

Chemical Analysis Report

NE-DIST-2019-05-15-02

Florida Department of Environmental Protection
Central Laboratory
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DOH Accreditation E31780

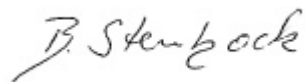
Event Description: **Bmap 2**
Request ID: **RQ-2019-05-13-17**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 07-JUN-2019 17:18



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 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: BIG FISHWEIR CR SF @ HAMILTON ST

Collection Date/Time: 05/14/2019 11:00

Field ID: 20030801

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086416	EPA 180.1 Rev. 2.0	Turbidity	3.8	A	NTU	P364016	
	EPA 300.0 Rev. 2.1	Chloride	170		mg Cl/L	P364200	
		Sulfate	58		mg SO4/L	P364202	
	SM 2120 B	Color (true)	28		PCU	P364020	
	SM 2320 B-97	Total Alkalinity	205		mg CaCO3/L	P364310	
	SM 2540 C-97	TDS	551		mg/L	P364393	
	SM 2540 D-97	TSS	2	I	mg/L	P364399	
	SM 4500 F-C-97	Fluoride	0.21		mg F/L	P364314	
2086417	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P364284	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.65		mg N/L	P364468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P364298	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P364387	
	SM 5310 B-00	Organic Carbon	8.5		mg C/L	P364197	
2086418	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.067		mg P/L	P364006	
2086436	EPA 8321B	2,4-D	0.010		ug/L	P363990	
		Acesulfame K**	0.30	I	ug/L	P364012	
		AMPA**	0.70		ug/L	P364012	
		Sucralose**	0.24		ug/L	P364012	
		Acetaminophen**	0.0095	I	ug/L	P363990	
		Endothall**	0.25	U	ug/L	P364012	
		Glufosinate**	0.10	U	ug/L	P364012	
		Bentazon	0.0076		ug/L	P363990	
		Glyphosate**	0.10	U	ug/L	P364012	
		Carbamazepine**	0.0020	I	ug/L	P363990	
		Diuron	0.060		ug/L	P363990	
		Fenuron	0.016	U	ug/L	P363990	
		Fluridone**	8.0E-04	U	ug/L	P363990	
		Imazapyr**	0.0040	U	ug/L	P363990	MS
		Hydrocodone**	0.0020	U	ug/L	P363990	
		Ibuprofen**	0.020	U	ug/L	P363990	
		Imidacloprid	0.060		ug/L	P363990	MS
		Linuron	0.0040	U	ug/L	P363990	
		MCP	0.0071	I	ug/L	P363990	MS
		Naproxen**	0.0080	U	ug/L	P363990	
		Primidone**	0.0040	U	ug/L	P363990	
		Pyraclostrobin**	0.0020	U	ug/L	P363990	
		Triclopyr**	0.0040	U	ug/L	P363990	RPD

Ref. Method and Comment:

EPA 350.1 Rev. 2.0: Batch matrix spike recoveries are unavailable because of high 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: LITTLE FISHWEIR AT OAK ST

Collection Date/Time: 05/14/2019 11:35

Field ID: 20030953

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086438	EPA 8321B	2,4-D	0.058		ug/L	P363978	
		Acesulfame K**	0.10	U	ug/L	P364012	
		AMPA**	0.31	I	ug/L	P364012	
		Sucralose**	0.057		ug/L	P364012	
		Acetaminophen**	0.0080	U	ug/L	P363978	
		Endothall**	0.25	U	ug/L	P364012	
		Glufosinate**	0.10	U	ug/L	P364012	
		Glyphosate**	1.5		ug/L	P364012	
		Bentazon	0.012	J	ug/L	P363978	MS
		Carbamazepine**	8.0E-04	U	ug/L	P363978	
		Diuron	0.0022	I	ug/L	P363978	
		Fenuron	0.016	U	ug/L	P363978	
		Fluridone**	8.0E-04	U	ug/L	P363978	
		Imazapyr**	0.024		ug/L	P363978	
		Hydrocodone**	0.0020	U	ug/L	P363978	
		Ibuprofen**	0.020	U	ug/L	P363978	
		Imidacloprid	0.021		ug/L	P363978	
		Linuron	0.0040	U	ug/L	P363978	
		MCPP	0.027		ug/L	P363978	
		Naproxen**	0.012	I	ug/L	P363978	
		Primidone**	0.0040	U	ug/L	P363978	
		Pyraclostrobin**	0.0020	U	ug/L	P363978	
		Triclopyr**	0.0040	U	ug/L	P363978	

Ref. Method and Comment:

