Chemical Analysis Report

NE-DIST-2018-02-07-01

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

Event Description: **bmap tribs**
Request ID: **RQ-2018-01-29-11**
Customer: **NE-DIST**
Project ID: **SMP**

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8800 Baymeadows Way West
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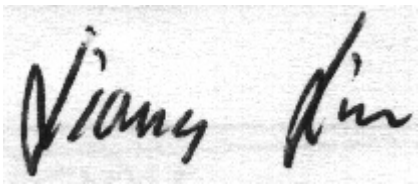
Certified by: Liang Lin, Environmental Administrator

Date Certified: 07-MAR-2018 13:57



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals, Nutrients and Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

A - Value reported is the mean of two or more determinations.
B - Results based on colony counts outside the acceptable range.
I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J - Estimated value and/or the analysis did not meet established quality control criteria.
K - Actual value is known to be less than value given.
L - Actual value is known to be greater than value given.
N - Presumptive evidence of presence of material.
O - Sampled, but analysis lost or not performed.
Q - Sample held beyond normal holding time.
T - Value reported is less than the criterion of detection.
U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
V - Analyte was detected in both sample and method blank.
X - Too few individuals to calculate SCI value.
Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Trout at Old Kings **Collection Date/Time: 02/06/2018 11:05**

Field ID: 20030753 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965271	EPA 180.1 Rev. 2.0	Turbidity	3.5		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	17		mg Cl/L	P340128	
		Sulfate	4.8		mg SO4/L	P340133	
	SM 2120 B	Color (true)	240		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	15		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	112		mg/L	P339840	
	SM 2540 D-97	TSS	2	I	mg/L	P339804	
	SM 4500 F-C-97	Fluoride	0.044	I	mg F/L	P340474	
1965272	EPA 350.1 Rev. 2.0	Ammonia-N	0.009		mg N/L	P339962	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.86		mg N/L	P339566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P339855	
	EPA 365.1 Rev. 2.0	Total-P	0.062		mg P/L	P339660	
	SM 5310 B-00	Organic Carbon	25		mg C/L	P340091	
1965273	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.042		mg P/L	P339540	
1965333	EPA 8321B	2,4-D	0.0020	U	ug/L	P339489	
		Sucralose**	0.098		ug/L	P339455	
		Bentazon	8.0E-04	U	ug/L	P339489	MS
		MCPP	0.0020	U	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS
		Imidacloprid	0.0033	I	ug/L	P339489	MS
		Diuron	0.0021	I	ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.0080	U	ug/L	P339489	
		Fenuron	0.0080	U	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.0013	I	ug/L	P339489	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: NW Tributary to Open CR @ Hodges Blvd **Collection Date/Time: 02/06/2018 09:10**

Field ID: 20030848 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965274	EPA 180.1 Rev. 2.0	Turbidity	5.7		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	38		mg Cl/L	P340128	
		Sulfate	69		mg SO4/L	P340133	
	SM 2120 B	Color (true)	54		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	55		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	264		mg/L	P339840	
	SM 2540 D-97	TSS	2	I	mg/L	P339804	
	SM 4500 F-C-97	Fluoride	0.080	I	mg F/L	P340474	
1965279	EPA 350.1 Rev. 2.0	Ammonia-N	0.091		mg N/L	P339962	

Field ID: 20030848 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965279	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.62		mg N/L	P339566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.22		mg N/L	P339855	
	EPA 365.1 Rev. 2.0	Total-P	0.051		mg P/L	P339660	
	SM 5310 B-00	Organic Carbon	13		mg C/L	P340091	
1965284	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.017		mg P/L	P339540	
1965334	EPA 8321B	2,4-D	0.0052	I	ug/L	P339489	
		Sucralose**	0.79		ug/L	P339455	
		Bentazon	0.021		ug/L	P339489	MS
		MCPP	0.0023	I	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS
		Imidacloprid	0.041		ug/L	P339489	MS
		Diuron	0.0037	I	ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.0080	U	ug/L	P339489	
		Fenuron	0.0080	U	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.057		ug/L	P339489	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Goodbys at Plaza Gate Rd. **Collection Date/Time: 02/06/2018 13:40**

