.0	Total-P	0.047		mg P/L	P368576	
	SM 5310 B-00	Organic Carbon	9.7		mg C/L	P368643	
2108777	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P368518	

Ref. Method and Comment:

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

EPA 351.2 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368567

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368568

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368570

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0
Batch ID: P368847

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368822

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368608

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368692

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368520

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

Reference Method: EPA 8270E
Batch ID: P368795

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.60	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	5.0	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	3.2	U	ng/L
Demeton	7.0	U	ng/L
Diazinon	0.12	U	ng/L
Dimethenamid	0.10	U	ng/L
Disulfoton	0.50	U	ng/L
Dithiopyr	0.10	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.50	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Desulfinyl	0.12	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270E
Batch ID: P368795

Component	Result	Code	Units
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.30	U	ng/L
Metolachlor	0.50	U	ng/L
Metribuzin	0.75	U	ng/L
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Oxadiazon	0.10	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.55	U	ng/L
Pendimethalin	1.0	U	ng/L
Phorate	0.25	U	ng/L
Prodiamine	0.18	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Tebuconazole	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbutylazine	0.42	U	ng/L

Reference Method: SM 2120 B
Batch ID: P368523

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P368818

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

Reference Method: SM 2320 B-97
Batch ID: P369140

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

Reference Method: SM 2540 C-97
Batch ID: P368938

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368924

Component	Result	Code	Units
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Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-97
Batch ID: P368924

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P368927

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P368828

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P368643

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0
Batch ID: P368847

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	95.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368822

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368608

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368692

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	100		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P368518

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P368520

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.5		P	90 - 110

Reference Method: EPA 8270E
 Batch ID: P368795

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	96.8	87.1	P/P	69 - 122
Alachlor	90.6	80.4	P/P	71 - 120
Ametryn	92.1	71.3	P/P	47 - 138
Atrazine	100	99.5	P/P	74 - 124
Atrazine Desethyl	89.9	95.0	P/P	38 - 138
Azinphos Methyl	128	122	P/P	69 - 154
Bromacil	44.9	43.0	P/P	39 - 121
Butylate	57.7	47.0	P/P	27 - 87.0
Chlorpyrifos Ethyl	94.0	90.4	P/P	69 - 118
Chlorpyrifos Methyl	101	96.9	P/P	70 - 120
Cyanazine	236	248	P/P	20 - 250
Demeton	66.1	50.0	P/P	39 - 118
Diazinon	107	96.9	P/P	68 - 127
Dimethenamid	90.3	75.9	P/P	66 - 125
Disulfoton	78.5	57.2	P/P	52 - 126
Dithiopyr	92.8	80.7	P/P	67 - 127
EPTC	59.5	45.5	P/P	24 - 88.0
Ethion	95.7	87.2	P/P	51 - 132
Ethoprop	99.7	88.8	P/P	58 - 117
Fenamiphos	49.9	55.6	P/P	38 - 139
Fipronil	94.2	71.6	P/P	61 - 124
Fipronil Desulfinyl	91.4	80.5	P/P	47 - 120
Fipronil Sulfide	89.8	80.3	P/P	56 - 119
Fipronil Sulfone	89.6	78.1	P/P	50 - 117
Fonofos	95.5	90.0	P/P	60 - 121
Hexazinone	98.5	99.1	P/P	55 - 137
Malathion	102	89.6	P/P	66 - 126
Metaxyl	98.2	87.3	P/P	33 - 140
Metolachlor	91.4	82.7	P/P	69 - 119
Metribuzin	189	197	P/P	31 - 238
Mevinphos	91.9	81.0	P/P	42 - 113
Molinate	75.4	70.0	P/P	32 - 96.0
Norflurazon	96.9	84.6	P/P	54 - 123
Oxadiazon	91.0	82.8	P/P	63 - 128
Parathion Ethyl	99.0	86.6	P/P	72 - 111
Parathion Methyl	107	96.9	P/P	74 - 126
Pendimethalin	88.5	82.4	P/P	61 - 131
Phorate	95.3	86.6	P/P	51 - 115
Prodiamine	84.1	77.7	P/P	38 - 144
Prometon	85.5	79.4	P/P	54 - 119