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

Sample Location: MONCRIEF CR AT MONCRIEF ROAD

Collection Date/Time: 05/14/2019 12:05

Field ID: 20030726

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086419	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P364016	
	EPA 300.0 Rev. 2.1	Chloride	150		mg Cl/L	P364272	
		Sulfate	35		mg SO4/L	P364202	
		Color (true)	13		PCU	P364020	
	SM 2320 B-97	Total Alkalinity	144		mg CaCO3/L	P364310	
	SM 2540 C-97	TDS	643		mg/L	P364393	
	SM 2540 D-97	TSS	2	I	mg/L	P364399	
	SM 4500 F-C-97	Fluoride	0.19		mg F/L	P364314	
2086420	EPA 350.1 Rev. 2.0	Ammonia-N	0.073		mg N/L	P364285	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.58		mg N/L	P364468	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P364298	
	EPA 365.1 Rev. 2.0	Total-P	0.065		mg P/L	P364387	
	SM 5310 B-00	Organic Carbon	6.1		mg C/L	P364197	
2086421	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.023		mg P/L	P364006	
2086439	EPA 200.7 Rev. 4.4	Barium	80.5		ug/L	P364222	
		Calcium	125		mg/L	P364222	
		Iron	550		ug/L	P364222	
		Magnesium	12.5		mg/L	P364222	
		Potassium	2.6		mg/L	P364222	
		Sodium	14.8		mg/L	P364222	
		Zinc	5.4	I	ug/L	P364222	
		Aluminum	27		ug/L	P364222	
		Antimony	0.16	I	ug/L	P364222	
		Arsenic	1.25		ug/L	P364222	
	EPA 200.8 Rev. 5.4	Boron**	52.7		ug/L	P364222	
		Cadmium	0.020	U	ug/L	P364222	
		Chromium	0.40	U	ug/L	P364222	
		Copper	0.84		ug/L	P364222	
		Lead	0.73		ug/L	P364222	
		Nickel	0.71	I	ug/L	P364222	
		Selenium	0.20	U	ug/L	P364222	
		Silver	0.010	U	ug/L	P364222	
		Thallium	0.10	U	ug/L	P364222	

Ref. Method and Comment:

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

**Sample Location: TROUT R @ DINSMORE BOAT RAMP DOCK
NR US 1**

Collection Date/Time: 05/14/2019 12:55

Field ID: 20030123

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2086422	EPA 180.1 Rev. 2.0	Turbidity	6.6		NTU	P364016	
	EPA 300.0	Bromide	5.7		mg Br/L	P364209	
	SM 2320 B-97	Total Alkalinity	64		mg CaCO3/L	P364310	
	SM 2540 D-97	TSS	10	IA	mg/L	P364400	
	SM 4500 F-C-97	Fluoride	0.20		mg F/L	P364314	
2086423	EPA 350.1 Rev. 2.0	Ammonia-N	0.047		mg N/L	P364280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.88		mg N/L	P364466	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P364367	
	EPA 365.1 Rev. 2.0	Total-P	0.14		mg P/L	P364384	
	SM 5310 B-00	Organic Carbon	15		mg C/L	P364197	
2086424	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.058		mg P/L	P364005	
2086437	EPA 8321B	2,4-D	0.029		ug/L	P363978	
		Acesulfame K**	0.10	UJ	ug/L	P364012	SUR
		AMPA**	1.8	I	ug/L	P364012	
		Sucralose**	0.22		ug/L	P364012	
		Acetaminophen**	0.0080	U	ug/L	P363978	
		Endothall**	0.25	UJ	ug/L	P364012	SUR
		Glufosinate**	1.0	U	ug/L	P364012	
		Glyphosate**	1.0	U	ug/L	P364012	
		Bentazon	0.0065		ug/L	P363978	MS
		Carbamazepine**	8.0E-04	U	ug/L	P363978	
		Diuron	0.0020	U	ug/L	P363978	
		Fenuron	0.016	U	ug/L	P363978	
		Fluridone**	0.0064		ug/L	P363978	
		Imazapyr**	0.24		ug/L	P363978	
		Hydrocodone**	0.0020	U	ug/L	P363978	
		Ibuprofen**	0.020	U	ug/L	P363978	
		Imidacloprid	0.0059	I	ug/L	P363978	
		Linuron	0.0040	U	ug/L	P363978	
		MCPP	0.0029	I	ug/L	P363978	
		Naproxen**	0.0080	U	ug/L	P363978	
		Primidone**	0.0040	U	ug/L	P363978	
		Pyraclostrobin**	0.0020	U	ug/L	P363978	
		Triclopyr**	0.0040	U	ug/L	P363978	

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. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate. MDL for some parameters elevated due to matrix interference.

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P364016

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364222

Component	Result	Code	Units
Barium	1.0	U	ug/L
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: P364222

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0
Batch ID: P364209

Component	Result	Code	Units
Bromide	0.013	U	mg Br/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364272

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364284

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364468

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364298

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364387

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364005

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364006

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

Reference Method: EPA 8321B
Batch ID: P363978

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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
MCP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P363990

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P363990

Component	Result	Code	Units
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B
Batch ID: P364012

Component	Result	Code	Units
Acesulfame K	0.10	U	ug/L
AMPA	0.10	U	ug/L
Endothall	0.25	U	ug/L
Glufosinate	0.10	U	ug/L
Glyphosate	0.10	U	ug/L
Sucralose	0.010	U	ug/L

Reference Method: SM 2120 B
Batch ID: P364020

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P364310

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

Reference Method: SM 2540 C-97
Batch ID: P364393

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364399

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364400

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Quality Assurance Report Method Blank Results

