

Chemical Analysis Report

SE-DIST-2023-09-14-01

Florida DEP Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SMP - Lake Clarke**
Request ID: **RQ-2023-09-11-23**
Customer: **SE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FL Dept. of Environmental Protection
2199 South Rock Road
Fort Pierce, FL 34945
Attn: Andrew Luering

For additional information please contact
Colin Wright, Ph.D.
Chris Bowen, B.S.
Kerry Tate, Ph.D.
Dr. rer. nat. Bettina Steinbock
Thekkekalathil Chandrasekhar, Ph.D, QA Officer
Phone (850) 245-8085

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

Date Certified: 05-OCT-2023 13:42

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

Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: LAKE CLARKE OUTFLOW EAST OF PINE TREE LN **Collection Date/Time: 09/13/2023 10:00**

Field ID: G3SE0077

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437049	DEP SOP: NU-094-1	Color (true)	38		PCU	P435014	
	EPA 180.1 Rev. 2.0	Turbidity	3.4		NTU	P435018	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P435376	
		Sulfate	23		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	183		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	325		mg/L	P435389	
	SM 2540 D-2015	TSS	6	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.14		mg F/L	P435272	
2437056	EPA 350.1 Rev. 2.0	Ammonia-N	0.071		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.073		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.076		mg P/L	P435228	
	SM 5310 B-2011	Organic Carbon	11		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

EPA 365.1 Rev. 2.0: Total-P: Batch matrix spike recoveries are unavailable because of high analyte concentration in the QC sample.

**Sample Location: LAKE CLARKE INFLOW 5 S CONGRESS AVE
 ABOVE CAYMAN DR**

Collection Date/Time: 09/13/2023 10:15

Field ID: G3SE0076

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437050	DEP SOP: NU-094-1	Color (true)	81		PCU	P435014	
	EPA 180.1 Rev. 2.0	Turbidity	3.2		NTU	P435018	
	EPA 300.0 Rev. 2.1	Chloride	35		mg Cl/L	P435376	
		Sulfate	10		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	128	A	mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	232		mg/L	P435389	
	SM 2540 D-2015	TSS	5	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.059	I	mg F/L	P435272	
2437057	EPA 350.1 Rev. 2.0	Ammonia-N	0.13		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.028		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.072		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	15		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

**Sample Location: LAKE CLARKE INFLOW 4 S CONGRESS AVE
BELOW LARK RD**

Collection Date/Time: 09/13/2023 10:40

Field ID: G3SE0075

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437051	DEP SOP: NU-094-1	Color (true)	78	A	PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	2.3		NTU	P435018	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P435376	
		Sulfate	14		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	132		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	241		mg/L	P435389	
	SM 2540 D-2015	TSS	3	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P435272	
2437058	EPA 350.1 Rev. 2.0	Ammonia-N	0.085		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.99		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.14		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.056		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

**Sample Location: LAKE CLARKE INFLOW 3 S CONGRESS AVE
BELOW LAURA LN**

Collection Date/Time: 09/13/2023 10:50

Field ID: G3SE0074

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437052	DEP SOP: NU-094-1	Color (true)	73		PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	7.4		NTU	P435018	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P435376	
		Sulfate	15		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	144		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	247		mg/L	P435389	
	SM 2540 D-2015	TSS	7	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P435272	
2437059	EPA 350.1 Rev. 2.0	Ammonia-N	0.39		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.3		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.19		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

**Sample Location: LAKE CLARKE INFLOW 2 S CONGRESS AVE
ABOVE CHEROKEE RD**

Collection Date/Time: 09/13/2023 11:05

Field ID: G3SE0073

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437053	DEP SOP: NU-094-1	Color (true)	52		PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	2.2		NTU	P435018	
	EPA 300.0 Rev. 2.1	Chloride	29		mg Cl/L	P435376	
		Sulfate	11		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	168		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	263		mg/L	P435389	
	SM 2540 D-2015	TSS	3	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.072	I	mg F/L	P435272	
2437060	EPA 350.1 Rev. 2.0	Ammonia-N	0.22		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.033		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.13		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

