

Chemical Analysis Report

NE-DIST-2022-11-18-02

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

Event Description: **Nassau North West**
Request ID: **RQ-2022-11-07-21**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
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8800 Baymeadows Way West
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Jacksonville, FL 32256
Attn: Jeremy Parrish

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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 09-DEC-2022 13:27



Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: MOCCASIN CREEK @ MOCCASIN CREEK CIR. W **Collection Date/Time: 11/17/2022 11:50**

Field ID: 19010120

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2370947	DEP SOP: NU-094-1	Color (true)	480		PCU	P422591	
	EPA 180.1 Rev. 2.0	Turbidity	0.90	I	NTU	P422602	
	EPA 300.0 Rev. 2.1	Chloride	5.0		mg Cl/L	P423086	
		Sulfate	0.20	U	mg SO4/L	P423088	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P422891	
	SM 2540 C-2015	TDS	82		mg/L	P423109	
	SM 2540 D-2015	TSS	4	I	mg/L	P422926	
2370950	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P422895	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.010		mg N/L	P423236	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P423020	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P422802	
	EPA 365.1 Rev. 2.0	Total-P	0.012		mg P/L	P422690	
2370963	SM 5310 B-2011	Organic Carbon	50		mg C/L	P422887	
	EPA 200.7 Rev. 4.4	Calcium	1.04		mg/L	P422727	
		Iron	830		ug/L	P422727	
		Magnesium	0.76		mg/L	P422727	
		Potassium	0.30	U	mg/L	P422727	
		Sodium	2.7		mg/L	P422727	
		Strontium	7.1	I	ug/L	P422727	
		Tin	3.0	U	ug/L	P422727	
		Titanium	1.7	I	ug/L	P422727	
		Vanadium	2.0	U	ug/L	P422727	
		Zinc	5.0	U	ug/L	P422727	
		Aluminum	358		ug/L	P422727	
		Antimony	0.050	U	ug/L	P422727	
		Arsenic	0.32		ug/L	P422727	
		Barium	8.77		ug/L	P422727	
		Beryllium	0.022	I	ug/L	P422727	
		Boron	14.9		ug/L	P422727	
		Cadmium	0.020	U	ug/L	P422727	
		Chromium	0.40	U	ug/L	P422727	
		Cobalt	0.242		ug/L	P422727	
		Copper	0.40	U	ug/L	P422727	
		Lead	0.22	I	ug/L	P422727	
		Manganese	17.9		ug/L	P422727	
		Molybdenum	0.15	U	ug/L	P422727	
		Nickel	0.50	I	ug/L	P422727	
		Selenium	0.20	U	ug/L	P422727	
		Silver	0.010	U	ug/L	P422727	
		Thallium	0.10	U	ug/L	P422727	
	SM 2340 B-2011	Hardness	5.7		mg/L	P422727	

Field ID: 19010120

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
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Ref. Method and Comment:
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Moccasin Creek @ Moccasin Creek Cir. North Collection Date/Time: 11/17/2022 11:55

Field ID: G4NE0313

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2370948	DEP SOP: NU-094-1	Color (true)	300		PCU	P422591	
	EPA 180.1 Rev. 2.0	Turbidity	0.85	I	NTU	P422602	
	EPA 300.0 Rev. 2.1	Chloride	5.7		mg Cl/L	P423086	
		Sulfate	0.20	U	mg SO4/L	P423088	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P422891	
	SM 2540 C-2015	TDS	49		mg/L	P423109	
	SM 2540 D-2015	TSS	2	I	mg/L	P422926	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P422895	
2370951	EPA 350.1 Rev. 2.0	Ammonia-N	0.005		mg N/L	P423236	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.69		mg N/L	P423020	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P422802	
	EPA 365.1 Rev. 2.0	Total-P	0.008		mg P/L	P422690	
	SM 5310 B-2011	Organic Carbon	34		mg C/L	P422887	
2370964	EPA 200.7 Rev. 4.4	Calcium	0.97		mg/L	P422727	
		Iron	400		ug/L	P422727	
		Magnesium	0.64		mg/L	P422727	
		Potassium	0.30	U	mg/L	P422727	
		Sodium	2.9		mg/L	P422727	
		Strontium	5.7	I	ug/L	P422727	
		Tin	3.0	U	ug/L	P422727	
		Titanium	1.1	I	ug/L	P422727	
		Vanadium	2.0	U	ug/L	P422727	
		Zinc	5.0	U	ug/L	P422727	
		Aluminum	172		ug/L	P422727	
		Antimony	0.050	U	ug/L	P422727	
	EPA 200.8 Rev. 5.4	Arsenic	0.21		ug/L	P422727	
		Barium	4.99		ug/L	P422727	
		Beryllium	0.010	U	ug/L	P422727	
		Boron	14.0		ug/L	P422727	
		Cadmium	0.020	U	ug/L	P422727	
		Chromium	0.40	U	ug/L	P422727	
		Cobalt	0.173		ug/L	P422727	
		Copper	0.40	U	ug/L	P422727	
		Lead	0.27	I	ug/L	P422727	
		Manganese	10.2		ug/L	P422727	
		Molybdenum	0.15	U	ug/L	P422727	
		Nickel	0.50	U	ug/L	P422727	
	SM 2340 B-2011	Selenium	0.20	U	ug/L	P422727	
		Silver	0.010	U	ug/L	P422727	
		Thallium	0.10	U	ug/L	P422727	
		Hardness	5.0		mg/L	P422727	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Daughtery Branch @ CR125 S