Reference Method: SM 5310 B-00
Batch ID: P364197

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: P364222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	100		P	85 - 115
Calcium	106		P	85 - 115
Iron	103		P	85 - 115
Magnesium	110		P	85 - 115
Potassium	102		P	85 - 115
Sodium	105		P	85 - 115
Zinc	98.9		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364222

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	99.3		P	85 - 115
Arsenic	101		P	85 - 115
Boron	105		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	97.7		P	85 - 115
Copper	98.7		P	85 - 115
Lead	95.6		P	85 - 115
Nickel	98.6		P	85 - 115
Selenium	101		P	85 - 115
Silver	102		P	85 - 115
Thallium	99.9		P	85 - 115

Reference Method: EPA 300.0
Batch ID: P364209

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bromide	95.6		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364272

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364284

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364468

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	98.5		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364387

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: P364005

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364006

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.0		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P363978

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.8		P	40 - 150
Acetaminophen	60.7		P	30 - 150
Bentazon	86.1		P	30 - 150
Carbamazepine	84.4		P	40 - 150
Diuron	80.5		P	40 - 150
Fenuron	91.4		P	40 - 150
Fluridone	87.6		P	40 - 150
Hydrocodone	80.4		P	40 - 150
Ibuprofen	72.7		P	40 - 150
Imazapyr	77.9		P	40 - 150
Imidacloprid	84.4		P	40 - 150
Linuron	69.2		P	40 - 150
MCP	108		P	40 - 150
Naproxen	71.7		P	40 - 150
Primidone	68.8		P	40 - 150
Pyraclostrobin	72.0		P	40 - 150
Triclopyr	53.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P363990

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	108		P	40 - 150
Acetaminophen	85.7		P	30 - 150
Bentazon	111		P	30 - 150
Carbamazepine	91.8		P	40 - 150
Diuron	85.5		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	105		P	40 - 150
Hydrocodone	90.0		P	40 - 150
Ibuprofen	87.4		P	40 - 150
Imazapyr	97.4		P	40 - 150
Imidacloprid	93.3		P	40 - 150
Linuron	82.5		P	40 - 150
MCP	117		P	40 - 150
Naproxen	95.0		P	40 - 150
Primidone	84.9		P	40 - 150
Pyraclostrobin	80.0		P	40 - 150
Triclopyr	70.5		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P364012

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	95.4		P	40 - 150
AMPA	124		P	40 - 150
Endothall	84.0		P	40 - 150
Glufosinate	107		P	40 - 150
Glyphosate	98.8		P	40 - 140
Sucralose	103		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P364020

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

Reference Method: SM 2320 B-97
Batch ID: P364310

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	102		P	98 - 106

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.2		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P364197

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086663	Barium	101	101	P/P	80 - 120
2086663	Calcium	106	105	P/P	80 - 120
2086663	Iron	104	103	P/P	80 - 120
2086663	Magnesium	111	109	P/P	80 - 120
2086663	Potassium	107	107	P/P	80 - 120
2086663	Sodium	104	103	P/P	80 - 120
2086663	Zinc	99.8	100	P/P	80 - 120
2086727	Barium	98.0		P	80 - 120
2086727	Calcium	101		P	80 - 120
2086727	Iron	103		P	80 - 120
2086727	Magnesium	106		P	80 - 120
2086727	Potassium	101		P	80 - 120
2086727	Sodium	103		P	80 - 120
2086727	Zinc	100		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364222

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086663	Aluminum	102	102	P/P	80 - 120
2086663	Antimony	100	101	P/P	80 - 120
2086663	Arsenic	105	105	P/P	80 - 120
2086663	Boron	109	109	P/P	80 - 120
2086663	Cadmium	105	105	P/P	80 - 120
2086663	Chromium	101	101	P/P	80 - 120
2086663	Copper	103	102	P/P	80 - 120
2086663	Lead	97.2	96.6	P/P	80 - 120
2086663	Nickel	103	103	P/P	80 - 120
2086663	Selenium	108	108	P/P	80 - 120
2086663	Silver	104	103	P/P	80 - 120
2086663	Thallium	94.5	95.1	P/P	80 - 120
2086727	Aluminum	103		P	80 - 120
2086727	Antimony	99.3		P	80 - 120
2086727	Arsenic	103		P	80 - 120
2086727	Boron	103		P	80 - 120
2086727	Cadmium	100		P	80 - 120
2086727	Chromium	97.2		P	80 - 120
2086727	Copper	97.7		P	80 - 120
2086727	Lead	98.6		P	80 - 120
2086727	Nickel	98.1		P	80 - 120
2086727	Selenium	103		P	80 - 120
2086727	Silver	101		P	80 - 120
2086727	Thallium	103		P	80 - 120

Reference Method: EPA 300.0
Batch ID: P364209

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086553	Bromide	93.7	93.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086311	Chloride	100		P	90 - 110
2086635	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086311	Sulfate	99.1		P	90 - 110
2086635	Sulfate	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086860	Chloride	98.4		P	90 - 110
2086971	Chloride	97.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085740	Ammonia-N	101	103	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086297	Ammonia-N	103	105	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086127	Kjeldahl Nitrogen	109	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364298