Field ID: 20030537 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965275	EPA 180.1 Rev. 2.0	Turbidity	5.2		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	22		mg Cl/L	P340128	
		Sulfate	31		mg SO4/L	P340133	
	SM 2120 B	Color (true)	42		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	112		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	214		mg/L	P339840	
	SM 2540 D-97	TSS	3	I	mg/L	P339804	
	SM 4500 F-C-97	Fluoride	0.17		mg F/L	P340474	
1965280	EPA 350.1 Rev. 2.0	Ammonia-N	0.060		mg N/L	P339963	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.44		mg N/L	P339566	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.035		mg N/L	P339855	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P339660	
	SM 5310 B-00	Organic Carbon	7.0		mg C/L	P340091	
1965285	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.025		mg P/L	P339541	
1965335	EPA 8321B	2,4-D	0.0020	U	ug/L	P339489	
		Sucralose**	0.13		ug/L	P339455	
		Bentazon	0.017		ug/L	P339489	MS
		MCPP	0.0020	U	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS

Field ID: 20030537 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965335	EPA 8321B	Imidacloprid	0.018		ug/L	P339489	MS
		Diuron	0.028		ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.0080	U	ug/L	P339489	
		Fenuron	0.014	I	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.017		ug/L	P339489	
1965340	EPA 200.7 Rev. 4.4	Calcium	47.3		mg/L	P339758	
		Iron	1.30E+03		ug/L	P339758	
		Magnesium	7.55		mg/L	P339758	
		Potassium	3.0		mg/L	P339758	
		Sodium	14.5		mg/L	P339758	
		Zinc	5.0	U	ug/L	P339758	
	EPA 200.8 Rev. 5.4	Arsenic	2.10		ug/L	P339758	
		Cadmium	0.020	U	ug/L	P339758	
		Chromium	0.45	I	ug/L	P339758	
		Copper	0.80	I	ug/L	P339758	
		Lead	0.13	I	ug/L	P339758	
		Nickel	0.50	I	ug/L	P339758	
		Silver	0.010	U	ug/L	P339758	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Goodbys Trib above San Clerc Rd. **Collection Date/Time: 02/06/2018 13:05**

Field ID: 20030891 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965276	EPA 180.1 Rev. 2.0	Turbidity	6.3		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P340128	
		Sulfate	28		mg SO4/L	P340133	
	SM 2120 B	Color (true)	55		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	114		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	204		mg/L	P339840	
	SM 2540 D-97	TSS	3	I	mg/L	P339804	
	SM 4500 F-C-97	Fluoride	0.14		mg F/L	P340474	
1965281	EPA 350.1 Rev. 2.0	Ammonia-N	0.066		mg N/L	P339963	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.28		mg N/L	P339567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.12		mg N/L	P339855	
	EPA 365.1 Rev. 2.0	Total-P	0.067		mg P/L	P339660	
	SM 5310 B-00	Organic Carbon	8.3		mg C/L	P340091	
1965286	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.029		mg P/L	P339541	
1965336	EPA 8321B	2,4-D	0.0021	I	ug/L	P339489	
		Sucralose**	0.067		ug/L	P339455	
		Bentazon	0.013		ug/L	P339489	MS

Field ID: 20030891 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965336	EPA 8321B	MCPP	0.0020	U	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS
		Imidacloprid	0.020		ug/L	P339489	MS
		Diuron	0.027		ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.0080	U	ug/L	P339489	
		Fenuron	0.013	I	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.010		ug/L	P339489	
1965341	EPA 200.7 Rev. 4.4	Calcium	47.6		mg/L	P339758	
		Iron	1.41E+03		ug/L	P339758	
		Magnesium	7.42		mg/L	P339758	
		Potassium	2.6		mg/L	P339758	
		Sodium	15.0		mg/L	P339758	
		Zinc	5.0	U	ug/L	P339758	
	EPA 200.8 Rev. 5.4	Arsenic	2.31		ug/L	P339758	
		Cadmium	0.020	U	ug/L	P339758	
		Chromium	1.5	I	ug/L	P339758	
		Copper	0.83		ug/L	P339758	
		Lead	0.17	I	ug/L	P339758	
		Nickel	0.89		ug/L	P339758	
		Silver	0.010	U	ug/L	P339758	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Moncrief Creek at 33rd **Collection Date/Time: 02/06/2018 12:20**

Field ID: 20030316 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965277	EPA 180.1 Rev. 2.0	Turbidity	7.3		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	15		mg Cl/L	P340128	
		Sulfate	29		mg SO4/L	P340133	
	SM 2120 B	Color (true)	20		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	106		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	177		mg/L	P339841	
	SM 2540 D-97	TSS	8	I	mg/L	P339805	
	SM 4500 F-C-97	Fluoride	0.11		mg F/L	P340474	
1965282	EPA 350.1 Rev. 2.0	Ammonia-N	0.035		mg N/L	P339963	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.45		mg N/L	P339567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.096		mg N/L	P340040	
	EPA 365.1 Rev. 2.0	Total-P	0.058		mg P/L	P339817	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P340091	
1965287	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.006	I	mg P/L	P339541	
1965337	EPA 8321B	2,4-D	0.0036	I	ug/L	P339489	