Collection Date/Time: 11/17/2022 12:25

Field ID: 19010125

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2370962	EPA 8321B	2,4-D	0.0020	U	ug/L	P422681	
		Acesulfame K	0.10	U	ug/L	P422568	
		2,4,5-T	0.0040	U	ug/L	P422681	
		AMPA	0.10	U	ug/L	P422568	
		Acetaminophen	0.012	I	ug/L	P422681	
		Acetamiprid	0.0020	U	ug/L	P422681	
		Endothall	0.25	U	ug/L	P422568	MS
		Glufosinate	0.10	U	ug/L	P422568	
		Glyphosate	0.10	U	ug/L	P422568	
		Afidopyropen	0.0020	U	ug/L	P422681	
		Bentazon	8.0E-04	U	ug/L	P422681	
		Sucralose	0.010	U	ug/L	P422568	
		Benzovindiflupyr	0.0020	U	ug/L	P422681	
		Carbamazepine	8.0E-04	U	ug/L	P422681	
		Clothianidin	0.0020	U	ug/L	P422681	
		Dinotefuran	0.0020	U	ug/L	P422681	
		Diuron	0.0020	U	ug/L	P422681	
		Fenuron	0.032	U	ug/L	P422681	
		Fluridone	8.0E-04	U	ug/L	P422681	
		Imazapyr	0.44		ug/L	P422681	
		Hydrocodone	0.0020	U	ug/L	P422681	
		Ibuprofen	0.20	U	ug/L	P422681	
		Imidacloprid	0.0020	U	ug/L	P422681	MS
		Linuron	0.0040	U	ug/L	P422681	
		Mandestrobin	0.0020	U	ug/L	P422681	
		MCPP	0.0040	U	ug/L	P422681	
		Naproxen	0.0080	U	ug/L	P422681	
		Primidone	0.0040	U	ug/L	P422681	
		Pyraclostrobin	0.0020	U	ug/L	P422681	
		Silvex	0.0040	U	ug/L	P422681	
		Thiamethoxam	0.0020	U	ug/L	P422681	MS
		Tolfenpyrad	0.0020	U	ug/L	P422681	
		Triclopyr	0.0040	U	ug/L	P422681	
2370966	EPA 200.7 Rev. 4.4	Calcium	3.18		mg/L	P422727	
		Iron	1.56E+03		ug/L	P422727	
		Magnesium	1.15		mg/L	P422727	
		Potassium	0.30	U	mg/L	P422727	
		Sodium	5.0		mg/L	P422727	
		Strontium	13.0		ug/L	P422727	
		Tin	3.0	U	ug/L	P422727	
		Titanium	2.4	I	ug/L	P422727	
		Vanadium	2.0	U	ug/L	P422727	
		Zinc	5.0	U	ug/L	P422727	
	EPA 200.8 Rev. 5.4	Aluminum	817		ug/L	P422727	

Field ID: 19010125

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2370966	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P422727	
		Arsenic	0.43		ug/L	P422727	
		Barium	16.6		ug/L	P422727	
		Beryllium	0.054		ug/L	P422727	
		Boron	20.8		ug/L	P422727	
		Cadmium	0.020	U	ug/L	P422727	
		Chromium	1.4	I	ug/L	P422727	
		Cobalt	0.57		ug/L	P422727	
		Copper	0.40	U	ug/L	P422727	
		Lead	0.93		ug/L	P422727	
		Manganese	24.9		ug/L	P422727	
		Molybdenum	0.15	U	ug/L	P422727	
		Nickel	0.95	I	ug/L	P422727	
		Selenium	0.20	U	ug/L	P422727	
		Silver	0.010	U	ug/L	P422727	
		Thallium	0.10	U	ug/L	P422727	
	SM 2340 B-2011	Hardness	12.7		mg/L	P422727	

Ref. Method and Comment:

EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

EPA 200.8 Rev. 5.4: The lead result was confirmed in the undigested sample on 11/29/2022.