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8270E
Batch ID: P368795

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Prometryn	93.3	83.0	P/P	63 - 120
Simazine	108	106	P/P	75 - 126
Tebuconazole	70.5	50.0	P/P	20 - 119
Terbufos	93.6	86.5	P/P	64 - 116
Terbutylazine	100	91.0	P/P	73 - 117

Reference Method: SM 2120 B
Batch ID: P368523

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	85 - 115

Reference Method: SM 2320 B-97
Batch ID: P368818

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	104		P	98 - 106

Reference Method: SM 2320 B-97
Batch ID: P369140

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	105		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P368828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.0		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P368643

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0
Batch ID: P368847

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108329	Bromide	96.5		P	90 - 110
2108778	Bromide	97.8	97.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108507	Chloride	98.3		P	90 - 110
2108772	Chloride	99.4		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108507	Sulfate	98.5	101	P/P	90 - 110
2108772	Sulfate	99.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368822

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2107844	Ammonia-N	101	98.9	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108636	Ammonia-N	95.0	96.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P368692

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108779	Kjeldahl Nitrogen	103	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P368733

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108661	NO2NO3-N	94.2	97.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P368576

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108774	Total-P	99.1	98.1	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368518

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108776	O-Phosphate-P	96.3	96.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P368520

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108872	O-Phosphate-P	98.1	98.7	P/P	90 - 110

Reference Method: EPA 8270E
Batch ID: P368795

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109503	Acetochlor	90.7	74.7	P/P	63 - 129
2109503	Alachlor	84.3	78.7	P/P	65 - 127
2109503	Ametryn	93.0	77.9	P/P	40 - 164
2109503	Atrazine	105	101	P/P	66 - 135
2109503	Atrazine Desethyl	106	112	P/P	14 - 157
2109503	Azinphos Methyl	119	91.0	P/P	49 - 180
2109503	Bromacil	77.7	70.7	P/P	48 - 130
2109503	Butylate	50.1	55.6	P/P	10 - 94.0
2109503	Chlorpyrifos Ethyl	91.3	82.1	P/P	58 - 123
2109503	Chlorpyrifos Methyl	96.6	90.1	P/P	58 - 125
2109503	Cyanazine	245	242	P/P	24 - 253
2109503	Demeton	81.1	79.6	P/P	25 - 149
2109503	Diazinon	103	97.7	P/P	59 - 144
2109503	Dimethenamid	79.3	39.9	P/F	46 - 139
2109503	Disulfoton	95.9	79.8	P/P	54 - 132
2109503	Dithiopyr	87.9	76.7	P/P	64 - 130
2109503	EPTC	45.2	58.9	P/P	10 - 92.0
2109503	Ethion	88.0	72.2	P/P	30 - 148
2109503	Ethoprop	98.1	105	P/P	50 - 130
2109503	Fenamiphos	57.5	54.4	P/P	49 - 142
2109503	Fipronil	78.0	74.5	P/P	46 - 140
2109503	Fipronil Desulfinyl	86.7	78.4	P/P	30 - 121
2109503	Fipronil Sulfide	83.6	79.7	P/P	31 - 136
2109503	Fipronil Sulfone	79.0	62.1	P/P	16 - 136
2109503	Fonofos	96.5	101	P/P	55 - 129
2109503	Hexazinone	92.1	81.6	P/P	56 - 141
2109503	Malathion	48.0	64.8	F/P	56 - 135
2109503	Metalaxyl	93.6	83.7	P/P	54 - 135
2109503	Metolachlor	86.0	72.1	P/P	51 - 140
2109503	Metribuzin	239	294	P/F	45 - 254
2109503	Mevinphos	92.8	79.4	P/P	33 - 131
2109503	Molinate	67.7	64.0	P/P	14 - 98.0
2109503	Norflurazon	87.9	76.6	P/P	34 - 136
2109503	Oxadiazon	86.1	74.1	P/P	67 - 116
2109503	Parathion Ethyl	91.8	90.1	P/P	66 - 118
2109503	Parathion Methyl	99.9	99.4	P/P	64 - 136
2109503	Pendimethalin	85.9	83.1	P/P	59 - 144
2109503	Phorate	98.6	99.5	P/P	42 - 130
2109503	Prodiamine	96.4	85.5	P/P	42 - 148
2109503	Prometon	87.1	48.2	P/F	59 - 134
2109503	Prometryn	90.5	81.2	P/P	54 - 135
2109503	Simazine	110	106	P/P	53 - 156
2109503	Tebuconazole	16.3	4.62	P/F	10 - 131
2109503	Terbufos	99.7	102	P/P	57 - 131
2109503	Terbutylazine	99.1	92.2	P/P	68 - 125