**Sample Location: LAKE CLARKE INFLOW 1 S CONGRESS AVE
 ABOVE COLLIN DR**

Collection Date/Time: 09/13/2023 11:20

Field ID: G3SE0072

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437054	DEP SOP: NU-094-1	Color (true)	84		PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	2.5	A	NTU	P435019	
	EPA 300.0 Rev. 2.1	Chloride	37		mg Cl/L	P435376	
		Sulfate	16		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	140		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	246		mg/L	P435389	
	SM 2540 D-2015	TSS	3	I	mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.11		mg F/L	P435272	
2437061	EPA 350.1 Rev. 2.0	Ammonia-N	0.14		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.95		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.44		mg N/L	P435283	
	EPA 365.1 Rev. 2.0	Total-P	0.081		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	14		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: C 51 EAST NEAR BELVEDERE

Collection Date/Time: 09/13/2023 11:45

Field ID: G3SE0053

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437055	DEP SOP: NU-094-1	Color (true)	32		PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P435019	
	EPA 300.0 Rev. 2.1	Chloride	30		mg Cl/L	P435376	
		Sulfate	8.9		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	127		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	212		mg/L	P435389	
	SM 2540 D-2015	TSS	10		mg/L	P435298	
	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P435272	
2437062	EPA 350.1 Rev. 2.0	Ammonia-N	0.028		mg N/L	P435140	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P435786	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.047		mg N/L	P435284	
	EPA 365.1 Rev. 2.0	Total-P	0.10		mg P/L	P435247	
	SM 5310 B-2011	Organic Carbon	8.3		mg C/L	P435600	

Ref. Method and Comment:

SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: LAKE CLARKE CENTER

Collection Date/Time: 09/13/2023 09:40

Field ID: G3SE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437063	DEP SOP: NU-094-1	Color (true)	38		PCU	P435015	
	EPA 180.1 Rev. 2.0	Turbidity	1.6		NTU	P435019	
	EPA 300.0 Rev. 2.1	Chloride	57		mg Cl/L	P435376	
		Sulfate	23		mg SO4/L	P435379	
	SM 2320 B-2011	Total Alkalinity	178		mg CaCO3/L	P435267	
	SM 2540 C-2015	TDS	326		mg/L	P435389	
	SM 2540 D-2015	TSS	2	I	mg/L	P435298	
2437064	SM 4500-F- C-2011	Fluoride	0.13		mg F/L	P435272	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.12		mg N/L	P435141	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P435787	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.061		mg N/L	P435284	
	EPA 365.1 Rev. 2.0	Total-P	0.055		mg P/L	P435247	
2437096	SM 5310 B-2011	Organic Carbon	10		mg C/L	P435600	
	EPA 8321B	2,4-D	0.031		ug/L	P435061	
		Acesulfame K	0.17	I	ug/L	P434981	
		2,4,5-T	0.0040	U	ug/L	P435061	
		AMPA	0.27	I	ug/L	P434981	
		Acetaminophen	0.0080	U	ug/L	P435061	
		Acetamiprid	0.0020	U	ug/L	P435061	
		Endothall	0.25	U	ug/L	P434981	
		Glufosinate	0.10	U	ug/L	P434981	
		Glyphosate	0.53		ug/L	P434981	
		Afidopyropen	0.0020	U	ug/L	P435061	
		Sucralose	0.43		ug/L	P434981	
		Bentazon	0.027		ug/L	P435061	MS
		Benzovindiflupyr	0.0020	U	ug/L	P435061	
		Carbamazepine	0.0021	I	ug/L	P435061	
		Clothianidin	0.0020	U	ug/L	P435061	
		Dinotefuran	0.0022	I	ug/L	P435061	
		Diuron	0.0093		ug/L	P435061	
		Fenuron	0.032	U	ug/L	P435061	
		Fluridone	0.12		ug/L	P435061	
		Imazapyr	0.25		ug/L	P435061	
		Hydrocodone	0.0020	U	ug/L	P435061	
		Ibuprofen	0.080	U	ug/L	P435061	
		Imidacloprid	0.029		ug/L	P435061	
		Linuron	0.0040	U	ug/L	P435061	
		Mandestrobin	0.0020	U	ug/L	P435061	
		MCP	0.0029	I	ug/L	P435061	
		Naproxen	0.0080	U	ug/L	P435061	MS
		Primidone	0.0040	U	ug/L	P435061	
		Pyraclostrobin	0.0020	U	ug/L	P435061	
		Silvex	0.0040	U	ug/L	P435061	
		Thiamethoxam	0.0020	U	ug/L	P435061	