Sample Location: CALKINS CR @ CR 127

Collection Date/Time: 11/17/2022 12:40

Field ID: 19010105

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2370949	DEP SOP: NU-094-1	Color (true)	290		PCU	P422591	
	EPA 180.1 Rev. 2.0	Turbidity	6.7		NTU	P422602	
	EPA 300.0 Rev. 2.1	Chloride	8.1		mg Cl/L	P423086	
		Sulfate	0.25	I	mg SO4/L	P423088	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P422891	
	SM 2540 C-2015	TDS	53		mg/L	P423109	
	SM 2540 D-2015	TSS	4	I	mg/L	P422926	
2370952	SM 4500-F- C-2011	Fluoride	0.028	I	mg F/L	P422895	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.012		mg N/L	P423181	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.84		mg N/L	P423020	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P422802	
	EPA 365.1 Rev. 2.0	Total-P	0.020		mg P/L	P422690	
2370965	SM 5310 B-2011	Organic Carbon	32		mg C/L	P422887	
	EPA 200.7 Rev. 4.4	Calcium	1.26		mg/L	P422727	
		Iron	1.43E+03		ug/L	P422727	
		Magnesium	0.98		mg/L	P422727	
		Potassium	0.30	U	mg/L	P422727	
		Sodium	3.8		mg/L	P422727	
		Strontium	7.6	I	ug/L	P422727	
		Tin	3.0	U	ug/L	P422727	
		Titanium	1.3	I	ug/L	P422727	
		Vanadium	2.0	U	ug/L	P422727	
		Zinc	5.0	U	ug/L	P422727	
		Aluminum	498		ug/L	P422727	
		Antimony	0.050	U	ug/L	P422727	
		Arsenic	0.36		ug/L	P422727	
		Barium	15.5		ug/L	P422727	
		Beryllium	0.043		ug/L	P422727	
		Boron	18.2		ug/L	P422727	
		Cadmium	0.020	U	ug/L	P422727	
		Chromium	0.79	I	ug/L	P422727	
		Cobalt	0.467		ug/L	P422727	
		Copper	0.40	U	ug/L	P422727	
		Lead	0.49		ug/L	P422727	
		Manganese	18.8		ug/L	P422727	
		Molybdenum	0.15	U	ug/L	P422727	
		Nickel	0.74	I	ug/L	P422727	
		Selenium	0.20	U	ug/L	P422727	
		Silver	0.010	U	ug/L	P422727	
		Thallium	0.10	U	ug/L	P422727	
	SM 2340 B-2011	Hardness	7.2		mg/L	P422727	

Ref. Method and Comment:

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422591

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422602

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422727

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
Strontium	2.0	U	ug/L
Tin	3.0	U	ug/L
Titanium	0.75	U	ug/L
Vanadium	2.0	U	ug/L
Zinc	5.0	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422727

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Barium	0.20	U	ug/L
Beryllium	0.010	U	ug/L
Boron	2.0	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L
Cobalt	0.020	U	ug/L
Copper	0.40	U	ug/L
Lead	0.20	U	ug/L
Manganese	0.10	U	ug/L
Molybdenum	0.15	U	ug/L
Nickel	0.50	U	ug/L
Selenium	0.20	U	ug/L
Silver	0.010	U	ug/L
Thallium	0.10	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423086

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423088

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423181

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423236

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423020

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422802

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422690

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

Reference Method: EPA 8321B
Batch ID: P422568

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: P422681

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P422681

Component	Result	Code	Units
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
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.20	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	0.0040	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: P422891

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

Reference Method: SM 2540 C-2015

Batch ID: P423109

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P422926

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P422895

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P422887

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: P422591

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	101		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422602

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	106		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	103		P	85 - 115
Sodium	102		P	85 - 115
Strontium	103		P	85 - 115
Tin	102		P	85 - 115
Titanium	99.6		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	98.0		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422727

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.4		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	103		P	85 - 115
Barium	104		P	85 - 115
Beryllium	97.6		P	85 - 115
Boron	103		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	97.0		P	85 - 115
Cobalt	108		P	85 - 115
Copper	101		P	85 - 115
Lead	99.8		P	85 - 115
Manganese	95.8		P	85 - 115
Molybdenum	98.8		P	85 - 115
Nickel	99.1		P	85 - 115
Selenium	99.4		P	85 - 115
Silver	104		P	85 - 115
Thallium	99.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423086