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086309	NO2NO3-N	98.5	97.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086131	NO2NO3-N	100	98.8	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086129	Total-P	97.0	98.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
 Batch ID: P364387

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086332	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P364005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086424	O-Phosphate-P	94.9	95.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
 Batch ID: P364006

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086310	O-Phosphate-P	94.6	93.0	P/P	90 - 110

Reference Method: EPA 8321B
 Batch ID: P363978

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086438	2,4-D	92.7	97.4	P/P	40 - 150
2086438	Acetaminophen	61.5	67.6	P/P	30 - 150
2086438	Bentazon	28.8	43.3	F/P	30 - 150
2086438	Carbamazepine	56.3	56.3	P/P	40 - 150
2086438	Diuron	49.9	49.7	P/P	40 - 150
2086438	Fenuron	71.5	73.1	P/P	40 - 150
2086438	Fluridone	66.6	69.2	P/P	40 - 150
2086438	Hydrocodone	73.7	71.7	P/P	40 - 150
2086438	Ibuprofen	61.7	62.6	P/P	40 - 150
2086438	Imazapyr	81.8	100	P/P	40 - 150
2086438	Imidacloprid	62.5	93.7	P/P	40 - 150
2086438	Linuron	42.8	44.4	P/P	40 - 150
2086438	MCP	130	130	P/P	40 - 150
2086438	Naproxen	62.0	69.8	P/P	40 - 150
2086438	Primidone	68.6	75.3	P/P	40 - 150
2086438	Pyraclostrobin	70.2	74.0	P/P	40 - 150
2086438	Triclopyr	82.7	84.4	P/P	40 - 150

Reference Method: EPA 8321B
 Batch ID: P363990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086141	2,4-D	114	127	P/P	40 - 150
2086141	Acetaminophen	100	92.1	P/P	30 - 150
2086141	Bentazon	81.1	79.8	P/P	30 - 150
2086141	Carbamazepine	90.1	86.7	P/P	40 - 150
2086141	Diuron	78.4	73.9	P/P	40 - 150
2086141	Fenuron	98.8	96.4	P/P	40 - 150
2086141	Fluridone	107	103	P/P	40 - 150
2086141	Hydrocodone	104	99.8	P/P	40 - 150
2086141	Ibuprofen	86.6	87.0	P/P	40 - 150
2086141	Imazapyr	162	140	F/P	40 - 150
2086141	Imidacloprid	159	165	F/F	40 - 150
2086141	Linuron	69.6	68.0	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P363990

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086141	MCP	151	151	F/F	40 - 150
2086141	Naproxen	88.8	93.8	P/P	40 - 150
2086141	Primidone	97.6	96.1	P/P	40 - 150
2086141	Pyraclostrobin	92.3	90.1	P/P	40 - 150
2086141	Triclopyr	76.5	110	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P364012

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086322	Acesulfame K	90.9	106	P/P	40 - 150
2086322	AMPA	81.4	77.4	P/P	40 - 150
2086322	Endothall	76.3	75.9	P/P	40 - 150
2086322	Glufosinate	93.8	94.0	P/P	40 - 150
2086322	Glyphosate	84.5	90.2	P/P	40 - 140
2086322	Sucralose	96.8	95.5	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086656	Fluoride	98.4	98.4	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P364197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086423	Organic Carbon	94.6	96.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P364016

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086416	Turbidity	3.66	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086663	Barium	0.0454	Spike	P	0 - 20
2086663	Calcium	1.08	Spike	P	0 - 20
2086663	Iron	1.36	Spike	P	0 - 20
2086663	Magnesium	1.29	Spike	P	0 - 20
2086663	Potassium	0.208	Spike	P	0 - 20
2086663	Sodium	0.924	Spike	P	0 - 20
2086663	Zinc	0.327	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364222

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086663	Aluminum	0.229	Spike	P	0 - 20
2086663	Antimony	0.917	Spike	P	0 - 20
2086663	Arsenic	0.0710	Spike	P	0 - 20
2086663	Boron	0.230	Spike	P	0 - 20
2086663	Cadmium	0.0917	Spike	P	0 - 20
2086663	Chromium	0.129	Spike	P	0 - 20
2086663	Copper	0.618	Spike	P	0 - 20
2086663	Lead	0.518	Spike	P	0 - 20
2086663	Nickel	0.140	Spike	P	0 - 20
2086663	Selenium	0.117	Spike	P	0 - 20
2086663	Silver	1.23	Spike	P	0 - 20
2086663	Thallium	0.563	Spike	P	0 - 20

Reference Method: EPA 300.0
Batch ID: P364209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086553	Bromide	0.569	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364200

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086635	Chloride	0.467	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364202

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086635	Sulfate	0.447	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086860	Chloride	0.203	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364280

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085740	Ammonia-N	0.939	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086417	Ammonia-N	0.161	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364285

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086297	Ammonia-N	1.66	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364466

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086127	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086333	Kjeldahl Nitrogen	1.78	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364298