Field ID: 20030316 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965337	EPA 8321B	Sucralose**	0.13		ug/L	P339456	
		Bentazon	0.0022	I	ug/L	P339489	MS
		MCPP	0.0020	U	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS
		Imidacloprid	0.017		ug/L	P339489	MS
		Diuron	0.018		ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.19		ug/L	P339489	
		Fenuron	0.0080	U	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.011		ug/L	P339489	
1965342	EPA 200.7 Rev. 4.4	Calcium	46.0		mg/L	P339758	
		Iron	950		ug/L	P339758	
		Magnesium	5.50		mg/L	P339758	
		Potassium	2.2		mg/L	P339758	
		Sodium	12.2		mg/L	P339758	
		Zinc	9.5	I	ug/L	P339758	
	EPA 200.8 Rev. 5.4	Arsenic	1.48		ug/L	P339758	
		Cadmium	0.020	U	ug/L	P339758	
		Chromium	0.59	I	ug/L	P339758	
		Copper	1.98		ug/L	P339758	
		Lead	1.10		ug/L	P339758	
		Nickel	0.84		ug/L	P339758	
		Silver	0.010	U	ug/L	P339758	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Sample Location: Moncrief at 21st **Collection Date/Time: 02/06/2018 11:45**

Field ID: 20030897 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965278	EPA 180.1 Rev. 2.0	Turbidity	8.9		NTU	P339493	
	EPA 300.0 Rev. 2.1	Chloride	23		mg Cl/L	P340128	
		Sulfate	46		mg SO4/L	P340133	
	SM 2120 B	Color (true)	26		PCU	P339499	
	SM 2320 B-97	Total Alkalinity	155		mg CaCO3/L	P340206	
	SM 2540 C-97	TDS	302	A	mg/L	P339841	
	SM 2540 D-97	TSS	3	IA	mg/L	P339805	
	SM 4500 F-C-97	Fluoride	0.15		mg F/L	P340474	
1965283	EPA 350.1 Rev. 2.0	Ammonia-N	0.094		mg N/L	P339963	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.39		mg N/L	P339567	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.18		mg N/L	P340040	
	EPA 365.1 Rev. 2.0	Total-P	0.048		mg P/L	P339817	
	SM 5310 B-00	Organic Carbon	6.0		mg C/L	P340091	

Field ID: 20030897 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1965288	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.007	I	mg P/L	P339542	
1965338	EPA 8321B	2,4-D	0.0020	U	ug/L	P339489	
		Sucralose**	0.17		ug/L	P339456	
		Bentazon	0.0045		ug/L	P339489	MS
		MCPP	0.0020	U	ug/L	P339489	MS
		Triclopyr**	0.0040	U	ug/L	P339489	MS
		Imidacloprid	0.034		ug/L	P339489	MS
		Diuron	0.0038	I	ug/L	P339489	
		Primidone**	0.0040	U	ug/L	P339489	
		Linuron	0.0040	U	ug/L	P339489	
		Acetaminophen**	0.074		ug/L	P339489	
		Fenuron	0.0080	U	ug/L	P339489	
		Carbamazepine**	4.0E-04	U	ug/L	P339489	
		Fluridone**	0.026		ug/L	P339489	
1965343	EPA 200.7 Rev. 4.4	Calcium	68.9		mg/L	P339758	
		Iron	1.48E+03		ug/L	P339758	
		Magnesium	8.61		mg/L	P339758	
		Potassium	2.6		mg/L	P339758	
		Sodium	18.9		mg/L	P339758	
		Zinc	7.3	I	ug/L	P339758	
	EPA 200.8 Rev. 5.4	Arsenic	1.48		ug/L	P339758	
		Cadmium	0.020	U	ug/L	P339758	
		Chromium	0.43	I	ug/L	P339758	
		Copper	1.13		ug/L	P339758	
		Lead	0.28		ug/L	P339758	
		Nickel	0.97		ug/L	P339758	
		Silver	0.010	U	ug/L	P339758	

Ref. Method and Comment:
SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 4500 F-C-97: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

Quality Assurance Report
Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P339493

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339758

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Potassium	0.30	U	mg/L
Sodium	0.50	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339758

Component	Result	Code	Units
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339758

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340128

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340133

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339962

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339963

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339566

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339567

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

Quality Assurance Report
Method Blank Results

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339855

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340040

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339660

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339817

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339540

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339541

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339542

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

Reference Method: EPA 8321B
Batch ID: P339455

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Reference Method: EPA 8321B
Batch ID: P339456

