

Chemical Analysis Report

NE-DIST-2019-05-14-01

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

Event Description: **Bmap 1**
Request ID: **RQ-2019-05-13-16**
Customer: **NE-DIST**
Project ID: **SMP**

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

Date Certified: 05-JUN-2019 18:44



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: GOODBYS CR ABOVE WEST BRANCH AT SAN CLERC **Collection Date/Time: 05/13/2019 12:10**

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085937	EPA 180.1 Rev. 2.0	Turbidity	8.8		NTU	P363957	
	EPA 300.0 Rev. 2.1	Chloride	24		mg Cl/L	P364112	
		Sulfate	17		mg SO4/L	P364114	
	SM 2120 B	Color (true)	49		PCU	P363941	
	SM 2320 B-97	Total Alkalinity	128		mg CaCO3/L	P364307	
	SM 2540 C-97	TDS	210		mg/L	P364390	
	SM 2540 D-97	TSS	3	I	mg/L	P364396	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P364311	
2085939	EPA 350.1 Rev. 2.0	Ammonia-N	0.077		mg N/L	P364281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.42		mg N/L	P364295	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.28		mg N/L	P364214	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P364187	
	SM 5310 B-00	Organic Carbon	8.2		mg C/L	P364410	
2085941	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.034		mg P/L	P363937	
2085956	EPA 8321B	2,4-D	0.036		ug/L	P363904	
		Acesulfame K**	0.10	U	ug/L	P364011	
		AMPA**	0.37	I	ug/L	P364011	MS
		Sucralose**	0.13		ug/L	P364011	
		Acetaminophen**	0.0080	U	ug/L	P363904	
		Endothall**	0.25	U	ug/L	P364011	
		Glufosinate**	0.10	U	ug/L	P364011	
		Bentazon	0.021		ug/L	P363904	
		Glyphosate**	0.38	I	ug/L	P364011	
		Carbamazepine**	8.0E-04	U	ug/L	P363904	
		Diuron	0.12		ug/L	P363904	
		Fenuron	0.018	I	ug/L	P363904	
		Fluridone**	0.014		ug/L	P363904	
		Imazapyr**	0.94		ug/L	P363904	
		Hydrocodone**	0.0020	U	ug/L	P363904	
		Ibuprofen**	0.020	U	ug/L	P363904	
		Imidacloprid	0.021		ug/L	P363904	
		Linuron	0.0040	U	ug/L	P363904	
		MCPP	0.0030	I	ug/L	P363904	MS
		Naproxen**	0.0080	U	ug/L	P363904	
		Primidone**	0.0040	U	ug/L	P363904	
		Pyraclostrobin**	0.0020	U	ug/L	P363904	RPD
		Triclopyr**	0.0040	U	ug/L	P363904	
2085959	EPA 200.7 Rev. 4.4	Barium	38.9		ug/L	P364002	
		Calcium	46.3		mg/L	P364002	
		Iron	1.50E+03		ug/L	P364002	
		Magnesium	6.28		mg/L	P364002	
		Potassium	2.0		mg/L	P364002	

Field ID: 20030891

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085959	EPA 200.7 Rev. 4.4	Sodium	16.5		mg/L	P364002	
		Zinc	5.0	U	ug/L	P364002	
	EPA 200.8 Rev. 5.4	Aluminum	41		ug/L	P364002	
		Antimony	0.075	I	ug/L	P364002	
		Arsenic	3.47		ug/L	P364002	
		Boron**	35.6		ug/L	P364002	
		Cadmium	0.020	U	ug/L	P364002	
		Chromium	0.40	U	ug/L	P364002	
		Copper	0.56	I	ug/L	P364002	
		Lead	0.20	U	ug/L	P364002	
		Nickel	0.50	U	ug/L	P364002	
		Selenium	0.20	U	ug/L	P364002	
		Silver	0.010	U	ug/L	P364002	
		Thallium	0.10	U	ug/L	P364002	

Ref. Method and Comment:

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

Sample Location: CRAIG CR. 100m DOWN FROM FOOTBRIDGE IN PARK **Collection Date/Time: 05/13/2019 12:35**