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086309	NO2NO3-N	0.881	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364367

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086131	NO2NO3-N	1.47	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364384

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086129	Total-P	1.15	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364387

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086332	Total-P	0.478	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086424	O-Phosphate-P	0.456	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P364006

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086310	O-Phosphate-P	1.56	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P363978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086438	2,4-D	2.83	Spike	P	0 - 30
2086438	Acetaminophen	9.43	Spike	P	0 - 30
2086438	Bentazon	15.5	Spike	P	0 - 30
2086438	Carbamazepine	0.0909	Spike	P	0 - 30
2086438	Diuron	0.392	Spike	P	0 - 30
2086438	Fenuron	2.12	Spike	P	0 - 30
2086438	Fluridone	3.86	Spike	P	0 - 30
2086438	Hydrocodone	2.83	Spike	P	0 - 30
2086438	Ibuprofen	1.49	Spike	P	0 - 30
2086438	Imazapyr	15.2	Spike	P	0 - 30
2086438	Imidacloprid	29.8	Spike	P	0 - 30
2086438	Linuron	3.89	Spike	P	0 - 30
2086438	MCP	0.116	Spike	P	0 - 30
2086438	Naproxen	9.62	Spike	P	0 - 30
2086438	Primidone	9.28	Spike	P	0 - 30
2086438	Pyraclostrobin	5.30	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P363978

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086438	Triclopyr	2.08	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P363990

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086141	2,4-D	11.2	Spike	P	0 - 30
2086141	Acetaminophen	7.48	Spike	P	0 - 30
2086141	Bentazon	1.62	Spike	P	0 - 30
2086141	Carbamazepine	2.92	Spike	P	0 - 30
2086141	Diuron	5.23	Spike	P	0 - 30
2086141	Fenuron	2.47	Spike	P	0 - 30
2086141	Fluridone	3.77	Spike	P	0 - 30
2086141	Hydrocodone	4.44	Spike	P	0 - 30
2086141	Ibuprofen	0.542	Spike	P	0 - 30
2086141	Imazapyr	9.42	Spike	P	0 - 30
2086141	Imidacloprid	3.52	Spike	P	0 - 30
2086141	Linuron	2.22	Spike	P	0 - 30
2086141	MCP	0.308	Spike	P	0 - 30
2086141	Naproxen	5.46	Spike	P	0 - 30
2086141	Primidone	1.58	Spike	P	0 - 30
2086141	Pyraclostrobin	2.39	Spike	P	0 - 30
2086141	Triclopyr	35.8	Spike	F	0 - 30

Reference Method: EPA 8321B
Batch ID: P364012

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086322	Acesulfame K	14.9	Spike	P	0 - 30
2086322	AMPA	3.99	Spike	P	0 - 30
2086322	Endothall	0.500	Spike	P	0 - 30
2086322	Glufosinate	0.291	Spike	P	0 - 30
2086322	Glyphosate	6.60	Spike	P	0 - 30
2086322	Sucralose	1.25	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P364020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086328	Color (true)	1.71	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P364310

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086656	Total Alkalinity	0.578	Sample	P	0 - 2.8

Quality Assurance Report Precision

Reference Method: SM 2540 C-97
Batch ID: P364393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086295	TDS	3.06	Sample	P	0 - 10

Reference Method: SM 2540 D-97
Batch ID: P364399

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086295	TSS	7.41	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P364314

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086656	Fluoride	0.0	Spike	P	0 - 2.5

Reference Method: SM 5310 B-00
Batch ID: P364197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086423	Organic Carbon	0.821	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: 2086436
Field Sample ID: 20030801

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	100	P	30 - 160
EPA 8321B	Acetaminophen-d4	86.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.1	P	30 - 160
EPA 8321B	Diuron-d6	58.1	P	30 - 160
EPA 8321B	Endothall-d6	151	P	30 - 160
EPA 8321B	Endothall-d6	151	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.2	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	55.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.7	P	30 - 160
EPA 8321B	Primidone-d5	94.7	P	30 - 160
EPA 8321B	Sucralose-d6	64.2	P	30 - 160
EPA 8321B	Sucralose-d6	64.2	P	30 - 160

Lab Sample ID: 2086437
Field Sample ID: 20030123

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	123	P	30 - 160
EPA 8321B	Acetaminophen-d4	93.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.5	P	30 - 160
EPA 8321B	Diuron-d6	69.7	P	30 - 160
EPA 8321B	Endothall-d6	433	F	30 - 160
EPA 8321B	Endothall-d6	433	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	62.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	62.6	P	30 - 160
EPA 8321B	Ibuprofen-d3	101	P	30 - 160
EPA 8321B	Primidone-d5	91.2	P	30 - 160
EPA 8321B	Sucralose-d6	89.1	P	30 - 160
EPA 8321B	Sucralose-d6	89.1	P	30 - 160