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P368828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108513	Fluoride	99.2	98.6	P/P	89 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2109610	Fluoride	101	99.5	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P368643

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2108618	Organic Carbon	98.9	99.5	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108728	Turbidity	13.5	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108724	Turbidity	9.84	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P368570

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108864	Turbidity	0.506	Sample	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P368847

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108778	Bromide	0.780	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368656

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108507	Chloride	5.27	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P368988

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108507	Sulfate	2.22	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P368822

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2107844	Ammonia-N	1.03	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P369007

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108636	Ammonia-N	0.889	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P368608

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108755	Kjeldahl Nitrogen	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
 Batch ID: P368692

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108779	Kjeldahl Nitrogen	2.80	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
 Batch ID: P368733

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108661	NO2NO3-N	2.92	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P368576

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108774	Total-P	0.931	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P368518

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108776	O-Phosphate-P	0.267	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P368520

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108872	O-Phosphate-P	0.455	Spike	P	0 - 20

Reference Method: EPA 8270E
 Batch ID: P368795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109503	Acetochlor	19.4	Spike	P	0 - 30
2109503	Alachlor	6.95	Spike	P	0 - 30
2109503	Ametryn	17.7	Spike	P	0 - 30
2109503	Atrazine	3.53	Spike	P	0 - 30
2109503	Atrazine Desethyl	5.99	Spike	P	0 - 30
2109503	Azinphos Methyl	26.4	Spike	P	0 - 30
2109503	Bromacil	9.41	Spike	P	0 - 30
2109503	Butylate	10.4	Spike	P	0 - 30
2109503	Chlorpyrifos Ethyl	10.6	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P368795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109503	Chlorpyrifos Methyl	6.98	Spike	P	0 - 30
2109503	Cyanazine	1.04	Spike	P	0 - 30
2109503	Demeton	1.91	Spike	P	0 - 30
2109503	Diazinon	5.28	Spike	P	0 - 30
2109503	Dimethenamid	66.0	Spike	F	0 - 30
2109503	Disulfoton	18.4	Spike	P	0 - 30
2109503	Dithiopyr	13.6	Spike	P	0 - 30
2109503	EPTC	26.3	Spike	P	0 - 30
2109503	Ethion	19.7	Spike	P	0 - 30
2109503	Ethoprop	7.25	Spike	P	0 - 30
2109503	Fenamiphos	5.58	Spike	P	0 - 30
2109503	Fipronil	4.59	Spike	P	0 - 30
2109503	Fipronil Desulfinyl	10.1	Spike	P	0 - 30
2109503	Fipronil Sulfide	4.81	Spike	P	0 - 30
2109503	Fipronil Sulfone	23.9	Spike	P	0 - 30
2109503	Fonofos	4.24	Spike	P	0 - 30
2109503	Hexazinone	7.84	Spike	P	0 - 30
2109503	Malathion	29.9	Spike	P	0 - 30
2109503	Metalaxyl	11.1	Spike	P	0 - 30
2109503	Metolachlor	17.5	Spike	P	0 - 30
2109503	Metribuzin	20.5	Spike	P	0 - 30
2109503	Mevinphos	15.5	Spike	P	0 - 30
2109503	Molinate	5.61	Spike	P	0 - 30
2109503	Norflurazon	13.1	Spike	P	0 - 30
2109503	Oxadiazon	15.0	Spike	P	0 - 30
2109503	Parathion Ethyl	1.84	Spike	P	0 - 30
2109503	Parathion Methyl	0.590	Spike	P	0 - 30
2109503	Pendimethalin	3.22	Spike	P	0 - 30
2109503	Phorate	0.922	Spike	P	0 - 30
2109503	Prodiamine	12.0	Spike	P	0 - 30
2109503	Prometon	57.5	Spike	F	0 - 30
2109503	Prometryn	10.9	Spike	P	0 - 30
2109503	Simazine	3.84	Spike	P	0 - 30
2109503	Tebuconazole	112	Spike	F	0 - 30
2109503	Terbufos	2.67	Spike	P	0 - 30
2109503	Terbuthylazine	7.16	Spike	P	0 - 30
LFB	Acetochlor	10.5	LCS	P	0 - 30
LFB	Alachlor	11.9	LCS	P	0 - 30
LFB	Ametryn	25.5	LCS	P	0 - 30
LFB	Atrazine	0.443	LCS	P	0 - 30
LFB	Atrazine Desethyl	5.60	LCS	P	0 - 30
LFB	Azinphos Methyl	5.06	LCS	P	0 - 30
LFB	Bromacil	4.22	LCS	P	0 - 30
LFB	Butylate	20.5	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	3.92	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	4.35	LCS	P	0 - 30
LFB	Cyanazine	4.84	LCS	P	0 - 30
LFB	Demeton	27.7	LCS	P	0 - 30
LFB	Diazinon	9.55	LCS	P	0 - 30
LFB	Dimethenamid	17.3	LCS	P	0 - 30
LFB	Disulfoton	31.3	LCS	F	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270E
Batch ID: P368795