Field ID: 20030958

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085934	EPA 180.1 Rev. 2.0	Turbidity	7.8		NTU	P363957	
	EPA 300.0	Bromide	4.1		mg Br/L	P364209	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P364261	
	SM 2540 D-97	TSS	6	I	mg/L	P364399	
	SM 4500 F-C-97	Fluoride	0.25		mg F/L	P364266	
2085935	EPA 350.1 Rev. 2.0	Ammonia-N	0.15		mg N/L	P364280	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P364464	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.077		mg N/L	P364366	
	EPA 365.1 Rev. 2.0	Total-P	0.24		mg P/L	P364185	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P364410	
2085936	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.10		mg P/L	P363936	
2085955	EPA 8321B	2,4-D	0.036		ug/L	P363904	
		Acesulfame K**	0.10	UJ	ug/L	P364011	SUR
		AMPA**	0.18	I	ug/L	P364011	MS
		Sucralose**	0.31		ug/L	P364011	
		Acetaminophen**	0.12		ug/L	P363904	
		Endothall**	0.25	UJ	ug/L	P364011	SUR
		Glufosinate**	0.10	U	ug/L	P364011	
		Glyphosate**	0.90		ug/L	P364011	
		Bentazon	0.0093		ug/L	P363904	
		Carbamazepine**	8.0E-04	U	ug/L	P363904	
		Diuron	0.0045	I	ug/L	P363904	
		Fenuron	0.016	U	ug/L	P363904	
		Fluridone**	0.0023	I	ug/L	P363904	
		Imazapyr**	0.11		ug/L	P363904	
		Hydrocodone**	0.0020	U	ug/L	P363904	
		Ibuprofen**	0.020	U	ug/L	P363904	
		Imidacloprid	0.029		ug/L	P363904	
		Linuron	0.0040	U	ug/L	P363904	
		MCP	0.011		ug/L	P363904	MS
		Naproxen**	0.0080	U	ug/L	P363904	
		Primidone**	0.0040	U	ug/L	P363904	
		Pyraclostrobin**	0.0020	U	ug/L	P363904	RPD
		Triclopyr**	0.0040	U	ug/L	P363904	

Ref. Method and Comment:

EPA 8321B: Refer to the narrative for an explanation of QC Codes. Surrogate spike recovery exceeding the control limits. Results confirmed in sample duplicate.

Sample Location: CRAIG CR @ HENDRICKS AVE

Collection Date/Time: 05/13/2019 12:50

Field ID: 20030793

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085958	EPA 8321B	2,4-D	0.012		ug/L	P363904	
		Acesulfame K**	0.15	I	ug/L	P364011	
		AMPA**	0.37	I	ug/L	P364011	MS
		Sucralose**	0.18		ug/L	P364011	
		Acetaminophen**	0.013	I	ug/L	P363904	
		Endothall**	0.25	U	ug/L	P364011	
		Glufosinate**	0.10	U	ug/L	P364011	
		Bentazon	0.020		ug/L	P363904	
		Glyphosate**	0.75		ug/L	P364011	
		Carbamazepine**	8.0E-04	U	ug/L	P363904	
		Diuron	0.0041	I	ug/L	P363904	
		Fenuron	0.016	U	ug/L	P363904	
		Fluridone**	0.0055		ug/L	P363904	
		Imazapyr**	0.30		ug/L	P363904	
		Hydrocodone**	0.0020	U	ug/L	P363904	
		Ibuprofen**	0.020	U	ug/L	P363904	
		Imidacloprid	0.018		ug/L	P363904	
		Linuron	0.0040	U	ug/L	P363904	
		MCPP	0.0061	I	ug/L	P363904	MS
		Naproxen**	0.0080	U	ug/L	P363904	
		Primidone**	0.0040	U	ug/L	P363904	
		Pyraclostrobin**	0.0020	U	ug/L	P363904	RPD
		Triclopyr**	0.0040	U	ug/L	P363904	

Sample Location: NW TRIBUTARY TO OPEN CR AT HODGES

Collection Date/Time: 05/13/2019 14:45

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085938	EPA 180.1 Rev. 2.0	Turbidity	11		NTU	P363957	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P364112	
		Sulfate	72		mg SO4/L	P364114	
	SM 2120 B	Color (true)	33		PCU	P363942	
	SM 2320 B-97	Total Alkalinity	84		mg CaCO3/L	P364307	
	SM 2540 C-97	TDS	255		mg/L	P364390	
	SM 2540 D-97	TSS	18		mg/L	P364396	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P364311	
2085940	EPA 350.1 Rev. 2.0	Ammonia-N	0.091		mg N/L	P364281	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P364295	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.25		mg N/L	P364214	
	EPA 365.1 Rev. 2.0	Total-P	0.35		mg P/L	P364187	
	SM 5310 B-00	Organic Carbon	12		mg C/L	P364410	
2085942	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P363937	
2085957	EPA 8321B	2,4-D	0.048		ug/L	P363904	
		Acesulfame K**	0.10	U	ug/L	P364011	
		AMPA**	0.20	I	ug/L	P364011	MS
		Sucralose**	0.11		ug/L	P364011	
		Acetaminophen**	0.0080	U	ug/L	P363904	
		Endothall**	0.25	U	ug/L	P364011	
		Glufosinate**	0.10	U	ug/L	P364011	
		Bentazon	0.094		ug/L	P363904	
		Glyphosate**	0.17	I	ug/L	P364011	
		Carbamazepine**	8.0E-04	U	ug/L	P363904	
		Diuron	0.0020	U	ug/L	P363904	
		Fenuron	0.016	U	ug/L	P363904	
		Fluridone**	0.031		ug/L	P363904	
		Imazapyr**	0.25		ug/L	P363904	
		Hydrocodone**	0.0020	U	ug/L	P363904	
		Ibuprofen**	0.020	U	ug/L	P363904	
		Imidacloprid	0.014		ug/L	P363904	
		Linuron	0.0040	U	ug/L	P363904	
		MCP	0.0030	I	ug/L	P363904	MS
		Naproxen**	0.0080	U	ug/L	P363904	
		Primidone**	0.0040	U	ug/L	P363904	
		Pyraclostrobin**	0.0020	U	ug/L	P363904	RPD
		Triclopyr**	0.0040	U	ug/L	P363904	
2085960	EPA 200.7 Rev. 4.4	Barium	49.9		ug/L	P364002	
		Calcium	51.2		mg/L	P364002	
		Iron	1.54E+03		ug/L	P364002	
		Magnesium	8.78		mg/L	P364002	
		Potassium	3.7		mg/L	P364002	
		Sodium	19.8		mg/L	P364002	