Field ID: G3SE0043

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2437096	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P435061	
		Triclopyr	0.0040	U	ug/L	P435061	

Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P435014

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: DEP SOP: NU-094-1
Batch ID: P435015

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435018

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435019

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435376

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435379

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435140

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435141

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435786

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435787

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435283

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435284

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435228

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435247

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

Reference Method: EPA 8321B
Batch ID: P434981

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: EPA 8321B
Batch ID: P435061

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P435061

Component	Result	Code	Units
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	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
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P435267

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

Reference Method: SM 2540 C-2015

Batch ID: P435389

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P435298

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P435272

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P435600

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P435014

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.4		P	90 - 110

Reference Method: DEP SOP: NU-094-1
Batch ID: P435015

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	99.0		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435018

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435019

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435376

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	90.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435379

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435140

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435141

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	97.4		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435786

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	98.8		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435787

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435283

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: P435284

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435228

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435247

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

Reference Method: EPA 8321B
Batch ID: P434981

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	110		P	40 - 150
Endothall	93.6		P	40 - 150
Glufosinate	106		P	40 - 150
Glyphosate	97.5		P	40 - 150
Sucralose	95.0		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P435061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.0		P	40 - 150
2,4,5-T	96.3		P	40 - 150
Acetaminophen	79.0		P	30 - 150
Acetamiprid	87.8		P	40 - 150
Afidopyropen	58.0		P	30 - 150
Bentazon	82.3		P	30 - 150
Benzovindiflupyr	88.0		P	40 - 150
Carbamazepine	84.4		P	40 - 150
Clothianidin	95.1		P	40 - 150
Dinotefuran	95.2		P	40 - 150
Diuron	80.0		P	40 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P435061

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	89.2		P	40 - 150
Fluridone	80.7		P	40 - 150
Hydrocodone	77.0		P	40 - 150
Ibuprofen	71.0		P	40 - 150
Imazapyr	80.6		P	40 - 150
Imidacloprid	87.1		P	40 - 150
Linuron	71.2		P	40 - 150
Mandestrobin	87.4		P	40 - 150
MCPP	111		P	40 - 150
Naproxen	87.2		P	40 - 150
Primidone	85.6		P	40 - 150
Pyraclostrobin	70.6		P	40 - 150
Silvex	99.2		P	40 - 150
Thiamethoxam	96.1		P	40 - 150
Tolfenpyrad	65.3		P	30 - 150
Triclopyr	102		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P435267

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.3		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P435389

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

Reference Method: SM 2540 D-2015
Batch ID: P435298

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	103		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P435272

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.3		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P435600

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437034	Chloride	94.2		P	90 - 110
2437093	Chloride	94.2		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435379

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437034	Sulfate	98.4		P	90 - 110
2437093	Sulfate	95.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435140

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437024	Ammonia-N	98.2	98.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435141

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437162	Ammonia-N	103	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435786

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437024	Kjeldahl Nitrogen	98.2	95.3	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435787

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437113	Kjeldahl Nitrogen	104	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435283

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436983	NO2NO3-N	103		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435284

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437062	NO2NO3-N	104	105	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435247

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437060	Total-P	109	108	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P434981