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Dithiopyr	14.0	LCS	P	0 - 30
LFB	EPTC	26.6	LCS	P	0 - 30
LFB	Ethion	9.31	LCS	P	0 - 30
LFB	Ethoprop	11.5	LCS	P	0 - 30
LFB	Fenamiphos	10.9	LCS	P	0 - 30
LFB	Fipronil	27.3	LCS	P	0 - 30
LFB	Fipronil Desulfinyl	12.8	LCS	P	0 - 30
LFB	Fipronil Sulfide	11.2	LCS	P	0 - 30
LFB	Fipronil Sulfone	13.8	LCS	P	0 - 30
LFB	Fonofos	5.92	LCS	P	0 - 30
LFB	Hexazinone	0.574	LCS	P	0 - 30
LFB	Malathion	12.8	LCS	P	0 - 30
LFB	Metalaxyl	11.8	LCS	P	0 - 30
LFB	Metolachlor	9.98	LCS	P	0 - 30
LFB	Metribuzin	4.10	LCS	P	0 - 30
LFB	Mevinphos	12.6	LCS	P	0 - 30
LFB	Molinate	7.44	LCS	P	0 - 30
LFB	Norflurazon	13.5	LCS	P	0 - 30
LFB	Oxadiazon	9.39	LCS	P	0 - 30
LFB	Parathion Ethyl	13.3	LCS	P	0 - 30
LFB	Parathion Methyl	10.4	LCS	P	0 - 30
LFB	Pendimethalin	7.14	LCS	P	0 - 30
LFB	Phorate	9.57	LCS	P	0 - 30
LFB	Prodiamine	7.86	LCS	P	0 - 30
LFB	Prometon	7.41	LCS	P	0 - 30
LFB	Prometryn	11.8	LCS	P	0 - 30
LFB	Simazine	2.39	LCS	P	0 - 30
LFB	Tebuconazole	34.1	LCS	F	0 - 30
LFB	Terbufos	7.96	LCS	P	0 - 30
LFB	Terbutylazine	9.52	LCS	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P368523

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108654	Color (true)	0.356	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P368818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108513	Total Alkalinity	1.27	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P369140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109610	Total Alkalinity	0.209	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P368938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108601	TDS	7.59	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P368828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108513	Fluoride	0.477	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P369144

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2109610	Fluoride	0.940	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P368643

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2108618	Organic Carbon	0.378	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: 2108816
Field Sample ID: G4NW0211

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270E	Simazine-d10	101	P	68 - 130
EPA 8270E	Terbufos-d10	93.6	P	61 - 136

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A93298

Included Lab Sample IDs: 2108776, 2108777, 2108780

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.3	100	P/P	90 - 110
O-Phosphate-P	99.5	100	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A93299

Included Lab Sample IDs: 2108772, 2108773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	103	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A93316

Included Lab Sample IDs: 2108772, 2108773, 2108778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	100	P/P	95 - 105
Turbidity	100	102	P/P	95 - 105
Turbidity	102	101	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93324

Included Lab Sample IDs: 2108772, 2108773

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.9	97.4	P/P	90 - 110
Chloride	97.4	98.7	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A93326