Lab Sample ID: 2086438
Field Sample ID: 20030953

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	124	P	30 - 160
EPA 8321B	Acetaminophen-d4	82.8	P	30 - 160
EPA 8321B	Carbamazepine-d10	66.3	P	30 - 160
EPA 8321B	Diuron-d6	62.9	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Endothall-d6	110	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.5	P	30 - 160
EPA 8321B	Primidone-d5	86.0	P	30 - 160
EPA 8321B	Sucralose-d6	45.5	P	30 - 160
EPA 8321B	Sucralose-d6	45.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A91402

Included Lab Sample IDs: 2086422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bromide	93.8	98.6	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91404

Included Lab Sample IDs: 2086416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.2	101	P/P	90 - 110
Sulfate	101	102	P/P	90 - 110
Sulfate	96.1	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91453

Included Lab Sample IDs: 2086418, 2086421, 2086424

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.5	98.2	P/P	90 - 110
O-Phosphate-P	99.1	97.1	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91457

Included Lab Sample IDs: 2086416, 2086419, 2086422

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

Reference Method: SM 2120 B

Run ID: A91460

Included Lab Sample IDs: 2086416, 2086419

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 115

Reference Method: EPA 8321B

Run ID: A91508

Included Lab Sample IDs: 2086436, 2086437, 2086438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	95.6	77.7	P/P	60 - 160
Acesulfame K	97.4	95.6	P/P	60 - 160
Endothall	107	110	P/P	60 - 160
Endothall	110	111	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A91524

Included Lab Sample IDs: 2086436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	92.8	84.0	P/P	50 - 150
Acetaminophen	108	109	P/P	60 - 160
Bentazon	94.9	92.7	P/P	50 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91524

Included Lab Sample IDs: 2086436

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Carbamazepine	97.8	97.0	P/P	60 - 150
Diuron	101	103	P/P	60 - 150
Fenuron	105	101	P/P	60 - 150
Fluridone	116	106	P/P	60 - 160
Hydrocodone	98.5	98.6	P/P	60 - 150
Ibuprofen	108	119	P/P	50 - 160
Imazapyr	98.3	92.7	P/P	50 - 150
Imidacloprid	89.4	93.9	P/P	60 - 150
Linuron	103	104	P/P	60 - 150
MCPP	96.7	105	P/P	50 - 150
Naproxen	118	131	P/P	50 - 160
Primidone	88.3	94.1	P/P	60 - 150
Pyraclostrobin	106	105	P/P	60 - 150
Triclopyr	95.4	103	P/P	50 - 150

Reference Method: SM 5310 B-00

Run ID: A91525

Included Lab Sample IDs: 2086417, 2086420, 2086423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	94.8	96.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91528

Included Lab Sample IDs: 2086436, 2086437, 2086438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	114	P/P	60 - 160
AMPA	127	108	P/P	60 - 160
Glufosinate	105	107	P/P	60 - 160
Glufosinate	107	105	P/P	60 - 160
Glyphosate	90.5	95.9	P/P	60 - 160
Glyphosate	93.1	90.5	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A91550

Included Lab Sample IDs: 2086419

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91558

Included Lab Sample IDs: 2086417, 2086420, 2086423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	103	104	P/P	90 - 110
Ammonia-N	105	105	P/P	90 - 110
Ammonia-N	106	105	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91563

Included Lab Sample IDs: 2086417, 2086420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	98.5	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91564

Included Lab Sample IDs: 2086416, 2086419, 2086422

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	102	105	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A91564

Included Lab Sample IDs: 2086416, 2086419, 2086422

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A91577

Included Lab Sample IDs: 2086439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	100	100	P/P	90 - 110
Calcium	101	99.0	P/P	90 - 110
Iron	101	99.3	P/P	90 - 110
Magnesium	101	100	P/P	90 - 110
Potassium	100	99.2	P/P	90 - 110
Sodium	102	102	P/P	90 - 110
Zinc	101	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91592

Included Lab Sample IDs: 2086423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.5	96.5	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91610

Included Lab Sample IDs: 2086437, 2086438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	83.0	75.6	P/P	50 - 150
Acetaminophen	79.1	85.2	P/P	60 - 160
Bentazon	99.3	99.5	P/P	50 - 160
Carbamazepine	93.9	92.4	P/P	60 - 150
Diuron	102	99.3	P/P	60 - 150
Fenuron	98.4	88.0	P/P	60 - 150
Fluridone	94.4	94.9	P/P	60 - 160
Hydrocodone	89.3	78.5	P/P	60 - 150
Ibuprofen	102	102	P/P	50 - 160
Imazapyr	90.2	91.8	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91610

Included Lab Sample IDs: 2086437, 2086438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	86.0	83.7	P/P	60 - 150
Linuron	99.0	90.0	P/P	60 - 150
MCPP	93.6	93.5	P/P	50 - 150
Naproxen	87.2	109	P/P	50 - 160
Primidone	89.8	92.0	P/P	60 - 150
Pyraclostrobin	93.3	95.4	P/P	60 - 150
Triclopyr	93.1	89.2	P/P	50 - 150