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436927	Acesulfame K	103	107	P/P	40 - 150
2436927	AMPA	59.1	60.2	P/P	40 - 150
2436927	Endothall	118	121	P/P	40 - 150
2436927	Glufosinate	116	116	P/P	40 - 150
2436927	Glyphosate	77.6	76.9	P/P	40 - 150
2436927	Sucralose	104	112	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P435061

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437002	2,4-D	99.0	92.2	P/P	40 - 150
2437002	2,4,5-T	98.0	97.7	P/P	40 - 150
2437002	Acetaminophen	69.8	68.0	P/P	30 - 150
2437002	Acetamiprid	57.6	57.8	P/P	40 - 150
2437002	Afidopyropen	73.6	67.2	P/P	30 - 150
2437002	Bentazon	29.3	29.6	F/F	30 - 150
2437002	Benzovindiflupyr	89.1	83.8	P/P	40 - 150
2437002	Carbamazepine	57.5	55.4	P/P	40 - 150
2437002	Dinotefuran	65.8	66.1	P/P	40 - 150
2437002	Diuron	49.5	47.1	P/P	40 - 150
2437002	Fenuron	41.8	40.8	P/P	40 - 150
2437002	Fluridone	52.9	52.2	P/P	40 - 150
2437002	Hydrocodone	45.8	43.9	P/P	40 - 150
2437002	Ibuprofen	56.6	61.4	P/P	40 - 150
2437002	Imazapyr	90.2	72.9	P/P	40 - 150
2437002	Linuron	57.6	51.4	P/P	40 - 150
2437002	Mandestrobin	55.3	70.8	P/P	40 - 150
2437002	MCP	108	100	P/P	40 - 150
2437002	Naproxen	460	396	F/F	40 - 150
2437002	Primidone	68.1	61.9	P/P	40 - 150
2437002	Pyraclostrobin	72.1	65.5	P/P	40 - 150
2437002	Silvex	97.3	92.0	P/P	40 - 150
2437002	Thiamethoxam	64.5	62.8	P/P	40 - 150
2437002	Tolfenpyrad	52.7	58.6	P/P	30 - 150
2437002	Triclopyr	107	97.8	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P435272

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2437050	Fluoride	98.3	98.3	P/P	94 - 106

Reference Method: SM 5310 B-2011

Batch ID: P435600

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2436980	Organic Carbon	101		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P435014

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436982	Color (true)	5.55	Sample	P	0 - 20

Reference Method: DEP SOP: NU-094-1
Batch ID: P435015

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437051	Color (true)	0.416	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435018

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436934	Turbidity	4.22	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P435019

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437054	Turbidity	5.19	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437034	Chloride	0.363	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P435379

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437034	Sulfate	0.480	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435140

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437024	Ammonia-N	0.547	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P435141

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437162	Ammonia-N	0.954	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435786

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437024	Kjeldahl Nitrogen	2.00	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P435787

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437113	Kjeldahl Nitrogen	3.01	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435283

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436983	NO2NO3-N	0.189	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P435284

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437062	NO2NO3-N	0.778	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435228

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437035	Total-P	0.680	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P435247

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437060	Total-P	0.553	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P434981

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436927	Acesulfame K	3.90	Spike	P	0 - 30
2436927	AMPA	1.99	Spike	P	0 - 30
2436927	Endothall	2.60	Spike	P	0 - 30
2436927	Glufosinate	0.0698	Spike	P	0 - 30
2436927	Glyphosate	0.959	Spike	P	0 - 30
2436927	Sucralose	7.82	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P435061