Component	Result	Code	Units
Sucralose	0.010	U	ug/L

Quality Assurance Report
Method Blank Results

Reference Method: EPA 8321B
Batch ID: P339489

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
Acetaminophen	0.0080	U	ug/L
Bentazon	8.0E-04	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
MCPP	0.0020	U	ug/L
Primidone	0.0040	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2120 B
Batch ID: P339499

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: SM 2320 B-97
Batch ID: P340206

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

Reference Method: SM 2540 C-97
Batch ID: P339840

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 C-97
Batch ID: P339841

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339804

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 2540 D-97
Batch ID: P339805

Component	Result	Code	Units
TSS	2	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 4500 F-C-97
Batch ID: P340474

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P340091

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: P339758

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	103		P	85 - 115
Magnesium	103		P	85 - 115
Potassium	99.4		P	85 - 115
Sodium	101		P	85 - 115
Zinc	99.7		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339758

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	107		P	85 - 115
Cadmium	104		P	85 - 115
Chromium	100		P	85 - 115
Copper	103		P	85 - 115
Lead	103		P	85 - 115
Nickel	106		P	85 - 115
Silver	99.0		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340128

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340133

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339962

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339963

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: P339566

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339567

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339855

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340040

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	103		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339660

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	96.6		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339817

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339540

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339541

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

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339542

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

Reference Method: EPA 8321B
Batch ID: P339455

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

Reference Method: EPA 8321B
Batch ID: P339456

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sucralose	110		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P339489

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	69.5		P	40 - 150
Acetaminophen	92.2		P	30 - 150
Bentazon	87.1		P	30 - 150
Carbamazepine	85.8		P	40 - 150
Diuron	76.3		P	40 - 150
Fenuron	96.9		P	40 - 150
Fluridone	74.6		P	40 - 150
Imidacloprid	83.4		P	40 - 160
Linuron	80.2		P	40 - 150
MCPP	67.6		P	40 - 150
Primidone	105		P	40 - 150
Triclopyr	69.0		P	40 - 150

Reference Method: SM 2320 B-97
Batch ID: P340206

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	99.4		P	95 - 108

Reference Method: SM 4500 F-C-97
Batch ID: P340474

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	97.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P340091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report
Matrix Spike Accuracy

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965206	Calcium	110		P	80 - 120
1965206	Iron	101		P	80 - 120
1965206	Magnesium	106		P	80 - 120
1965206	Potassium	107		P	80 - 120
1965206	Sodium	109		P	80 - 120
1965206	Zinc	101		P	80 - 120
1965370	Calcium	100		P	80 - 120
1965370	Iron	99.2	100	P/P	80 - 120
1965370	Magnesium	103		P	80 - 120
1965370	Potassium	97.6	99.5	P/P	80 - 120
1965370	Sodium	101		P	80 - 120
1965370	Zinc	98.1	99.4	P/P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339758

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965206	Arsenic	110		P	80 - 120
1965206	Cadmium	104		P	80 - 120
1965206	Chromium	95.8		P	80 - 120
1965206	Copper	99.9		P	80 - 120
1965206	Lead	105		P	80 - 120
1965206	Nickel	102		P	80 - 120
1965206	Silver	98.2		P	80 - 120
1965370	Arsenic	107	106	P/P	80 - 120
1965370	Cadmium	106	102	P/P	80 - 120
1965370	Chromium	98.4	97.6	P/P	80 - 120
1965370	Copper	100	99.7	P/P	80 - 120
1965370	Lead	103	102	P/P	80 - 120
1965370	Nickel	102	101	P/P	80 - 120
1965370	Silver	101	99.2	P/P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340128

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965191	Chloride	104		P	90 - 110
1965271	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340133

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965191	Sulfate	105		P	90 - 110
1965271	Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339962

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965192	Ammonia-N	97.8	97.0	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339963

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965282	Ammonia-N	99.9	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339566

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965225	Kjeldahl Nitrogen	102	96.9	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339567

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965380	Kjeldahl Nitrogen	102	110	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339855

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965215	NO2NO3-N	102		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964546	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339660

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965281	Total-P	96.2	95.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339817

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965283	Total-P	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339540

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965142	O-Phosphate-P	99.7	101	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339541

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965174	O-Phosphate-P	97.7	97.3	P/P	90 - 110

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339542

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965288	O-Phosphate-P	97.1	96.7	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P339455

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965084	Sucralose	99.0	107	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P339456

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965337	Sucralose	109	108	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P339489