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91613

Included Lab Sample IDs: 2086439

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	104	P/P	90 - 110
Antimony	96.3	97.2	P/P	90 - 110
Arsenic	101	102	P/P	90 - 110
Boron	108	109	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	102	101	P/P	90 - 110
Copper	102	102	P/P	90 - 110
Lead	98.2	99.1	P/P	90 - 110
Nickel	101	100	P/P	90 - 110
Selenium	103	103	P/P	90 - 110
Silver	103	103	P/P	90 - 110
Thallium	103	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91619

Included Lab Sample IDs: 2086417, 2086420, 2086423

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

Reference Method: EPA 8321B

Run ID: A91647

Included Lab Sample IDs: 2086436, 2086437, 2086438

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	112	P/P	60 - 160
Sucralose	112	102	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91686

Included Lab Sample IDs: 2086423

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.4	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B

Run ID: A91688

Included Lab Sample IDs: 2086437

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	110	111	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91693

Included Lab Sample IDs: 2086417, 2086420

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.4	98.2	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			LCS	Precision SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						3.66	
EPA 200.7 Rev. 4.4	Barium	100	101	101	98.0			0.0454
	Calcium	106	106	105	101			1.08
	Iron	103	104	103	103			1.36
	Magnesium	110	111	109	106			1.29
	Potassium	102	107	107	101			0.208
	Sodium	105	104	103	103			0.924
	Zinc	98.9	99.8	100	100			0.327
EPA 200.8 Rev. 5.4	Aluminum	101	102	102	103			0.229
	Antimony	99.3	100	101	99.3			0.917
	Arsenic	101	105	105	103			0.0710
	Boron	105	109	109	103			0.230
	Cadmium	103	105	105	100			0.0917
	Chromium	97.7	101	101	97.2			0.129
	Copper	98.7	103	102	97.7			0.618
	Lead	95.6	97.2	96.6	98.6			0.518
	Nickel	98.6	103	103	98.1			0.140
	Selenium	101	108	108	103			0.117
	Silver	102	104	103	101			1.23
	Thallium	99.9	94.5	95.1	103			0.563
EPA 300.0	Bromide	95.6	93.7	93.2				0.569
EPA 300.0 Rev. 2.1	Chloride	99.0	98.8	100			0.467	
	Chloride	100	98.4	97.4			0.203	
	Sulfate	98.4	104	99.1			0.447	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	103				0.939
	Ammonia-N	102						0.161
	Ammonia-N	103	103	105				1.66
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	109	107				2.00
	Kjeldahl Nitrogen	100						1.78
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	98.5	98.5	97.0				0.881
	NO ₂ NO ₃ -N	100	100	98.8				1.47
EPA 365.1 Rev. 2.0	Total-P	101	97.0	98.2				1.15
	Total-P	104	103	102				0.478
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.2	94.9	95.6				0.456
	O-Phosphate-P	98.0	94.6	93.0				1.56
EPA 8321B	2,4-D	82.8	92.7	97.4				2.83
	2,4-D	108	114	127				11.2
	Acesulfame K	95.4	90.9	106				14.9
	Acetaminophen	60.7	61.5	67.6				9.43
	Acetaminophen	85.7	100	92.1				7.48
	AMPA	124	81.4	77.4				3.99
	Bentazon	86.1	28.8	43.3				15.5
	Bentazon	111	81.1	79.8				1.62
	Carbamazepine	84.4	56.3	56.3				0.0909
	Carbamazepine	91.8	90.1	86.7				2.92
	Diuron	80.5	49.9	49.7				0.392
	Diuron	85.5	78.4	73.9				5.23
	Endothall	84.0	76.3	75.9				0.500
	Fenuron	91.4	71.5	73.1				2.12
	Fenuron	106	98.8	96.4				2.47
	Fluridone	87.6	66.6	69.2				3.86
	Fluridone	105	107	103				3.77
	Glufosinate	107	93.8	94.0				0.291
	Glyphosate	98.8	84.5	90.2				6.60

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Hydrocodone	80.4	73.7	71.7		
	Hydrocodone	90.0	104	99.8		
	Ibuprofen	72.7	61.7	62.6		
	Ibuprofen	87.4	86.6	87.0		
	Imazapyr	77.9	81.8	100		
	Imazapyr	97.4	162	140		
	Imidacloprid	84.4	62.5	93.7		
	Imidacloprid	93.3	159	165		
	Linuron	69.2	42.8	44.4		
	Linuron	82.5	69.6	68.0		
	MCPP	108	130	130		
	MCPP	117	151	151		
	Naproxen	71.7	62.0	69.8		
	Naproxen	95.0	88.8	93.8		
	Primidone	68.8	68.6	75.3		
	Primidone	84.9	97.6	96.1		
	Pyraclostrobin	72.0	70.2	74.0		
	Pyraclostrobin	80.0	92.3	90.1		
	Sucralose	103	96.8	95.5		
	Triclopyr	53.3	82.7	84.4		
	Triclopyr	70.5	76.5	110		
SM 2120 B	Color (true)	101				1.71
SM 2320 B-97	Total Alkalinity	102				0.578
SM 2540 C-97	TDS					3.06
SM 2540 D-97	TSS					7.41
SM 4500 F-C-97	Fluoride	97.2	98.4	98.4		
SM 5310 B-00	Organic Carbon	94.3	94.6	96.0		