Included Lab Sample IDs: 2108774, 2108775, 2108779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	100	100	P/P	90 - 110
NO2NO3-N	102	102	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A93344

Included Lab Sample IDs: 2108774, 2108775, 2108779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	102	P/P	90 - 110
Organic Carbon	103	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93378

Included Lab Sample IDs: 2108779

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A93384

Included Lab Sample IDs: 2108774, 2108775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	99.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93404

Included Lab Sample IDs: 2108774, 2108775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	108	103	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A93413

Included Lab Sample IDs: 2108772

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

Reference Method: SM 4500 F-C-97

Run ID: A93413

Included Lab Sample IDs: 2108772

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93414

Included Lab Sample IDs: 2108775

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110

Reference Method: EPA 300.0

Run ID: A93422

Included Lab Sample IDs: 2108778

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	105	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A93436

Included Lab Sample IDs: 2108779

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.8	95.1	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A93486

Included Lab Sample IDs: 2108772, 2108773

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A93497

Included Lab Sample IDs: 2108774, 2108779

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

Reference Method: SM 2320 B-97

Run ID: A93545

Included Lab Sample IDs: 2108773, 2108778

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

Reference Method: SM 4500 F-C-97

Run ID: A93545

Included Lab Sample IDs: 2108773, 2108778

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

Reference Method: EPA 8270E

Run ID: A93584

Included Lab Sample IDs: 2108816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	102		P	80 - 120
Alachlor	103		P	80 - 120
Ametryn	97.4		P	80 - 120
Atrazine	101		P	80 - 120
Atrazine Desethyl	87.3		P	80 - 120
Azinphos Methyl	104		P	80 - 120
Bromacil	102		P	80 - 120
Butylate	94.9		P	80 - 120
Chlorpyrifos Ethyl	99.2		P	80 - 120
Chlorpyrifos Methyl	98.6		P	80 - 120
Cyanazine	76.7*		F	80 - 120
Demeton	99.4		P	80 - 120
Diazinon	99.9		P	80 - 120
Dimethenamid	103		P	80 - 120
Disulfoton	98.0		P	80 - 120
Dithiopyr	101		P	80 - 120
EPTC	99.2		P	80 - 120
Ethion	98.3		P	80 - 120
Ethoprop	97.3		P	80 - 120
Fenamiphos	97.2		P	80 - 120
Fipronil	99.2		P	80 - 120
Fipronil Desulfinyl	103		P	80 - 120
Fipronil Sulfide	98.9		P	80 - 120
Fipronil Sulfone	99.9		P	80 - 120
Fonofos	95.1		P	80 - 120
Hexazinone	98.2		P	80 - 120
Malathion	103		P	80 - 120
Metalaxyl	104		P	80 - 120
Metolachlor	109		P	80 - 120
Metribuzin	80.6		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270E