Field ID: 20030848

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2085960	EPA 200.7 Rev. 4.4	Zinc	5.0	U	ug/L	P364002	
	EPA 200.8 Rev. 5.4	Aluminum	1.09E+03		ug/L	P364002	
		Antimony	0.10	I	ug/L	P364002	
		Arsenic	1.72		ug/L	P364002	
		Boron**	28.7		ug/L	P364002	
		Cadmium	0.020	U	ug/L	P364002	
		Chromium	0.61	I	ug/L	P364002	
		Copper	6.66		ug/L	P364002	
		Lead	0.37	I	ug/L	P364002	
		Nickel	0.50	U	ug/L	P364002	
		Selenium	0.20	U	ug/L	P364002	
		Silver	0.010	U	ug/L	P364002	
		Thallium	0.10	U	ug/L	P364002	

Ref. Method and Comment:

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P363957

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364002

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: P364002

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: P364112

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364114

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Quality Assurance Report Method Blank Results

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: P364281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364295

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364464

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364214

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364366

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364185

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364187

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363936

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363937

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

Reference Method: EPA 8321B
Batch ID: P363904

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
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: P364011

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: P363941

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2120 B
Batch ID: P363942

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P364261

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2320 B-97
Batch ID: P364307

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

Reference Method: SM 2540 C-97
Batch ID: P364390

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P364396

Component	Result	Code	Units
TSS	2	U	mg/L

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

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P364266

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 4500 F-C-97
Batch ID: P364311

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P364410

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: P364002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Barium	99.1		P	85 - 115
Calcium	94.5		P	85 - 115
Iron	99.0		P	85 - 115
Magnesium	105		P	85 - 115
Potassium	97.3		P	85 - 115
Sodium	90.7		P	85 - 115
Zinc	97.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364002

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	96.1		P	85 - 115
Antimony	96.9		P	85 - 115
Arsenic	102		P	85 - 115
Boron	96.6		P	85 - 115
Cadmium	99.5		P	85 - 115
Chromium	99.8		P	85 - 115
Copper	99.8		P	85 - 115
Lead	99.9		P	85 - 115
Nickel	101		P	85 - 115
Selenium	99.8		P	85 - 115
Silver	97.9		P	85 - 115
Thallium	102		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: P364112

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364114

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

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P364281

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364295

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364464

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: P364214

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO ₂ NO ₃ -N	101		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364366

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: P364185

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364187

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.4		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363936

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363937

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P363904

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	114		P	40 - 150
Acetaminophen	88.5		P	30 - 150
Bentazon	125		P	30 - 150
Carbamazepine	95.9		P	40 - 150
Diuron	88.9		P	40 - 150
Fenuron	103		P	40 - 150
Fluridone	106		P	40 - 150
Hydrocodone	90.5		P	40 - 150
Ibuprofen	89.0		P	40 - 150
Imazapyr	99.6		P	40 - 150
Imidacloprid	96.8		P	40 - 150
Linuron	78.6		P	40 - 150
MCPP	128		P	40 - 150
Naproxen	99.7		P	40 - 150
Primidone	90.9		P	40 - 150
Pyraclostrobin	83.2		P	40 - 150
Triclopyr	87.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P364011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.7		P	40 - 150
AMPA	124		P	40 - 150
Endothall	77.8		P	40 - 150
Glufosinate	107		P	40 - 150
Glyphosate	99.1		P	40 - 140
Sucralose	102		P	40 - 150

Reference Method: SM 2120 B
Batch ID: P363941

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.4		P	85 - 115

Reference Method: SM 2120 B
Batch ID: P363942

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

Reference Method: SM 2320 B-97
Batch ID: P364261

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

Reference Method: SM 2320 B-97
Batch ID: P364307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	101		P	98 - 106

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P364266

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.9		P	92 - 103

Reference Method: SM 4500 F-C-97
Batch ID: P364311

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

Reference Method: SM 5310 B-00
Batch ID: P364410

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085989	Barium	96.8		P	80 - 120
2085989	Calcium	92.4		P	80 - 120
2085989	Iron	101		P	80 - 120
2085989	Magnesium	95.0		P	80 - 120
2085989	Potassium	92.6		P	80 - 120
2085989	Sodium	91.1		P	80 - 120
2085989	Zinc	98.2		P	80 - 120
2086093	Barium	96.6	95.5	P/P	80 - 120
2086093	Calcium	95.2		P	80 - 120
2086093	Iron	98.5	97.3	P/P	80 - 120
2086093	Magnesium	100	99.8	P/P	80 - 120
2086093	Potassium	92.7	92.1	P/P	80 - 120
2086093	Sodium	95.4		P	80 - 120
2086093	Zinc	99.8	98.8	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364002