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437002	2,4-D	7.08	Spike	P	0 - 30
2437002	2,4,5-T	0.337	Spike	P	0 - 30
2437002	Acetaminophen	2.67	Spike	P	0 - 30
2437002	Acetamiprid	0.320	Spike	P	0 - 30
2437002	Afidopyropen	8.99	Spike	P	0 - 30
2437002	Bentazon	1.09	Spike	P	0 - 30
2437002	Benzovindiflupyr	6.15	Spike	P	0 - 30
2437002	Carbamazepine	3.76	Spike	P	0 - 30
2437002	Clothianidin	5.36	Spike	P	0 - 30
2437002	Dinotefuran	0.353	Spike	P	0 - 30
2437002	Diuron	4.86	Spike	P	0 - 30
2437002	Fenuron	2.64	Spike	P	0 - 30
2437002	Fluridone	1.17	Spike	P	0 - 30
2437002	Hydrocodone	4.28	Spike	P	0 - 30
2437002	Ibuprofen	8.14	Spike	P	0 - 30
2437002	Imazapyr	11.9	Spike	P	0 - 30
2437002	Imidacloprid	3.18	Spike	P	0 - 30
2437002	Linuron	11.4	Spike	P	0 - 30
2437002	Mandestrobin	24.6	Spike	P	0 - 30
2437002	MCP	7.91	Spike	P	0 - 30
2437002	Naproxen	14.8	Spike	P	0 - 30
2437002	Primidone	9.57	Spike	P	0 - 30
2437002	Pyraclostrobin	7.87	Spike	P	0 - 30
2437002	Silvex	5.61	Spike	P	0 - 30
2437002	Thiamethoxam	2.52	Spike	P	0 - 30
2437002	Tolfenpyrad	10.4	Spike	P	0 - 30
2437002	Triclopyr	8.76	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P435267

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437050	Total Alkalinity	1.78	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P435389

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436430	TDS	7.67	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P435272

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2437050	Fluoride	0.0	Spike	P	0 - 1.9

Quality Assurance Report Precision

Reference Method: SM 5310 B-2011
Batch ID: P435600

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2436980	Organic Carbon	0.457	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.

Quality Assurance Report Surrogates

Lab Sample ID: 2437096
Field Sample ID: G3SE0043

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	98.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	68.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	51.9	P	30 - 160
EPA 8321B	Diuron-d6	41.9	P	30 - 160
EPA 8321B	Endothall-d6	101	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	60.0	P	30 - 160
EPA 8321B	Ibuprofen-d3	56.4	P	30 - 160
EPA 8321B	Primidone-d5	61.7	P	30 - 160
EPA 8321B	Sucralose-d6	79.4	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A121541

Included Lab Sample IDs: 2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.5	99.9	P/P	90 - 110
Color (true)	99.9	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A121543

Included Lab Sample IDs: 2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	98.0	98.5	P/P	95 - 105
Turbidity	98.5	98.0	P/P	95 - 105

Reference Method: EPA 8321B

Run ID: A121577

Included Lab Sample IDs: 2437096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	103	80.0	P/P	60 - 160
Sucralose	97.4	90.8	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A121599

Included Lab Sample IDs: 2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.4	98.6	P/P	90 - 110
Ammonia-N	98.5	97.4	P/P	90 - 110
Ammonia-N	99.8	102	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A121604

Included Lab Sample IDs: 2437096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.6	99.7	P/P	60 - 160
Endothall	87.4	88.2	P/P	60 - 160
Glufosinate	100	103	P/P	60 - 160
Glyphosate	95.8	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A121621

Included Lab Sample IDs: 2437096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.8	78.4	P/P	50 - 150
2,4,5-T	88.9	74.3	P/P	50 - 150
Acetaminophen	99.8	101	P/P	60 - 160
Acetamiprid	108	107	P/P	50 - 150
Afidopyropen	97.3	103	P/P	50 - 150
Bentazon	104	102	P/P	50 - 160
Benzovindiflupyr	103	102	P/P	50 - 150
Carbamazepine	101	100	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A121621
Included Lab Sample IDs: 2437096