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1964945	2,4-D	46.1	49.4	P/P	40 - 150
1964945	Acetaminophen	123	108	P/P	30 - 150
1964945	Bentazon	27.3	29.7	F/F	30 - 150
1964945	Carbamazepine	85.1	84.5	P/P	40 - 150
1964945	Diuron	77.2	74.5	P/P	40 - 150
1964945	Fenuron	85.0	83.1	P/P	40 - 150
1964945	Fluridone	67.3	65.9	P/P	40 - 150
1964945	Imidacloprid	165	146	F/P	40 - 160
1964945	Linuron	79.8	83.0	P/P	40 - 150
1964945	MCPP	38.1	40.3	F/P	40 - 150
1964945	Primidone	105	108	P/P	40 - 150
1964945	Triclopyr	39.1	40.4	F/P	40 - 150

Reference Method: SM 5310 B-00
Batch ID: P340091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1965186	Organic Carbon	100	101	P/P	85 - 115

Quality Assurance Report
Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P339493

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965214	Turbidity	1.80	Sample	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P339758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965370	Calcium	0.305	Spike	P	0 - 20
1965370	Iron	1.28	Spike	P	0 - 20
1965370	Magnesium	0.0432	Spike	P	0 - 20
1965370	Potassium	1.69	Spike	P	0 - 20
1965370	Sodium	0.0580	Spike	P	0 - 20
1965370	Zinc	1.28	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P339758

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965370	Arsenic	1.11	Spike	P	0 - 20
1965370	Cadmium	4.44	Spike	P	0 - 20
1965370	Chromium	0.885	Spike	P	0 - 20
1965370	Copper	0.373	Spike	P	0 - 20
1965370	Lead	0.980	Spike	P	0 - 20
1965370	Nickel	0.552	Spike	P	0 - 20
1965370	Silver	1.33	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340128

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965191	Chloride	2.37	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P340133

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965191	Sulfate	3.56	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339962

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965192	Ammonia-N	0.546	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P339963

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965282	Ammonia-N	0.686	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339566

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965225	Kjeldahl Nitrogen	2.95	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P339567

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965380	Kjeldahl Nitrogen	5.92	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P339855

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965215	NO2NO3-N	0.339	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P340040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964546	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339660

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965281	Total-P	1.05	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P339817

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965283	Total-P	0.375	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339540

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965142	O-Phosphate-P	1.30	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339541

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965174	O-Phosphate-P	0.254	Spike	P	0 - 20

Quality Assurance Report
Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P339542

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965288	O-Phosphate-P	0.384	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P339455

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965084	Sucralose	6.99	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P339456

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965337	Sucralose	1.35	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P339489

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1964945	2,4-D	7.05	Spike	P	0 - 30
1964945	Acetaminophen	12.7	Spike	P	0 - 30
1964945	Bentazon	6.75	Spike	P	0 - 30
1964945	Carbamazepine	0.653	Spike	P	0 - 30
1964945	Diuron	2.39	Spike	P	0 - 30
1964945	Fenuron	2.26	Spike	P	0 - 30
1964945	Fluridone	2.11	Spike	P	0 - 30
1964945	Imidacloprid	11.4	Spike	P	0 - 30
1964945	Linuron	3.93	Spike	P	0 - 30
1964945	MCPP	5.65	Spike	P	0 - 30
1964945	Primidone	3.58	Spike	P	0 - 30
1964945	Triclopyr	3.31	Spike	P	0 - 30

Reference Method: SM 2120 B
Batch ID: P339499

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965214	Color (true)	1.82	Sample	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P340206

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965352	Total Alkalinity	0.306	Sample	P	0 - 4.8

Quality Assurance Report
Precision

Reference Method: SM 2540 C-97
Batch ID: P339840

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965183	TDS	6.30	Sample	P	0 - 10

Reference Method: SM 2540 C-97
Batch ID: P339841

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965278	TDS	0.332	Sample	P	0 - 10

Reference Method: SM 4500 F-C-97
Batch ID: P340474

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965350	Fluoride	0.937	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P340091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1965186	Organic Carbon	0.135	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: 1965333
Field Sample ID: 20030753

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	53.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	122	P	30 - 160
EPA 8321B	Carbamazepine-d10	99.0	P	30 - 160
EPA 8321B	Diuron-d6	90.6	P	30 - 160
EPA 8321B	Primidone-d5	91.4	P	30 - 160
EPA 8321B	Sucralose-d6	147	P	40 - 160

Lab Sample ID: 1965334
Field Sample ID: 20030848

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	38.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.6	P	30 - 160
EPA 8321B	Diuron-d6	84.4	P	30 - 160
EPA 8321B	Primidone-d5	110	P	30 - 160
EPA 8321B	Sucralose-d6	115	P	40 - 160