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085989	Aluminum	93.5		P	80 - 120
2085989	Antimony	97.4		P	80 - 120
2085989	Arsenic	103		P	80 - 120
2085989	Boron	93.6		P	80 - 120
2085989	Cadmium	99.4		P	80 - 120
2085989	Chromium	99.2		P	80 - 120
2085989	Copper	101		P	80 - 120
2085989	Lead	101		P	80 - 120
2085989	Nickel	100		P	80 - 120
2085989	Selenium	99.8		P	80 - 120
2085989	Silver	96.0		P	80 - 120
2085989	Thallium	104		P	80 - 120
2086093	Aluminum	93.1	91.6	P/P	80 - 120
2086093	Antimony	95.6	95.2	P/P	80 - 120
2086093	Arsenic	101	100	P/P	80 - 120
2086093	Boron	109	105	P/P	80 - 120
2086093	Cadmium	97.6	96.6	P/P	80 - 120
2086093	Chromium	95.1	94.8	P/P	80 - 120
2086093	Copper	98.3	97.1	P/P	80 - 120
2086093	Lead	98.9	98.4	P/P	80 - 120
2086093	Nickel	99.2	97.4	P/P	80 - 120
2086093	Selenium	98.5	97.6	P/P	80 - 120
2086093	Silver	94.9	94.4	P/P	80 - 120
2086093	Thallium	101	101	P/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: P364112

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085881	Chloride	93.6		P	90 - 110
2086040	Chloride	99.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364114

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085881	Sulfate	94.4		P	90 - 110
2086040	Sulfate	97.7		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: P364281

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086077	Ammonia-N	107	109	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364295

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086062	Kjeldahl Nitrogen	101	95.5	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364464

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086107	Kjeldahl Nitrogen	106	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364214

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085904	NO2NO3-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364366

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085935	NO2NO3-N	102	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364185

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086128	Total-P	100	97.6	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364187

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085904	Total-P	91.6	94.4	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085742	O-Phosphate-P	92.5	95.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085941	O-Phosphate-P	94.0	95.8	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P363904

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086016	2,4-D	130	120	P/P	40 - 150
2086016	Acetaminophen	73.4	61.5	P/P	30 - 150
2086016	Bentazon	89.0	45.7	P/P	30 - 150
2086016	Carbamazepine	77.4	69.3	P/P	40 - 150
2086016	Diuron	73.0	66.2	P/P	40 - 150
2086016	Fenuron	68.3	58.9	P/P	40 - 150
2086016	Fluridone	110	96.9	P/P	40 - 150
2086016	Hydrocodone	75.0	65.8	P/P	40 - 150
2086016	Ibuprofen	95.6	82.4	P/P	40 - 150
2086016	Imazapyr	116	87.8	P/P	40 - 150
2086016	Imidacloprid	137	121	P/P	40 - 150
2086016	Linuron	76.3	72.8	P/P	40 - 150
2086016	MCP	176	147	F/P	40 - 150
2086016	Naproxen	98.0	86.0	P/P	40 - 150
2086016	Primidone	83.8	69.9	P/P	40 - 150
2086016	Pyraclostrobin	103	72.1	P/P	40 - 150
2086016	Triclopyr	121	115	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P364011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085812	Acesulfame K	111	106	P/P	40 - 150
2085812	AMPA	36.6	37.1	F/F	40 - 150
2085812	Endothall	69.2	76.6	P/P	40 - 150
2085812	Glufosinate	64.9	63.5	P/P	40 - 150
2085812	Glyphosate	53.5	58.3	P/P	40 - 140
2085812	Sucralose	97.8	108	P/P	40 - 150

Reference Method: SM 4500 F-C-97
Batch ID: P364266

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085804	Fluoride	98.8	101	P/P	89 - 106

Quality Assurance Report Matrix Spike Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P364311

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2086668	Fluoride	97.6	98.3	P/P	89 - 106

Reference Method: SM 5310 B-00
Batch ID: P364410

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2085898	Organic Carbon	99.2	97.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P363957

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085897	Turbidity	4.42	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P364002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086093	Barium	1.16	Spike	P	0 - 20
2086093	Calcium	0.130	Spike	P	0 - 20
2086093	Iron	1.22	Spike	P	0 - 20
2086093	Magnesium	0.482	Spike	P	0 - 20
2086093	Potassium	0.550	Spike	P	0 - 20
2086093	Sodium	0.617	Spike	P	0 - 20
2086093	Zinc	1.05	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P364002

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086093	Aluminum	1.54	Spike	P	0 - 20
2086093	Antimony	0.421	Spike	P	0 - 20
2086093	Arsenic	1.13	Spike	P	0 - 20
2086093	Boron	2.14	Spike	P	0 - 20
2086093	Cadmium	0.978	Spike	P	0 - 20
2086093	Chromium	0.256	Spike	P	0 - 20
2086093	Copper	1.17	Spike	P	0 - 20
2086093	Lead	0.475	Spike	P	0 - 20
2086093	Nickel	1.85	Spike	P	0 - 20
2086093	Selenium	0.857	Spike	P	0 - 20
2086093	Silver	0.522	Spike	P	0 - 20
2086093	Thallium	0.373	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: P364112