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423088

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423181

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423236

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423020

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422802

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: P422690

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

Reference Method: EPA 8321B
Batch ID: P422568

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	136		P	40 - 150
AMPA	111		P	40 - 150
Endothall	112		P	40 - 150
Glufosinate	107		P	40 - 150
Glyphosate	111		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P422681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	88.9		P	40 - 150
2,4,5-T	70.0		P	40 - 150
Acetaminophen	88.1		P	30 - 150
Acetamiprid	78.0		P	40 - 150
Afidopyropen	57.9		P	30 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P422681

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	94.0		P	30 - 150
Benzovindiflupyr	83.6		P	40 - 150
Carbamazepine	81.3		P	40 - 150
Clothianidin	96.7		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	85.7		P	40 - 150
Fenuron	101		P	40 - 150
Fluridone	98.7		P	40 - 150
Hydrocodone	94.8		P	40 - 150
Ibuprofen	86.2		P	40 - 150
Imazapyr	88.4		P	40 - 150
Imidacloprid	102		P	40 - 150
Linuron	89.0		P	40 - 150
Mandestrobin	93.5		P	40 - 150
MCPP	94.7		P	40 - 150
Naproxen	60.1		P	40 - 150
Primidone	83.3		P	40 - 150
Pyraclostrobin	80.8		P	40 - 150
Silvex	72.2		P	40 - 150
Thiamethoxam	95.7		P	40 - 150
Tolfenpyrad	48.4		P	30 - 150
Triclopyr	79.0		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P422891

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.5		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P423109

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	97.7		P	90 - 110

Reference Method: SM 2540 D-2015

Batch ID: P422926

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.6		P	85 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P422895

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P422887

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	97.1		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P422727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370860	Iron	106	105	P/P	80 - 120
2370860	Magnesium	105	104	P/P	80 - 120
2370860	Potassium	103	103	P/P	80 - 120
2370860	Sodium	103		P	80 - 120
2370860	Strontium	103	101	P/P	80 - 120
2370860	Tin	100	102	P/P	80 - 120
2370860	Titanium	101	100	P/P	80 - 120
2370860	Vanadium	99.9	98.2	P/P	80 - 120
2370860	Zinc	97.9	96.0	P/P	80 - 120
2371012	Calcium	105		P	80 - 120
2371012	Iron	105		P	80 - 120
2371012	Magnesium	105		P	80 - 120
2371012	Potassium	100		P	80 - 120
2371012	Sodium	102		P	80 - 120
2371012	Strontium	102		P	80 - 120
2371012	Tin	101		P	80 - 120
2371012	Titanium	99.6		P	80 - 120
2371012	Vanadium	99.2		P	80 - 120
2371012	Zinc	98.6		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P422727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370860	Aluminum	96.5	95.7	P/P	80 - 120
2370860	Antimony	105	105	P/P	80 - 120
2370860	Arsenic	104	102	P/P	80 - 120
2370860	Barium	104	103	P/P	80 - 120
2370860	Beryllium	97.0	94.5	P/P	80 - 120
2370860	Boron	106	106	P/P	80 - 120
2370860	Cadmium	102	102	P/P	80 - 120
2370860	Chromium	98.9	98.6	P/P	80 - 120
2370860	Cobalt	107	104	P/P	80 - 120
2370860	Copper	96.6	94.4	P/P	80 - 120
2370860	Lead	102	102	P/P	80 - 120
2370860	Manganese	98.0	97.4	P/P	80 - 120
2370860	Molybdenum	105	103	P/P	80 - 120
2370860	Nickel	96.2	94.2	P/P	80 - 120
2370860	Selenium	98.8	98.7	P/P	80 - 120
2370860	Silver	104	103	P/P	80 - 120
2370860	Thallium	103	103	P/P	80 - 120
2371012	Aluminum	96.2		P	80 - 120
2371012	Antimony	100		P	80 - 120
2371012	Arsenic	96.9		P	80 - 120
2371012	Barium	101		P	80 - 120
2371012	Beryllium	92.0		P	80 - 120
2371012	Boron	104		P	80 - 120
2371012	Cadmium	100		P	80 - 120
2371012	Chromium	95.7		P	80 - 120
2371012	Cobalt	102		P	80 - 120
2371012	Copper	93.3		P	80 - 120
2371012	Lead	100		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422727