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	106	113	P/P	60 - 150
Dinotefuran	106	108	P/P	50 - 150
Diuron	101	101	P/P	60 - 160
Fenuron	103	102	P/P	60 - 150
Fluridone	97.4	94.5	P/P	60 - 160
Hydrocodone	97.0	96.2	P/P	60 - 150
Ibuprofen	114	97.5	P/P	50 - 160
Imazapyr	97.0	93.8	P/P	50 - 150
Imidacloprid	95.0	94.9	P/P	60 - 150
Linuron	103	98.5	P/P	60 - 150
Mandestrobin	105	74.1	P/P	50 - 150
MCPP	84.3	83.5	P/P	50 - 150
Naproxen	69.9	85.2	P/P	50 - 160
Primidone	91.7	95.5	P/P	60 - 150
Pyraclostrobin	95.7	94.2	P/P	60 - 150
Silvex	85.1	94.2	P/P	50 - 150
Thiamethoxam	109	108	P/P	50 - 150
Tolfenpyrad	102	99.1	P/P	60 - 150
Triclopyr	95.5	79.9	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A121649
Included Lab Sample IDs: 2437056

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	101	98.8	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A121658
Included Lab Sample IDs: 2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	93.5	97.6	P/P	90 - 110
Total Alkalinity	97.6	96.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A121658
Included Lab Sample IDs: 2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	101	99.0	P/P	90 - 110
Fluoride	99.0	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A121662
Included Lab Sample IDs: 2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	104	P/P	90 - 110
NO2NO3-N	104	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121698

Included Lab Sample IDs: 2437064

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A121711

Included Lab Sample IDs: 2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.4	99.8	P/P	90 - 110
Chloride	99.8	99.2	P/P	90 - 110
Sulfate	99.4	99.8	P/P	90 - 110
Sulfate	99.8	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A121723

Included Lab Sample IDs: 2437057, 2437058, 2437059, 2437060, 2437061, 2437062

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

Reference Method: SM 5310 B-2011

Run ID: A121794

Included Lab Sample IDs: 2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A121912

Included Lab Sample IDs: 2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	98.3	P/P	90 - 110
Kjeldahl Nitrogen	98.3	99.3	P/P	90 - 110

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

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

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	98.4				5.55	
	Color (true)	99.0				0.416	
EPA 180.1 Rev. 2.0	Turbidity	103				4.22	
	Turbidity	102				5.19	
EPA 300.0 Rev. 2.1	Chloride	90.8	94.2	94.2		0.363	
	Sulfate	101	98.4	95.9		0.480	
EPA 350.1 Rev. 2.0	Ammonia-N	98.0	98.2	98.8			0.547
	Ammonia-N	97.4	103	102			0.954
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	98.8	98.2	95.3			2.00
	Kjeldahl Nitrogen	106	104	107			3.01
EPA 353.2 Rev. 2.0	NO2NO3-N	104	103				0.189
	NO2NO3-N	104	104	105			0.778
EPA 365.1 Rev. 2.0	Total-P	104					0.680
	Total-P	104	109	108			0.553
EPA 8321B	2,4-D	89.0	99.0	92.2			7.08
	2,4,5-T	96.3	98.0	97.7			0.337
	Acesulfame K	101	103	107			3.90
	Acetaminophen	79.0	68.0	69.8			2.67
	Acetamiprid	87.8	57.6	57.8			0.320
	Afidopyropen	58.0	73.6	67.2			8.99
	AMPA	110	59.1	60.2			1.99
	Bentazon	82.3	29.3	29.6			1.09
	Benzovindiflupyr	88.0	89.1	83.8			6.15
	Carbamazepine	84.4	57.5	55.4			3.76
	Clothianidin	95.1					5.36
	Dinotefuran	95.2	66.1	65.8			0.353
	Diuron	80.0	49.5	47.1			4.86
	Endothall	93.6	118	121			2.60
	Fenuron	89.2	41.8	40.8			2.64
	Fluridone	80.7	52.9	52.2			1.17
	Glufosinate	106	116	116			0.0698
	Glyphosate	97.5	77.6	76.9			0.959
	Hydrocodone	77.0	43.9	45.8			4.28
	Ibuprofen	71.0	56.6	61.4			8.14
	Imazapyr	80.6	90.2	72.9			11.9
	Imidacloprid	87.1					3.18
	Linuron	71.2	57.6	51.4			11.4
	Mandestrobin	87.4	55.3	70.8			24.6
	MCPP	111	108	100			7.91
	Naproxen	87.2	460	396			14.8
	Primidone	85.6	68.1	61.9			9.57
	Pyraclostrobin	70.6	72.1	65.5			7.87
	Silvex	99.2	97.3	92.0			5.61
	Sucralose	95.0	104	112			7.82
	Thiamethoxam	96.1	64.5	62.8			2.52
	Tolfenpyrad	65.3	52.7	58.6			10.4
	Triclopyr	102	107	97.8			8.76
SM 2320 B-2011	Total Alkalinity	96.3				1.78	
SM 2540 C-2015	TDS	103				7.67	
SM 2540 D-2015	TSS	103					
SM 4500-F- C-2011	Fluoride	98.3	98.3	98.3			0.0
SM 5310 B-2011	Organic Carbon	94.2	101				0.457