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085881	Chloride	0.775	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P364114

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085881	Sulfate	0.946	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: P364281

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086077	Ammonia-N	2.06	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364295

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086062	Kjeldahl Nitrogen	3.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P364464

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086107	Kjeldahl Nitrogen	1.24	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364214

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085904	NO2NO3-N	0.926	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P364366

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085935	NO2NO3-N	1.43	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364185

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086128	Total-P	2.73	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P364187

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085904	Total-P	1.74	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085742	O-Phosphate-P	2.84	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P363937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085941	O-Phosphate-P	1.40	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P363904

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086016	2,4-D	7.70	Spike	P	0 - 30
2086016	Acetaminophen	17.7	Spike	P	0 - 30
2086016	Bentazon	17.2	Spike	P	0 - 30
2086016	Carbamazepine	11.1	Spike	P	0 - 30
2086016	Diuron	9.72	Spike	P	0 - 30
2086016	Fenuron	14.8	Spike	P	0 - 30
2086016	Fluridone	13.1	Spike	P	0 - 30
2086016	Hydrocodone	13.1	Spike	P	0 - 30
2086016	Ibuprofen	14.8	Spike	P	0 - 30
2086016	Imazapyr	15.1	Spike	P	0 - 30
2086016	Imidacloprid	11.6	Spike	P	0 - 30
2086016	Linuron	4.62	Spike	P	0 - 30
2086016	MCP	18.0	Spike	P	0 - 30
2086016	Naproxen	13.1	Spike	P	0 - 30
2086016	Primidone	18.1	Spike	P	0 - 30
2086016	Pyraclostrobin	34.8	Spike	F	0 - 30
2086016	Triclopyr	5.51	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P364011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085812	Acesulfame K	4.63	Spike	P	0 - 30
2085812	AMPA	0.380	Spike	P	0 - 30
2085812	Endothall	10.2	Spike	P	0 - 30
2085812	Glufosinate	2.21	Spike	P	0 - 30
2085812	Glyphosate	1.62	Spike	P	0 - 30
2085812	Sucralose	8.65	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2120 B
Batch ID: P363941

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085871	Color (true)	1.38	Sample	P	0 - 20

Reference Method: SM 2120 B
Batch ID: P363942

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085982	Color (true)	0.442	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P364261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085804	Total Alkalinity	0.262	Sample	P	0 - 2.8

Reference Method: SM 2320 B-97
Batch ID: P364307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086668	Total Alkalinity	0.217	Sample	P	0 - 2.8

Reference Method: SM 2540 C-97
Batch ID: P364390

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085897	TDS	6.87	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: P364266

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085804	Fluoride	1.41	Spike	P	0 - 2.5

Reference Method: SM 4500 F-C-97
Batch ID: P364311

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2086668	Fluoride	0.470	Spike	P	0 - 2.5

Quality Assurance Report Precision

Reference Method: SM 5310 B-00
Batch ID: P364410

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2085898	Organic Carbon	1.05	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: 2085955
Field Sample ID: 20030958

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.6	P	30 - 160
EPA 8321B	Acetaminophen-d4	57.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	48.0	P	30 - 160
EPA 8321B	Diuron-d6	38.5	P	30 - 160
EPA 8321B	Endothall-d6	386	F	30 - 160
EPA 8321B	Endothall-d6	386	F	30 - 160
EPA 8321B	Glyphosate 13C 15N	43.4	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	43.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.0	P	30 - 160
EPA 8321B	Primidone-d5	77.2	P	30 - 160
EPA 8321B	Sucralose-d6	88.7	P	30 - 160
EPA 8321B	Sucralose-d6	88.7	P	30 - 160

Lab Sample ID: 2085956
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	127	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.3	P	30 - 160
EPA 8321B	Carbamazepine-d10	76.7	P	30 - 160
EPA 8321B	Diuron-d6	64.5	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Endothall-d6	103	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	97.4	P	30 - 160
EPA 8321B	Primidone-d5	104	P	30 - 160
EPA 8321B	Sucralose-d6	99.2	P	30 - 160
EPA 8321B	Sucralose-d6	99.2	P	30 - 160

Lab Sample ID: 2085957
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	118	P	30 - 160
EPA 8321B	Acetaminophen-d4	83.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.3	P	30 - 160
EPA 8321B	Diuron-d6	66.5	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Endothall-d6	102	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.1	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	82.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	93.2	P	30 - 160
EPA 8321B	Primidone-d5	96.9	P	30 - 160
EPA 8321B	Sucralose-d6	44.4	P	30 - 160
EPA 8321B	Sucralose-d6	44.4	P	30 - 160

Lab Sample ID: 2085958
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	117	P	30 - 160