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371012	Manganese	94.6		P	80 - 120
2371012	Molybdenum	98.0		P	80 - 120
2371012	Nickel	95.4		P	80 - 120
2371012	Selenium	91.7		P	80 - 120
2371012	Silver	103		P	80 - 120
2371012	Thallium	99.0		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423086

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370887	Chloride	96.9		P	90 - 110
2370899	Chloride	98.0		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423088

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370887	Sulfate	96.1		P	90 - 110
2370899	Sulfate	97.1		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423181

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2369475	Ammonia-N	98.0	98.0	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423236

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2369553	Ammonia-N	98.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423020

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370945	Kjeldahl Nitrogen	99.6	99.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370945	NO2NO3-N	96.2		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422690

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370922	Total-P	102	103	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P422568

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370304	Acesulfame K	53.9	49.8	P/P	40 - 150
2370304	AMPA	85.9	77.0	P/P	40 - 150
2370304	Endothall	168	170	F/F	40 - 150
2370304	Glufosinate	81.0	77.8	P/P	40 - 150
2370304	Glyphosate	103	105	P/P	40 - 150
2370304	Sucralose	92.5	98.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P422681

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370840	2,4-D	119	124	P/P	40 - 150
2370840	2,4,5-T	70.4	81.3	P/P	40 - 150
2370840	Acetaminophen	104	104	P/P	30 - 150
2370840	Acetamiprid	64.3	64.8	P/P	40 - 150
2370840	Afidopyropen	59.4	69.6	P/P	30 - 150
2370840	Benzovindiflupyr	79.4	83.4	P/P	40 - 150
2370840	Carbamazepine	72.2	67.8	P/P	40 - 150
2370840	Clothianidin	135	137	P/P	40 - 150
2370840	Dinotefuran	138	143	P/P	40 - 150
2370840	Diuron	57.7	61.9	P/P	40 - 150
2370840	Fenuron	97.9	91.9	P/P	40 - 150
2370840	Hydrocodone	128	119	P/P	40 - 150
2370840	Ibuprofen	76.5	83.2	P/P	40 - 150
2370840	Imidacloprid	157	146	F/P	40 - 150
2370840	Linuron	67.9	69.3	P/P	40 - 150
2370840	Mandestrobin	81.5	86.3	P/P	40 - 150
2370840	MCCP	102	104	P/P	40 - 150
2370840	Naproxen	81.8	101	P/P	40 - 150
2370840	Primidone	119	106	P/P	40 - 150
2370840	Pyraclostrobin	80.0	84.3	P/P	40 - 150
2370840	Silvex	101	107	P/P	40 - 150
2370840	Thiamethoxam	163	158	F/F	40 - 150
2370840	Tolfenpyrad	50.8	51.4	P/P	30 - 150
2370840	Triclopyr	75.6	93.6	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P422895

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370883	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P422887

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2370974	Organic Carbon	96.2	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422591

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370944	Color (true)	6.02	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P422602

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370920	Turbidity	5.70	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P422727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370860	Calcium	2.56	Spike	P	0 - 20
2370860	Iron	0.500	Spike	P	0 - 20
2370860	Magnesium	0.776	Spike	P	0 - 20
2370860	Potassium	0.221	Spike	P	0 - 20
2370860	Sodium	1.73	Spike	P	0 - 20
2370860	Strontium	1.48	Spike	P	0 - 20
2370860	Tin	1.43	Spike	P	0 - 20
2370860	Titanium	1.04	Spike	P	0 - 20
2370860	Vanadium	1.73	Spike	P	0 - 20
2370860	Zinc	1.93	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P422727

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370860	Aluminum	0.822	Spike	P	0 - 20
2370860	Antimony	0.295	Spike	P	0 - 20
2370860	Arsenic	2.09	Spike	P	0 - 20
2370860	Barium	1.22	Spike	P	0 - 20
2370860	Beryllium	2.65	Spike	P	0 - 20
2370860	Boron	0.163	Spike	P	0 - 20
2370860	Cadmium	0.217	Spike	P	0 - 20
2370860	Chromium	0.334	Spike	P	0 - 20
2370860	Cobalt	3.14	Spike	P	0 - 20
2370860	Copper	2.10	Spike	P	0 - 20
2370860	Lead	0.151	Spike	P	0 - 20
2370860	Manganese	0.550	Spike	P	0 - 20
2370860	Molybdenum	1.58	Spike	P	0 - 20
2370860	Nickel	2.09	Spike	P	0 - 20
2370860	Selenium	0.179	Spike	P	0 - 20
2370860	Silver	0.482	Spike	P	0 - 20
2370860	Thallium	0.0558	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423086