Run ID: A93584

Included Lab Sample IDs: 2108816

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mevinphos	101		P	80 - 120
Molinate	99.6		P	80 - 120
Norflurazon	100		P	80 - 120
Oxadiazon	106		P	80 - 120
Parathion Ethyl	95.6		P	80 - 120
Parathion Methyl	96.2		P	80 - 120
Pendimethalin	96.7		P	80 - 120
Phorate	95.5		P	80 - 120
Prodiamine	102		P	80 - 120
Prometon	100		P	80 - 120
Prometryn	102		P	80 - 120
Simazine	97.2		P	80 - 120
Tebuconazole	101		P	80 - 120
Terbufos	96.5		P	80 - 120
Terbuthylazine	99.3		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery			Precision	
							LCS	MS
EPA 180.1 Rev. 2.0	Turbidity						13.5	
	Turbidity						9.84	
	Turbidity						0.506	
EPA 300.0	Bromide	103		97.8	97.0	96.5		0.780
EPA 300.0 Rev. 2.1	Chloride	95.8		98.3	99.4		5.27	
	Sulfate	99.3		98.5	101	99.9		2.22
EPA 350.1 Rev. 2.0	Ammonia-N	103		101	98.9			1.03
	Ammonia-N	99.1		95.0	96.1			0.889
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104						1.44
	Kjeldahl Nitrogen	101		103	108			2.80
EPA 353.2 Rev. 2.0	NO2NO3-N	100		94.2	97.8			2.92
EPA 365.1 Rev. 2.0	Total-P	104		99.1	98.1			0.931
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.9		96.3	96.6			0.267
	O-Phosphate-P	98.5		98.1	98.7			0.455
EPA 8270E	Acetochlor	87.1	96.8	90.7	74.7	10.5		19.4
	Alachlor	80.4	90.6	84.3	78.7	11.9		6.95
	Ametryn	92.1	71.3	93.0	77.9	25.5		17.7
	Atrazine	100	99.5	105	101	0.443		3.53
	Atrazine Desethyl	89.9	95.0	106	112	5.60		5.99
	Azinphos Methyl	128	122	119	91.0	5.06		26.4
	Bromacil	44.9	43.0	77.7	70.7	4.22		9.41
	Butylate	57.7	47.0	50.1	55.6	20.5		10.4
	Chlorpyrifos Ethyl	94.0	90.4	91.3	82.1	3.92		10.6
	Chlorpyrifos Methyl	96.9	101	96.6	90.1	4.35		6.98
	Cyanazine	248	236	245	242	4.84		1.04
	Demeton	66.1	50.0	81.1	79.6	27.7		1.91
	Diazinon	96.9	107	103	97.7	9.55		5.28
	Dimethenamid	75.9	90.3	79.3	39.9	17.3		66.0
	Disulfoton	57.2	78.5	95.9	79.8	31.3		18.4
	Dithiopyr	80.7	92.8	87.9	76.7	14.0		13.6
	EPTC	45.5	59.5	45.2	58.9	26.6		26.3
	Ethion	87.2	95.7	88.0	72.2	9.31		19.7
	Ethoprop	88.8	99.7	98.1	105	11.5		7.25
	Fenamiphos	55.6	49.9	57.5	54.4	10.9		5.58
	Fipronil	71.6	94.2	78.0	74.5	27.3		4.59
	Fipronil Desulfinyl	80.5	91.4	86.7	78.4	12.8		10.1
	Fipronil Sulfide	80.3	89.8	83.6	79.7	11.2		4.81
	Fipronil Sulfone	78.1	89.6	79.0	62.1	13.8		23.9
	Fonofos	95.5	90.0	96.5	101	5.92		4.24
	Hexazinone	98.5	99.1	92.1	81.6	0.574		7.84
	Malathion	102	89.6	48.0	64.8	12.8		29.9
	Metalaxyl	98.2	87.3	93.6	83.7	11.8		11.1
	Metolachlor	91.4	82.7	86.0	72.1	9.98		17.5
	Metribuzin	189	197	239	294	4.10		20.5
	Mevinphos	91.9	81.0	92.8	79.4	12.6		15.5
	Molinate	75.4	70.0	67.7	64.0	7.44		5.61
	Norflurazon	96.9	84.6	87.9	76.6	13.5		13.1
	Oxadiazon	91.0	82.8	86.1	74.1	9.39		15.0
	Parathion Ethyl	99.0	86.6	91.8	90.1	13.3		1.84
	Parathion Methyl	107	96.9	99.9	99.4	10.4		0.590
	Pendimethalin	88.5	82.4	85.9	83.1	7.14		3.22
	Phorate	95.3	86.6	98.6	99.5	9.57		0.922
	Prodiamine	84.1	77.7	96.4	85.5	7.86		12.0
	Prometon	85.5	79.4	87.1	48.2	7.41		57.5

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
EPA 8270E	Prometryn	93.3	83.0	90.5	81.2	11.8	10.9
	Simazine	108	106	110	106	2.39	3.84
	Tebuconazole	70.5	50.0	16.3	4.62	34.1	112
	Terbufos	93.6	86.5	99.7	102	7.96	2.67
	Terbuthylazine	100	91.0	99.1	92.2	9.52	7.16
SM 2120 B	Color (true)	101					0.356
SM 2320 B-97	Total Alkalinity	104					1.27
	Total Alkalinity	105					0.209
SM 2540 C-97	TDS						7.59
SM 4500 F-C-97	Fluoride	97.0		99.2	98.6		0.477
	Fluoride	97.0		101	99.5		0.940
SM 5310 B-00	Organic Carbon	99.8		98.9	99.5		0.378