Quality Assurance Report
Surrogates

Lab Sample ID: 1965335
Field Sample ID: 20030537

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	45.0	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	89.4	P	30 - 160
EPA 8321B	Diuron-d6	87.4	P	30 - 160
EPA 8321B	Primidone-d5	76.6	P	30 - 160
EPA 8321B	Sucralose-d6	102	P	40 - 160

Lab Sample ID: 1965336
Field Sample ID: 20030891

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	45.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	125	P	30 - 160
EPA 8321B	Carbamazepine-d10	104	P	30 - 160
EPA 8321B	Diuron-d6	96.9	P	30 - 160
EPA 8321B	Primidone-d5	98.1	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	40 - 160

Lab Sample ID: 1965337
Field Sample ID: 20030316

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	38.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	112	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.3	P	30 - 160
EPA 8321B	Diuron-d6	91.9	P	30 - 160
EPA 8321B	Primidone-d5	99.3	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	40 - 160

Lab Sample ID: 1965338
Field Sample ID: 20030897

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	46.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	119	P	30 - 160
EPA 8321B	Carbamazepine-d10	100	P	30 - 160
EPA 8321B	Diuron-d6	102	P	30 - 160
EPA 8321B	Primidone-d5	75.8	P	30 - 160
EPA 8321B	Sucralose-d6	110	P	40 - 160

Quality Assurance Report
Calibration Verification

Reference Method: SM 2120 B
Run ID: A81904
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.9	99.3	P/P	85 - 115
Color (true)	99.4	101	P/P	85 - 115

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A81905
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A81920
Included Lab Sample IDs: 1965273, 1965284, 1965285, 1965286, 1965287, 1965288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	100	99.6	P/P	90 - 110
O-Phosphate-P	99.6	101	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A81950
Included Lab Sample IDs: 1965333, 1965334, 1965335, 1965336

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	103	108	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81968
Included Lab Sample IDs: 1965272, 1965279, 1965280

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	106	98.2	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A81982
Included Lab Sample IDs: 1965272, 1965279, 1965280, 1965281

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	99.8	P/P	90 - 110
Total-P	99.8	102	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A81986
Included Lab Sample IDs: 1965337, 1965338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sucralose	116	111	P/P	60 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A81997
Included Lab Sample IDs: 1965281, 1965282, 1965283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.6	103	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A82003
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits

Quality Assurance Report
Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A82003
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	102	107	P/P	90 - 110
Chloride	106	108	P/P	90 - 110
Chloride	107	106	P/P	90 - 110
Sulfate	102	108	P/P	90 - 110
Sulfate	104	107	P/P	90 - 110
Sulfate	108	104	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A82028
Included Lab Sample IDs: 1965272, 1965279, 1965280, 1965281

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A82029
Included Lab Sample IDs: 1965340, 1965341, 1965342, 1965343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	104	102	P/P	90 - 110
Cadmium	99.3	98.6	P/P	90 - 110
Chromium	97.3	96.7	P/P	90 - 110
Copper	103	102	P/P	90 - 110
Lead	101	99.0	P/P	90 - 110
Nickel	103	102	P/P	90 - 110
Silver	98.6	97.8	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A82034
Included Lab Sample IDs: 1965340, 1965341, 1965342, 1965343

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.0	105	P/P	90 - 110
Iron	96.8	104	P/P	90 - 110
Magnesium	97.9	105	P/P	90 - 110
Potassium	99.0	107	P/P	90 - 110
Sodium	99.7	106	P/P	90 - 110
Zinc	99.5	104	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A82064
Included Lab Sample IDs: 1965272, 1965279, 1965280, 1965281, 1965282, 1965283

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

Quality Assurance Report
Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82078
Included Lab Sample IDs: 1965282

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

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A82086
Included Lab Sample IDs: 1965283

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

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A82097
Included Lab Sample IDs: 1965282, 1965283

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

Reference Method: SM 5310 B-00
Run ID: A82117
Included Lab Sample IDs: 1965272, 1965279, 1965280, 1965281, 1965282, 1965283

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	100	99.4	P/P	90 - 110
Organic Carbon	97.6	100	P/P	90 - 110