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370887	Chloride	0.00828	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423088

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370887	Sulfate	0.147	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423181

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2369475	Ammonia-N	0.0	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423236

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2369553	Ammonia-N	1.19	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423020

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370945	Kjeldahl Nitrogen	0.160	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P422802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370945	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P422690

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370922	Total-P	0.442	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P422568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370304	Acesulfame K	7.90	Spike	P	0 - 30
2370304	AMPA	9.41	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P422568

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370304	Endothall	0.917	Spike	P	0 - 30
2370304	Glufosinate	4.04	Spike	P	0 - 30
2370304	Glyphosate	1.43	Spike	P	0 - 30
2370304	Sucralose	5.16	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P422681

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370840	2,4-D	4.01	Spike	P	0 - 30
2370840	2,4,5-T	14.3	Spike	P	0 - 30
2370840	Acetaminophen	0.320	Spike	P	0 - 30
2370840	Acetamiprid	0.869	Spike	P	0 - 30
2370840	Afidopyropen	15.8	Spike	P	0 - 30
2370840	Bentazon	2.69	Spike	P	0 - 30
2370840	Benzovindiflupyr	4.94	Spike	P	0 - 30
2370840	Carbamazepine	4.42	Spike	P	0 - 30
2370840	Clothianidin	1.53	Spike	P	0 - 30
2370840	Dinotefuran	3.36	Spike	P	0 - 30
2370840	Diuron	7.10	Spike	P	0 - 30
2370840	Fenuron	6.39	Spike	P	0 - 30
2370840	Fluridone	0.579	Spike	P	0 - 30
2370840	Hydrocodone	7.36	Spike	P	0 - 30
2370840	Ibuprofen	8.46	Spike	P	0 - 30
2370840	Imazapyr	1.88	Spike	P	0 - 30
2370840	Imidacloprid	6.84	Spike	P	0 - 30
2370840	Linuron	2.14	Spike	P	0 - 30
2370840	Mandestrobin	5.80	Spike	P	0 - 30
2370840	MCP	1.15	Spike	P	0 - 30
2370840	Naproxen	20.9	Spike	P	0 - 30
2370840	Primidone	9.11	Spike	P	0 - 30
2370840	Pyraclostrobin	5.30	Spike	P	0 - 30
2370840	Silvex	5.80	Spike	P	0 - 30
2370840	Thiamethoxam	3.39	Spike	P	0 - 30
2370840	Tolfenpyrad	1.06	Spike	P	0 - 30
2370840	Triclopyr	21.3	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P422891

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370883	Total Alkalinity	0.595	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015
Batch ID: P423109

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370586	TDS	1.97	Sample	P	0 - 10

Quality Assurance Report Precision

Reference Method: SM 4500-F- C-2011
Batch ID: P422895

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370883	Fluoride	0.0	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011
Batch ID: P422887

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2370974	Organic Carbon	0.218	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2370962

Field Sample ID: 19010125

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	113	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	45.9	P	30 - 160
EPA 8321B	Diuron-d6	40.8	P	30 - 160
EPA 8321B	Endothall-d6	136	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	68.1	P	30 - 160
EPA 8321B	Ibuprofen-d3	74.9	P	30 - 160
EPA 8321B	Primidone-d5	86.7	P	30 - 160
EPA 8321B	Sucralose-d6	139	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116036

Included Lab Sample IDs: 2370947, 2370948, 2370949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	99.9	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116038

Included Lab Sample IDs: 2370947, 2370948, 2370949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.5	100	P/P	95 - 105

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A116114

Included Lab Sample IDs: 2370950, 2370951, 2370952

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116131

Included Lab Sample IDs: 2370963, 2370964, 2370965, 2370966

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	93.6	93.3	P/P	90 - 110
Antimony	96.5	97.9	P/P	90 - 110
Arsenic	95.9	93.3	P/P	90 - 110
Barium	96.1	95.9	P/P	90 - 110
Beryllium	93.6	92.7	P/P	90 - 110
Cadmium	99.3	101	P/P	90 - 110
Lead	97.2	96.8	P/P	90 - 110
Molybdenum	96.2	95.5	P/P	90 - 110
Selenium	96.8	96.8	P/P	90 - 110
Silver	100	99.8	P/P	90 - 110
Thallium	96.1	95.4	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A116135

Included Lab Sample IDs: 2370962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	108	111	P/P	60 - 160
Endothall	109	105	P/P	60 - 160
Glufosinate	104	99.2	P/P	60 - 160
Glyphosate	121	113	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A116141