Quality Assurance Report Surrogates

Lab Sample ID: 2085958
Field Sample ID: 20030793

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Acetaminophen-d4	82.7	P	30 - 160
EPA 8321B	Carbamazepine-d10	68.2	P	30 - 160
EPA 8321B	Diuron-d6	60.3	P	30 - 160
EPA 8321B	Endothall-d6	121	P	30 - 160
EPA 8321B	Endothall-d6	121	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.3	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	94.9	P	30 - 160
EPA 8321B	Primidone-d5	98.6	P	30 - 160
EPA 8321B	Sucralose-d6	49.3	P	30 - 160
EPA 8321B	Sucralose-d6	49.3	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0

Run ID: A91402

Included Lab Sample IDs: 2085934

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: 2085937, 2085938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	100	101	P/P	90 - 110
Sulfate	100	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A91415

Included Lab Sample IDs: 2085936, 2085941, 2085942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	99.5	P/P	90 - 110
O-Phosphate-P	99.5	101	P/P	90 - 110
O-Phosphate-P	99.5	99.4	P/P	90 - 110

Reference Method: SM 2120 B

Run ID: A91416

Included Lab Sample IDs: 2085937, 2085938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	101	101	P/P	90 - 115
Color (true)	101	103	P/P	90 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A91434

Included Lab Sample IDs: 2085934, 2085937, 2085938

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

Reference Method: EPA 8321B

Run ID: A91508

Included Lab Sample IDs: 2085955, 2085956, 2085957, 2085958

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A91517

Included Lab Sample IDs: 2085959, 2085960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Barium	98.6	97.6	P/P	90 - 110
Calcium	99.4	97.9	P/P	90 - 110
Iron	98.7	97.9	P/P	90 - 110
Magnesium	98.6	97.9	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A91517

Included Lab Sample IDs: 2085959, 2085960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Potassium	97.0	97.1	P/P	90 - 110
Sodium	95.7	97.5	P/P	90 - 110
Zinc	100	98.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91524

Included Lab Sample IDs: 2085955, 2085956, 2085957, 2085958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.9	90.0	P/P	50 - 150
Acetaminophen	107	103	P/P	60 - 160
Bentazon	102	102	P/P	50 - 160
Carbamazepine	103	99.8	P/P	60 - 150
Diuron	103	106	P/P	60 - 150
Fenuron	100	101	P/P	60 - 150
Fluridone	107	109	P/P	60 - 160
Hydrocodone	97.3	101	P/P	60 - 150
Ibuprofen	108	115	P/P	50 - 160
Imazapyr	93.8	99.6	P/P	50 - 150
Imidacloprid	99.0	92.5	P/P	60 - 150
Linuron	109	104	P/P	60 - 150
MCPP	112	101	P/P	50 - 150
Naproxen	108	105	P/P	50 - 160
Primidone	95.3	95.1	P/P	60 - 150
Pyraclostrobin	105	106	P/P	60 - 150
Triclopyr	97.4	91.7	P/P	50 - 150

Reference Method: EPA 8321B

Run ID: A91528

Included Lab Sample IDs: 2085955, 2085956, 2085957, 2085958

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91529

Included Lab Sample IDs: 2085939, 2085940

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

Reference Method: SM 2320 B-97

Run ID: A91544

Included Lab Sample IDs: 2085934

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

Quality Assurance Report Calibration Verification

Reference Method: SM 4500 F-C-97

Run ID: A91544

Included Lab Sample IDs: 2085934

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A91558

Included Lab Sample IDs: 2085935, 2085939, 2085940

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A91561

Included Lab Sample IDs: 2085959, 2085960

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.0	91.1	P/P	90 - 110
Antimony	94.6	93.7	P/P	90 - 110
Arsenic	96.6	97.1	P/P	90 - 110
Boron	93.7	90.7	P/P	90 - 110
Cadmium	95.4	93.8	P/P	90 - 110
Chromium	96.9	95.8	P/P	90 - 110
Copper	97.2	97.3	P/P	90 - 110
Lead	96.8	96.2	P/P	90 - 110
Nickel	96.5	96.9	P/P	90 - 110
Selenium	94.4	95.9	P/P	90 - 110
Silver	93.5	92.4	P/P	90 - 110
Thallium	93.6	93.0	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A91564

Included Lab Sample IDs: 2085937, 2085938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	100	102	P/P	90 - 110
Total Alkalinity	101	100	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A91564

Included Lab Sample IDs: 2085937, 2085938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.0	98.6	P/P	90 - 110
Fluoride	98.6	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91570

Included Lab Sample IDs: 2085935, 2085939, 2085940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A91570

Included Lab Sample IDs: 2085935, 2085939, 2085940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	100	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A91592

Included Lab Sample IDs: 2085935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	99.0	97.5	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A91605

Included Lab Sample IDs: 2085935, 2085939, 2085940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.8	98.6	P/P	90 - 110
Organic Carbon	98.6	98.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91622

Included Lab Sample IDs: 2085956

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imazapyr	95.0	99.9	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91625

Included Lab Sample IDs: 2085939, 2085940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	94.8	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A91688

Included Lab Sample IDs: 2085955

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Endothall	107	110	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A91690