Reference Method: SM 2320 B-97
Run ID: A82137
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	99.5	97.2	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A82192
Included Lab Sample IDs: 1965333, 1965334, 1965335, 1965336, 1965337, 1965338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	70.2	74.4	P/P	50 - 150
2,4-D	92.1	70.2	P/P	50 - 150
Acetaminophen	112	112	P/P	60 - 150
Acetaminophen	112	115	P/P	60 - 150
Bentazon	109	95.2	P/P	50 - 150
Bentazon	95.2	97.8	P/P	50 - 150
Carbamazepine	111	115	P/P	60 - 150
Carbamazepine	114	111	P/P	60 - 150
Diuron	112	113	P/P	60 - 150
Diuron	123	112	P/P	60 - 150
Fenuron	111	115	P/P	60 - 150
Fenuron	115	115	P/P	60 - 150
Fluridone	96.1	97.9	P/P	60 - 160
Fluridone	99.4	96.1	P/P	60 - 160
Imidacloprid	109	96.8	P/P	60 - 150

Quality Assurance Report
Calibration Verification

Reference Method: EPA 8321B
Run ID: A82192
Included Lab Sample IDs: 1965333, 1965334, 1965335, 1965336, 1965337, 1965338

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Imidacloprid	96.8	101	P/P	60 - 150
Linuron	119	120	P/P	60 - 150
Linuron	120	125	P/P	60 - 150
MCPP	77.6	75.9	P/P	50 - 150
MCPP	96.3	77.6	P/P	50 - 150
Primidone	107	101	P/P	60 - 150
Primidone	114	107	P/P	60 - 150
Triclopyr	77.8	82.0	P/P	50 - 150
Triclopyr	90.4	77.8	P/P	50 - 150

Reference Method: SM 4500 F-C-97
Run ID: A82245
Included Lab Sample IDs: 1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	98.5	98.6	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			Precision		
						LCS	SMP	MS
EPA 180.1 Rev. 2.0	Turbidity						1.80	
EPA 200.7 Rev. 4.4	Calcium	100	110	100				0.305
	Iron	103	101	99.2	100			1.28
	Magnesium	103	106	103				0.0432
	Potassium	99.4	107	97.6	99.5			1.69
	Sodium	101	109	101				0.0580
	Zinc	99.7	101	98.1	99.4			1.28
EPA 200.8 Rev. 5.4	Arsenic	107	110	107	106			1.11
	Cadmium	104	104	106	102			4.44
	Chromium	100	95.8	98.4	97.6			0.885
	Copper	103	99.9	100	99.7			0.373
	Lead	103	105	103	102			0.980
	Nickel	106	102	102	101			0.552
	Silver	99.0	98.2	101	99.2			1.33
EPA 300.0 Rev. 2.1	Chloride	101	104	104			2.37	
	Sulfate	102	105	105			3.56	
EPA 350.1 Rev. 2.0	Ammonia-N	100	97.8	97.0				0.546
	Ammonia-N	101	99.9	101				0.686
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	101	102	96.9				2.95
	Kjeldahl Nitrogen	103	102	110				5.92
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102					0.339
	NO2NO3-N	103	104	104				0.0
EPA 365.1 Rev. 2.0	Total-P	96.6	96.2	95.0				1.05
	Total-P	98.4	102	102				0.375

Quality Assurance Report
Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision		
					LCS	SMP	MS
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	96.8	99.7	101			1.30
	O-Phosphate-P	102	97.7	97.3			0.254
	O-Phosphate-P	98.5	97.1	96.7			0.384
EPA 8321B	2,4-D	69.5	46.1	49.4			7.05
	Acetaminophen	92.2	123	108			12.7
	Bentazon	87.1	27.3	29.7			6.75
	Carbamazepine	85.8	85.1	84.5			0.653
	Diuron	76.3	77.2	74.5			2.39
	Fenuron	96.9	85.0	83.1			2.26
	Fluridone	74.6	67.3	65.9			2.11
	Imidacloprid	83.4	165	146			11.4
	Linuron	80.2	79.8	83.0			3.93
	MCPP	67.6	38.1	40.3			5.65
	Primidone	105	105	108			3.58
	Sucralose	102	99.0	107			6.99
	Sucralose	110	109	108			1.35
	Triclopyr	69.0	39.1	40.4			3.31
SM 2120 B	Color (true)					1.82	
SM 2320 B-97	Total Alkalinity	99.4				0.306	
SM 2540 C-97	TDS					6.30	
	TDS					0.332	
SM 4500 F-C-97	Fluoride	97.6					0.937
SM 5310 B-00	Organic Carbon	98.4	100	101			0.135