Included Lab Sample IDs: 2370962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	147	131	P/P	60 - 160
Sucralose	106	88.3	P/P	60 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116148

Included Lab Sample IDs: 2370950, 2370951, 2370952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	102	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A116170

Included Lab Sample IDs: 2370962

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.9	93.8	P/P	50 - 150
2,4,5-T	102	109	P/P	50 - 150
Acetaminophen	99.7	96.0	P/P	60 - 160
Acetamiprid	105	115	P/P	50 - 150
Afidopyropen	89.5	96.4	P/P	50 - 150
Bentazon	102	101	P/P	50 - 160
Benzovindiflupyr	109	105	P/P	50 - 150
Carbamazepine	107	108	P/P	60 - 150
Clothianidin	96.8	107	P/P	60 - 150
Dinotefuran	113	110	P/P	50 - 150
Diuron	112	112	P/P	60 - 160
Fenuron	107	111	P/P	60 - 150
Fluridone	110	112	P/P	60 - 160
Hydrocodone	104	108	P/P	60 - 150
Ibuprofen	96.7	113	P/P	50 - 160
Imazapyr	103	106	P/P	50 - 150
Imidacloprid	94.0	106	P/P	60 - 150
Linuron	118	126	P/P	60 - 150
Mandestrobin	109	109	P/P	50 - 150
MCPP	109	115	P/P	50 - 150
Naproxen	73.1	70.2	P/P	50 - 160
Primidone	101	98.4	P/P	60 - 150
Pyraclostrobin	105	106	P/P	60 - 150
Silvex	94.3	96.4	P/P	50 - 150
Thiamethoxam	104	115	P/P	50 - 150
Tolfenpyrad	103	105	P/P	60 - 150
Triclopyr	112	117	P/P	50 - 150

Reference Method: SM 5310 B-2011

Run ID: A116179

Included Lab Sample IDs: 2370950, 2370951, 2370952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.0	98.4	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A116180

Included Lab Sample IDs: 2370947, 2370948, 2370949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.9	95.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A116180

Included Lab Sample IDs: 2370947, 2370948, 2370949

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A116187

Included Lab Sample IDs: 2370963, 2370964, 2370965, 2370966

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	99.8	100	P/P	90 - 110
Iron	100	100	P/P	90 - 110
Magnesium	99.0	99.6	P/P	90 - 110
Potassium	98.3	98.8	P/P	90 - 110
Sodium	99.6	98.8	P/P	90 - 110
Strontium	101	103	P/P	90 - 110
Tin	96.0	100	P/P	90 - 110
Titanium	96.2	99.6	P/P	90 - 110
Vanadium	96.2	99.8	P/P	90 - 110
Zinc	97.0	100	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116201

Included Lab Sample IDs: 2370963, 2370964, 2370965, 2370966

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	98.8	102	P/P	90 - 110
Chromium	92.8	91.6	P/P	90 - 110
Manganese	93.8	91.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116220

Included Lab Sample IDs: 2370963, 2370964, 2370965, 2370966

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	91.2	90.8	P/P	90 - 110
Nickel	91.6	90.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116247

Included Lab Sample IDs: 2370963, 2370964, 2370965, 2370966

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Cobalt	93.3	93.7	P/P	90 - 110
Cobalt	94.9	97.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116259

Included Lab Sample IDs: 2370947, 2370948, 2370949

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116263

Included Lab Sample IDs: 2370950, 2370951, 2370952

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	96.1	95.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116287