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2086416, 2086419, 2086422
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2086439
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2086439
EPA 300.0 / E31780	Bromide in aqueous matrices	2086422
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2086416, 2086419
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2086416, 2086419
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2086417, 2086420, 2086423
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2086417, 2086420, 2086423
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2086417, 2086420, 2086423
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2086417, 2086420, 2086423
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2086418, 2086421, 2086424
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2086436, 2086437, 2086438
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2086436, 2086437, 2086438
SM 2120 B / E31780	True Color measured at 450 nm	2086416, 2086419

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2086416, 2086419, 2086422
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2086416, 2086419
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2086416, 2086419, 2086422
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2086416, 2086419, 2086422
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2086417, 2086420, 2086423

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	05/15/2019			05/15/2019 15:04	Sima Feizi	2086416, 2086419, 2086422
EPA 200.7 Rev. 4.4	05/15/2019	05/20/2019 14:30	Elliott D. Healy	05/21/2019 13:54	Betina Topolski	2086439
EPA 200.8 Rev. 5.4	05/15/2019	05/20/2019 14:30	Elliott D. Healy	05/22/2019 23:20	Robert K Palmer	2086439
EPA 300.0	05/15/2019			05/17/2019 15:36	Lipi Saha	2086422
EPA 300.0 Rev. 2.1	05/15/2019			05/17/2019 17:13	Lipi Saha	2086416
	05/15/2019			05/17/2019 17:50	Lipi Saha	2086419
	05/15/2019			05/21/2019 00:14	Lipi Saha	2086419
EPA 350.1 Rev. 2.0	05/15/2019			05/17/2019 11:05	Ping Hua	2086423
	05/15/2019			05/17/2019 12:42	Ping Hua	2086417
	05/15/2019			05/17/2019 13:15	Ping Hua	2086420
EPA 351.2 Rev. 2.0	05/15/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 11:21	Joseph Suarez	2086423
	05/15/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 14:42	Joseph Suarez	2086417
	05/15/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 14:43	Joseph Suarez	2086420
EPA 353.2 Rev. 2.0	05/15/2019			05/21/2019 11:58	Beverly Y. Sanders	2086417
	05/15/2019			05/21/2019 12:00	Beverly Y. Sanders	2086420
	05/15/2019			05/22/2019 09:39	Beverly Y. Sanders	2086423
EPA 365.1 Rev. 2.0	05/15/2019	05/22/2019 02:01	Lipi Saha	05/22/2019 19:04	Rosalyn Ballman	2086423
	05/15/2019	05/22/2019 02:01	Lipi Saha	05/22/2019 19:56	Rosalyn Ballman	2086417
	05/15/2019	05/22/2019 02:01	Lipi Saha	05/22/2019 19:57	Rosalyn Ballman	2086420
EPA 365.1 Rev. 2.0 dissolved	05/15/2019			05/15/2019 15:52	Jhamieka S. Greenwood	2086424
	05/15/2019			05/15/2019 16:16	Jhamieka S. Greenwood	2086418, 2086421
EPA 8321B	05/15/2019	05/16/2019 11:00	Hoor Shaik	05/20/2019 03:07	Juyoung Kim	2086436
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 19:08	Rebecca Ware	2086436
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 19:36	Rebecca Ware	2086437
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 19:50	Rebecca Ware	2086438
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 19:47	Rebecca Ware	2086436
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 20:19	Rebecca Ware	2086438
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 21:12	Rebecca Ware	2086437
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 23:01	Rebecca Ware	2086436
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 23:24	Rebecca Ware	2086437
	05/15/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 23:36	Rebecca Ware	2086438
	05/15/2019	05/20/2019 09:00	Hoor Shaik	05/22/2019 22:37	Juyoung Kim	2086437
	05/15/2019	05/20/2019 09:00	Hoor Shaik	05/23/2019 00:21	Juyoung Kim	2086438
SM 2120 B	05/15/2019			05/15/2019 16:59	Madeline Funaro	2086416, 2086419
SM 2320 B-97	05/15/2019			05/21/2019 08:47	Dale L. Simmons	2086419
	05/15/2019			05/21/2019 11:01	Dale L. Simmons	2086416
	05/15/2019			05/21/2019 11:39	Dale L. Simmons	2086422
SM 2540 C-97	05/15/2019			05/16/2019 15:31	Yijie Li	2086416, 2086419
SM 2540 D-97	05/15/2019			05/16/2019 15:31	Yijie Li	2086416, 2086419, 2086422
SM 4500 F-C-97	05/15/2019			05/21/2019 08:47	Dale L. Simmons	2086419

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 4500 F-C-97	05/15/2019			05/21/2019 11:01	Dale L. Simmons	2086416
	05/15/2019			05/21/2019 11:39	Dale L. Simmons	2086422
SM 5310 B-00	05/15/2019			05/17/2019 04:02	Julia Storbeck	2086423
	05/15/2019			05/17/2019 05:26	Julia Storbeck	2086417
	05/15/2019			05/17/2019 05:39	Julia Storbeck	2086420