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2437096
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2437056, 2437057, 2437058, 2437059, 2437060, 2437061, 2437062, 2437064

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	09/14/2023			09/14/2023 13:52	Samantha L Bates	2437049
	09/14/2023			09/14/2023 13:53	Samantha L Bates	2437050
	09/14/2023			09/14/2023 13:56	Samantha L Bates	2437051, 2437052
	09/14/2023			09/14/2023 13:57	Samantha L Bates	2437053, 2437054
	09/14/2023			09/14/2023 13:58	Samantha L Bates	2437055, 2437063
EPA 180.1 Rev. 2.0	09/14/2023			09/14/2023 12:59	Alexis Price	2437049
	09/14/2023			09/14/2023 13:00	Alexis Price	2437050, 2437051
	09/14/2023			09/14/2023 13:01	Alexis Price	2437052
	09/14/2023			09/14/2023 13:02	Alexis Price	2437053
	09/14/2023			09/14/2023 13:06	Alexis Price	2437054
EPA 300.0 Rev. 2.1	09/14/2023			09/14/2023 13:07	Alexis Price	2437055
	09/14/2023			09/14/2023 13:08	Alexis Price	2437063
	09/14/2023			09/21/2023 01:03	James L Waggerby	2437049
	09/14/2023			09/21/2023 01:18	James L Waggerby	2437050
	09/14/2023			09/21/2023 01:33	James L Waggerby	2437051
EPA 350.1 Rev. 2.0	09/14/2023			09/21/2023 01:48	James L Waggerby	2437052
	09/14/2023			09/21/2023 02:04	James L Waggerby	2437053
	09/14/2023			09/21/2023 02:19	James L Waggerby	2437054
	09/14/2023			09/21/2023 02:34	James L Waggerby	2437055
	09/14/2023			09/21/2023 03:19	James L Waggerby	2437063
EPA 351.2 Rev. 2.0	09/14/2023			09/18/2023 12:40	Ping Hua	2437056
	09/14/2023			09/18/2023 12:41	Ping Hua	2437057
	09/14/2023			09/18/2023 12:42	Ping Hua	2437058
	09/14/2023			09/18/2023 12:48	Ping Hua	2437062
	09/14/2023			09/18/2023 13:00	Ping Hua	2437064
EPA 353.2 Rev. 2.0	09/14/2023			09/18/2023 13:50	Ping Hua	2437059
	09/14/2023			09/18/2023 13:52	Ping Hua	2437060
	09/14/2023			09/18/2023 13:53	Ping Hua	2437061
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:37	Ping Hua	2437056
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:42	Ping Hua	2437057
EPA 353.2 Rev. 2.0	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:43	Ping Hua	2437058
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:45	Ping Hua	2437059
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:47	Ping Hua	2437060
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:48	Ping Hua	2437061
	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:50	Ping Hua	2437062
EPA 353.2 Rev. 2.0	09/14/2023	10/02/2023 11:13	Simonne.V. Calhoun	10/03/2023 10:55	Ping Hua	2437064
	09/14/2023			09/19/2023 14:51	Anna M. Plaviak	2437056
	09/14/2023			09/19/2023 14:52	Anna M. Plaviak	2437057
	09/14/2023			09/19/2023 14:54	Anna M. Plaviak	2437058
	09/14/2023			09/19/2023 14:55	Anna M. Plaviak	2437059