Included Lab Sample IDs: 2085955, 2085956, 2085957, 2085958

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	99.9	97.4	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A91693

Included Lab Sample IDs: 2085935

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	93.5	104	P/P	90 - 110

Quality Assurance Report

Calibration Verification

* 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						4.42	
EPA 200.7 Rev. 4.4	Barium	99.1	96.8	96.6	95.5			1.16
	Calcium	94.5	92.4	95.2				0.130
	Iron	99.0	101	98.5	97.3			1.22
	Magnesium	105	95.0	100	99.8			0.482
	Potassium	97.3	92.6	92.7	92.1			0.550
	Sodium	90.7	91.1	95.4				0.617
	Zinc	97.8	98.2	99.8	98.8			1.05
EPA 200.8 Rev. 5.4	Aluminum	96.1	93.5	93.1	91.6			1.54
	Antimony	96.9	97.4	95.6	95.2			0.421
	Arsenic	102	103	101	100			1.13
	Boron	96.6	93.6	109	105			2.14
	Cadmium	99.5	99.4	97.6	96.6			0.978
	Chromium	99.8	99.2	95.1	94.8			0.256
	Copper	99.8	101	98.3	97.1			1.17
	Lead	99.9	101	98.9	98.4			0.475
	Nickel	101	100	99.2	97.4			1.85
	Selenium	99.8	99.8	98.5	97.6			0.857
	Silver	97.9	96.0	94.9	94.4			0.522
	Thallium	102	104	101	101			0.373
EPA 300.0	Bromide	95.6	93.7	93.2				0.569
EPA 300.0 Rev. 2.1	Chloride	97.6	93.6	99.0			0.775	
	Sulfate	96.8	94.4	97.7			0.946	
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	103				0.939
	Ammonia-N	101	107	109				2.06
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	105	101	95.5				3.67
	Kjeldahl Nitrogen	101	106	108				1.24
EPA 353.2 Rev. 2.0	NO ₂ NO ₃ -N	101	102	101				0.926
	NO ₂ NO ₃ -N	100	102	100				1.43
EPA 365.1 Rev. 2.0	Total-P	95.8	100	97.6				2.73
	Total-P	99.4	91.6	94.4				1.74
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	92.5	95.3				2.84
	O-Phosphate-P	101	94.0	95.8				1.40
EPA 8321B	2,4-D	114	130	120				7.70
	Acesulfame K	93.7	111	106				4.63
	Acetaminophen	88.5	73.4	61.5				17.7
	AMPA	124	36.6	37.1				0.380
	Bentazon	125	89.0	45.7				17.2
	Carbamazepine	95.9	77.4	69.3				11.1
	Diuron	88.9	73.0	66.2				9.72
	Endothall	77.8	69.2	76.6				10.2
	Fenuron	103	68.3	58.9				14.8
	Fluridone	106	110	96.9				13.1
	Glufosinate	107	64.9	63.5				2.21
	Glyphosate	99.1	53.5	58.3				1.62
	Hydrocodone	90.5	75.0	65.8				13.1
	Ibuprofen	89.0	95.6	82.4				14.8
	Imazapyr	99.6	116	87.8				15.1
	Imidacloprid	96.8	137	121				11.6
	Linuron	78.6	76.3	72.8				4.62
	MCPP	128	176	147				18.0
	Naproxen	99.7	98.0	86.0				13.1
	Primidone	90.9	83.8	69.9				18.1
	Pyraclostrobin	83.2	103	72.1				34.8

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Sucralose	102	97.8	108		8.65
	Triclopyr	87.5	121	115		5.51
SM 2120 B	Color (true)	98.4			1.38	
	Color (true)	101			0.442	
SM 2320 B-97	Total Alkalinity	102			0.262	
	Total Alkalinity	101			0.217	
SM 2540 C-97	TDS				6.87	
SM 2540 D-97	TSS				7.41	
SM 4500 F-C-97	Fluoride	97.9	98.8	101		1.41
	Fluoride	97.2	97.6	98.3		0.470
SM 5310 B-00	Organic Carbon	96.8	99.2	97.4		1.05

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	2085934, 2085937, 2085938
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2085959, 2085960
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2085959, 2085960
EPA 300.0 / E31780	Bromide in aqueous matrices	2085934
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	2085937, 2085938
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	2085937, 2085938
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	2085935, 2085939, 2085940
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	2085935, 2085939, 2085940
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	2085935, 2085939, 2085940
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	2085935, 2085939, 2085940
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2085936, 2085941, 2085942
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2085955, 2085956, 2085957, 2085958
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	2085955, 2085956, 2085957, 2085958
SM 2120 B / E31780	True Color measured at 450 nm	2085937, 2085938
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	2085934, 2085937, 2085938
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	2085937, 2085938
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2085934, 2085937, 2085938
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2085934, 2085937, 2085938
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	2085935, 2085939, 2085940