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2108772, 2108773, 2108778
EPA 300.0 / E31780	Bromide in aqueous matrices	2108778
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2108772, 2108773
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2108772, 2108773
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2108774, 2108775, 2108779
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2108774, 2108775, 2108779
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2108774, 2108775, 2108779
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2108774, 2108775, 2108779
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2108776, 2108777, 2108780
EPA 8270E / E31780	Organonitrogen and phosphorus pesticides in water matrices by GC/MS/MS	2108816
SM 2120 B / E31780	True Color measured at 450 nm	2108772, 2108773
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2108772, 2108773, 2108778
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2108772, 2108773
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2108772, 2108773, 2108778
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2108772, 2108773, 2108778
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2108774, 2108775, 2108779

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	08/06/2019			08/06/2019 16:32	Samantha Davila	2108772, 2108773, 2108778
EPA 300.0	08/06/2019			08/09/2019 09:02	Jhamieka S. Greenwood	2108778
EPA 300.0 Rev. 2.1	08/06/2019			08/07/2019 19:23	Jhamieka S. Greenwood	2108772
	08/06/2019			08/07/2019 22:37	Jhamieka S. Greenwood	2108773
	08/06/2019			08/13/2019 14:19	Jhamieka S. Greenwood	2108772
	08/06/2019			08/13/2019 17:33	Jhamieka S. Greenwood	2108773
EPA 350.1 Rev. 2.0	08/06/2019			08/11/2019 11:02	Ping Hua	2108775
	08/06/2019			08/13/2019 13:38	Ping Hua	2108774
	08/06/2019			08/13/2019 13:39	Ping Hua	2108779
EPA 351.2 Rev. 2.0	08/06/2019	08/07/2019 12:30	Adrian Shelby	08/09/2019 15:43	Julia Storbeck	2108774
	08/06/2019	08/07/2019 12:30	Adrian Shelby	08/09/2019 15:45	Julia Storbeck	2108775
	08/06/2019	08/08/2019 10:30	Adrian Shelby	08/12/2019 12:40	Joseph Suarez	2108779
EPA 353.2 Rev. 2.0	08/06/2019			08/07/2019 10:55	Beverly Y. Sanders	2108779
	08/06/2019			08/07/2019 12:04	Beverly Y. Sanders	2108774
	08/06/2019			08/07/2019 12:05	Beverly Y. Sanders	2108775
EPA 365.1 Rev. 2.0	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 09:29	Lipi Saha	2108779
	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 10:40	Lipi Saha	2108774
	08/06/2019	08/07/2019 14:15	Vijayalakshmi Reddy	08/09/2019 10:41	Lipi Saha	2108775
EPA 365.1 Rev. 2.0 dissolved	08/06/2019			08/06/2019 14:55	Jhamieka S. Greenwood	2108776
	08/06/2019			08/06/2019 15:21	Jhamieka S. Greenwood	2108777
	08/06/2019			08/06/2019 15:23	Jhamieka S. Greenwood	2108780
EPA 8270E	08/06/2019	08/09/2019 09:00	Julie Wi	08/13/2019 15:43	Vandana T. Nagar	2108816
SM 2120 B	08/06/2019			08/06/2019 15:19	Madeline Funaro	2108772
	08/06/2019			08/06/2019 15:20	Madeline Funaro	2108773
SM 2320 B-97	08/06/2019			08/10/2019 02:18	Dale L. Simmons	2108772
	08/06/2019			08/14/2019 23:15	Dale L. Simmons	2108773
	08/06/2019			08/14/2019 23:27	Dale L. Simmons	2108778
SM 2540 C-97	08/06/2019			08/07/2019 15:21	Yijie Li	2108772, 2108773
SM 2540 D-97	08/06/2019			08/07/2019 15:21	Yijie Li	2108772, 2108773, 2108778
SM 4500 F-C-97	08/06/2019			08/10/2019 02:18	Dale L. Simmons	2108772
	08/06/2019			08/14/2019 23:15	Dale L. Simmons	2108773
	08/06/2019			08/14/2019 23:27	Dale L. Simmons	2108778
SM 5310 B-00	08/06/2019			08/07/2019 14:38	Madeline Funaro	2108774
	08/06/2019			08/07/2019 18:58	Madeline Funaro	2108775
	08/06/2019			08/07/2019 19:10	Madeline Funaro	2108779