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 353.2 Rev. 2.0	09/14/2023			09/19/2023 14:56	Anna M. Plaviak	2437060
	09/14/2023			09/19/2023 14:57	Anna M. Plaviak	2437061
	09/14/2023			09/19/2023 15:04	Anna M. Plaviak	2437062
	09/14/2023			09/19/2023 15:10	Anna M. Plaviak	2437064
EPA 365.1 Rev. 2.0	09/14/2023	09/19/2023 16:30	Alexis Price	09/20/2023 12:16	Chandler E Cox	2437056
	09/14/2023	09/20/2023 15:00	Alexis Price	09/21/2023 13:20	Simonne.V. Calhoun	2437064
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:18	James L Waggeberby	2437060
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:20	James L Waggeberby	2437057
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:21	James L Waggeberby	2437058
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:22	James L Waggeberby	2437059
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:23	James L Waggeberby	2437061
	09/14/2023	09/20/2023 15:00	Alexis Price	09/22/2023 13:24	James L Waggeberby	2437062
EPA 8321B	09/14/2023	09/15/2023 12:00	Hana Lee	09/15/2023 20:04	Tae K Lee	2437096
	09/14/2023	09/15/2023 12:00	Hana Lee	09/18/2023 13:46	Tae K Lee	2437096
	09/14/2023	09/18/2023 09:00	Hoor Shaik	09/18/2023 21:52	Juyoung Kim	2437096
SM 2320 B-2011	09/14/2023			09/20/2023 07:11	Adam P Silver	2437050
	09/14/2023			09/20/2023 08:14	Adam P Silver	2437049
	09/14/2023			09/20/2023 08:28	Adam P Silver	2437051
	09/14/2023			09/20/2023 08:42	Adam P Silver	2437052
	09/14/2023			09/20/2023 09:30	Adam P Silver	2437053
	09/14/2023			09/20/2023 09:45	Adam P Silver	2437054
	09/14/2023			09/20/2023 09:59	Adam P Silver	2437055
	09/14/2023			09/20/2023 10:14	Adam P Silver	2437063
SM 2540 C-2015	09/14/2023			09/15/2023 16:01	Yijie Li	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 2540 D-2015	09/14/2023			09/15/2023 16:01	Yijie Li	2437049, 2437050, 2437051, 2437052, 2437053, 2437054, 2437055, 2437063
SM 4500-F- C-2011	09/14/2023			09/20/2023 07:00	Adam P Silver	2437050
	09/14/2023			09/20/2023 08:14	Adam P Silver	2437049
	09/14/2023			09/20/2023 08:28	Adam P Silver	2437051
	09/14/2023			09/20/2023 08:42	Adam P Silver	2437052
	09/14/2023			09/20/2023 09:30	Adam P Silver	2437053
	09/14/2023			09/20/2023 09:45	Adam P Silver	2437054
	09/14/2023			09/20/2023 09:59	Adam P Silver	2437055
	09/14/2023			09/20/2023 10:14	Adam P Silver	2437063
SM 5310 B-2011	09/14/2023			09/26/2023 16:18	Khloe J Berg	2437056
	09/14/2023			09/26/2023 16:32	Khloe J Berg	2437057
	09/14/2023			09/26/2023 16:47	Khloe J Berg	2437058
	09/14/2023			09/26/2023 17:01	Khloe J Berg	2437059
	09/14/2023			09/26/2023 17:15	Khloe J Berg	2437060

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
SM 5310 B-2011	09/14/2023			09/26/2023 17:30	Khloe J Berg	2437061
	09/14/2023			09/26/2023 17:44	Khloe J Berg	2437062
	09/14/2023			09/26/2023 17:59	Khloe J Berg	2437064