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1965340, 1965341, 1965342, 1965343
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1965340, 1965341, 1965342, 1965343
EPA 300.0 Rev. 2.1 / E31780	Chloride in aqueous matrices	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
EPA 300.0 Rev. 2.1 / E31780	Sulfate in aqueous matrices	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1965272, 1965279, 1965280, 1965281, 1965282, 1965283
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1965272, 1965279, 1965280, 1965281, 1965282, 1965283
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1965272, 1965279, 1965280, 1965281, 1965282, 1965283
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1965272, 1965279, 1965280, 1965281, 1965282, 1965283
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1965273, 1965284, 1965285, 1965286, 1965287, 1965288
EPA 8321B / E31780	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	1965333, 1965334, 1965335, 1965336, 1965337, 1965338
EPA 8321B / E31780	Water soluble organic compounds by HPLC/MS/MS	1965333, 1965334, 1965335, 1965336, 1965337, 1965338
SM 2120 B / E31780	True Color measured at 450 nm	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1965271, 1965274, 1965275, 1965276, 1965277, 1965278

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
SM 2540 C-97 / E31780	Total Dissolved Solids in aqueous matrices	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1965272, 1965279, 1965280, 1965281, 1965282, 1965283

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	02/07/2018			02/07/2018 16:34	DeAsia Armster	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
EPA 200.7 Rev. 4.4	02/07/2018	02/12/2018	Elliott D. Healy	02/13/2018	Martin Acosta	1965340, 1965341, 1965342, 1965343
EPA 200.8 Rev. 5.4	02/07/2018	02/12/2018	Elliott D. Healy	02/13/2018	Nadine Brooks	1965340, 1965341, 1965342, 1965343
EPA 300.0 Rev. 2.1	02/07/2018			02/15/2018	Julia Storbeck	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
EPA 350.1 Rev. 2.0	02/07/2018			02/14/2018	Ping Hua	1965272, 1965279, 1965280, 1965281, 1965282, 1965283
EPA 351.2 Rev. 2.0	02/07/2018	02/08/2018	Adrian Shelby	02/09/2018	Joseph Suarez	1965272, 1965279, 1965280
	02/07/2018	02/08/2018	Adrian Shelby	02/12/2018	Joseph Suarez	1965281, 1965282, 1965283
EPA 353.2 Rev. 2.0	02/07/2018			02/13/2018	Lauren Bottorf	1965272, 1965279, 1965280, 1965281
	02/07/2018			02/15/2018	Lauren Bottorf	1965282, 1965283
EPA 365.1 Rev. 2.0	02/07/2018	02/09/2018	Sima Feizi	02/12/2018	Beverly Y. Sanders	1965272, 1965279, 1965280, 1965281
	02/07/2018	02/13/2018	Sima Feizi	02/14/2018	Lipi Saha	1965282
	02/07/2018	02/13/2018	Sima Feizi	02/15/2018	Lipi Saha	1965283
EPA 365.1 Rev. 2.0 dissolved	02/07/2018			02/07/2018 15:24	Megan Treadwell	1965288
	02/07/2018			02/07/2018 15:37	Megan Treadwell	1965273
	02/07/2018			02/07/2018 15:38	Megan Treadwell	1965284
	02/07/2018			02/07/2018 15:39	Megan Treadwell	1965285, 1965286
	02/07/2018			02/07/2018 15:40	Megan Treadwell	1965287
EPA 8321B	02/07/2018	02/07/2018	Julie Michelle Frank	02/09/2018	Juyoung Kim	1965333, 1965334, 1965335, 1965336, 1965337, 1965338
	02/07/2018	02/08/2018	Hoor Shaik	02/10/2018	Julie Michelle Frank	1965333, 1965334, 1965335, 1965336, 1965337, 1965338
	02/07/2018	02/08/2018	Hoor Shaik	02/11/2018	Julie Michelle Frank	1965335, 1965336, 1965337, 1965338
SM 2120 B	02/07/2018			02/07/2018 16:08	Tanya Welborn	1965274
	02/07/2018			02/07/2018 16:09	Tanya Welborn	1965275
	02/07/2018			02/07/2018 16:10	Tanya Welborn	1965276
	02/07/2018			02/07/2018 16:11	Tanya Welborn	1965277, 1965278
	02/07/2018			02/07/2018 16:41	Tanya Welborn	1965271
SM 2320 B-97	02/07/2018			02/17/2018	Dale L. Simmons	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 2540 C-97	02/07/2018			02/09/2018	Yijie Li	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 2540 D-97	02/07/2018			02/09/2018	Yijie Li	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 4500 F-C-97	02/07/2018			02/22/2018	Dale L. Simmons	1965271, 1965274, 1965275, 1965276, 1965277, 1965278
SM 5310 B-00	02/07/2018			02/16/2018	Megan Treadwell	1965272, 1965279, 1965280, 1965281, 1965282, 1965283