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	05/14/2019			05/14/2019 16:44	Sima Feizi	2085934, 2085937, 2085938
EPA 200.7 Rev. 4.4	05/14/2019	05/15/2019 17:15	Elliott D. Healy	05/17/2019 13:17	Betina Topolski	2085959
	05/14/2019	05/15/2019 17:15	Elliott D. Healy	05/17/2019 13:23	Betina Topolski	2085960
EPA 200.8 Rev. 5.4	05/14/2019	05/15/2019 17:15	Elliott D. Healy	05/20/2019 23:46	Martin Acosta	2085959
	05/14/2019	05/15/2019 17:15	Elliott D. Healy	05/20/2019 23:55	Martin Acosta	2085960
EPA 300.0	05/14/2019			05/17/2019 15:19	Lipi Saha	2085934
EPA 300.0 Rev. 2.1	05/14/2019			05/16/2019 17:24	Lipi Saha	2085937
	05/14/2019			05/16/2019 17:36	Lipi Saha	2085938
EPA 350.1 Rev. 2.0	05/14/2019			05/17/2019 10:59	Ping Hua	2085935
	05/14/2019			05/17/2019 11:15	Ping Hua	2085939
	05/14/2019			05/17/2019 13:40	Ping Hua	2085940
EPA 351.2 Rev. 2.0	05/14/2019	05/21/2019 13:07	Jhamieka S. Greenwood	05/23/2019 12:48	Joseph Suarez	2085939
	05/14/2019	05/21/2019 13:07	Jhamieka S. Greenwood	05/23/2019 12:50	Joseph Suarez	2085940
	05/14/2019	05/23/2019 13:15	Adrian Shelby	05/28/2019 13:19	Joseph Suarez	2085935
EPA 353.2 Rev. 2.0	05/14/2019			05/20/2019 11:01	Beverly Y. Sanders	2085939
	05/14/2019			05/20/2019 11:02	Beverly Y. Sanders	2085940
	05/14/2019			05/22/2019 09:10	Beverly Y. Sanders	2085935
EPA 365.1 Rev. 2.0	05/14/2019	05/20/2019 08:30	Joseph Suarez	05/21/2019 15:40	Rosalyn Ballman	2085935
	05/14/2019	05/20/2019 08:30	Joseph Suarez	05/21/2019 16:20	Rosalyn Ballman	2085939
	05/14/2019	05/20/2019 08:30	Joseph Suarez	05/21/2019 16:21	Rosalyn Ballman	2085940
EPA 365.1 Rev. 2.0 dissolved	05/14/2019			05/14/2019 14:22	Jhamieka S. Greenwood	2085941
	05/14/2019			05/14/2019 14:37	Jhamieka S. Greenwood	2085936
	05/14/2019			05/14/2019 14:50	Jhamieka S. Greenwood	2085942
EPA 8321B	05/14/2019	05/15/2019 14:00	Hoor Shaik	05/19/2019 04:35	Juyoung Kim	2085955
	05/14/2019	05/15/2019 14:00	Hoor Shaik	05/19/2019 05:09	Juyoung Kim	2085956
	05/14/2019	05/15/2019 14:00	Hoor Shaik	05/19/2019 05:44	Juyoung Kim	2085957
	05/14/2019	05/15/2019 14:00	Hoor Shaik	05/19/2019 06:19	Juyoung Kim	2085958
	05/14/2019	05/15/2019 14:00	Hoor Shaik	05/21/2019 02:41	Juyoung Kim	2085956
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 18:13	Rebecca Ware	2085955
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 18:27	Rebecca Ware	2085956
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 18:40	Rebecca Ware	2085957
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/16/2019 18:54	Rebecca Ware	2085958
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 19:04	Rebecca Ware	2085955
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 19:14	Rebecca Ware	2085956
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 19:25	Rebecca Ware	2085957
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/17/2019 19:36	Rebecca Ware	2085958
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 16:21	Rebecca Ware	2085955
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 16:33	Rebecca Ware	2085956
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 16:45	Rebecca Ware	2085957
	05/14/2019	05/16/2019 14:00	Rebecca Ware	05/23/2019 16:57	Rebecca Ware	2085958

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 2120 B	05/14/2019			05/14/2019 15:46	Madeline Funaro	2085937
	05/14/2019			05/14/2019 15:49	Madeline Funaro	2085938
SM 2320 B-97	05/14/2019			05/18/2019 22:47	Dale L. Simmons	2085934
	05/14/2019			05/20/2019 21:46	Dale L. Simmons	2085937
	05/14/2019			05/20/2019 22:44	Dale L. Simmons	2085938
	05/14/2019			05/16/2019 15:31	Yijie Li	2085937, 2085938
SM 2540 C-97	05/14/2019			05/16/2019 15:31	Yijie Li	2085934, 2085937, 2085938
SM 2540 D-97	05/14/2019			05/18/2019 22:47	Dale L. Simmons	2085934
SM 4500 F-C-97	05/14/2019			05/20/2019 21:46	Dale L. Simmons	2085937
	05/14/2019			05/20/2019 22:44	Dale L. Simmons	2085938
SM 5310 B-00	05/14/2019			05/21/2019 08:44	Julia Storbeck	2085935
	05/14/2019			05/21/2019 09:25	Julia Storbeck	2085939
	05/14/2019			05/21/2019 09:38	Julia Storbeck	2085940
	05/14/2019					