Included Lab Sample IDs: 2370952

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

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116310

Included Lab Sample IDs: 2370950, 2370951

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	97.3	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 SMP	MS
DEP SOP: NU-094-1	Color (true)	101					6.02	
EPA 180.1 Rev. 2.0	Turbidity	101					5.70	
EPA 200.7 Rev. 4.4	Calcium	104		105				2.56
	Iron	106	106	105	105			0.500
	Magnesium	106	105	104	105			0.776
	Potassium	103	103	103	100			0.221
	Sodium	102	103	102				1.73
	Strontium	103	103	101	102			1.48
	Tin	102	100	102	101			1.43
	Titanium	99.6	101	100	99.6			1.04
	Vanadium	98.5	99.9	98.2	99.2			1.73
	Zinc	98.0	97.9	96.0	98.6			1.93
EPA 200.8 Rev. 5.4	Aluminum	98.4	96.5	95.7	96.2			0.822
	Antimony	100	105	105	100			0.295
	Arsenic	103	104	102	96.9			2.09
	Barium	104	104	103	101			1.22
	Beryllium	97.6	97.0	94.5	92.0			2.65
	Boron	103	106	106	104			0.163
	Cadmium	101	102	102	100			0.217
	Chromium	97.0	98.9	98.6	95.7			0.334
	Cobalt	108	107	104	102			3.14
	Copper	101	96.6	94.4	93.3			2.10
	Lead	99.8	102	102	100			0.151
	Manganese	95.8	98.0	97.4	94.6			0.550
	Molybdenum	98.8	105	103	98.0			1.58
	Nickel	99.1	96.2	94.2	95.4			2.09
	Selenium	99.4	98.8	98.7	91.7			0.179
	Silver	104	104	103	103			0.482
	Thallium	99.4	103	103	99.0			0.0558
EPA 300.0 Rev. 2.1	Chloride	101	96.9	98.0			0.0082	
	Sulfate	99.8	96.1	97.1			0.147	
EPA 350.1 Rev. 2.0	Ammonia-N	101	98.0	98.0				0.0
	Ammonia-N	94.6	98.8	101				1.19
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	100	99.6	99.8				0.160
EPA 353.2 Rev. 2.0	NO2NO3-N	104	96.2					0.0
EPA 365.1 Rev. 2.0	Total-P	101	102	103				0.442
EPA 8321B	2,4-D	88.9	119	124				4.01
	2,4,5-T	70.0	70.4	81.3				14.3
	Acesulfame K	136	53.9	49.8				7.90
	Acetaminophen	88.1	104	104				0.320
	Acetamiprid	78.0	64.3	64.8				0.869
	Afidopyropen	57.9	59.4	69.6				15.8
	AMPA	111	85.9	77.0				9.41
	Bentazon	94.0						2.69
	Benzovindiflupyr	83.6	79.4	83.4				4.94
	Carbamazepine	81.3	72.2	67.8				4.42
	Clothianidin	96.7	135	137				1.53
	Dinotefuran	102	138	143				3.36
	Diuron	85.7	57.7	61.9				7.10
	Endothall	112	168	170				0.917
	Fenuron	101	97.9	91.9				6.39
	Fluridone	98.7						0.579
	Glufosinate	107	81.0	77.8				4.04
	Glyphosate	111	103	105				1.43

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Hydrocodone	94.8	128	119		7.36
	Ibuprofen	86.2	76.5	83.2		8.46
	Imazapyr	88.4				1.88
	Imidacloprid	102	157	146		6.84
	Linuron	89.0	67.9	69.3		2.14
	Mandestrobin	93.5	81.5	86.3		5.80
	MCP	94.7	102	104		1.15
	Naproxen	60.1	81.8	101		20.9
	Primidone	83.3	119	106		9.11
	Pyraclorobin	80.8	80.0	84.3		5.30
	Silvex	72.2	101	107		5.80
	Sucralose	102	92.5	98.0		5.16
	Thiamethoxam	95.7	163	158		3.39
	Tolfenpyrad	48.4	50.8	51.4		1.06
	Triclopyr	79.0	75.6	93.6		21.3
SM 2320 B-2011	Total Alkalinity	97.5				0.595
SM 2540 C-2015	TDS	97.7				1.97
SM 2540 D-2015	TSS	93.6				
SM 4500-F- C-2011	Fluoride	102	101	101		0.0
SM 5310 B-2011	Organic Carbon	97.1	96.2	96.4		0.218

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2370947, 2370948, 2370949
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2370947, 2370948, 2370949
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2370963, 2370964, 2370965, 2370966
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2370963, 2370964, 2370965, 2370966
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2370947, 2370948, 2370949
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2370947, 2370948, 2370949
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2370950, 2370951, 2370952
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2370950, 2370951, 2370952
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2370950, 2370951, 2370952
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2370950, 2370951, 2370952
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2370962
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2370947, 2370948, 2370949
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2370963, 2370964, 2370965, 2370966
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2370947, 2370948, 2370949
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2370947, 2370948, 2370949
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2370947, 2370948, 2370949
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2370950, 2370951, 2370952

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	11/18/2022			11/18/2022 14:47	Chandler E Cox	2370947
	11/18/2022			11/18/2022 14:48	Chandler E Cox	2370948, 2370949
EPA 180.1 Rev. 2.0	11/18/2022			11/18/2022 14:26	Khloe J Berg	2370947, 2370948
	11/18/2022			11/18/2022 14:27	Khloe J Berg	2370949
EPA 200.7 Rev. 4.4	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/29/2022 23:20	McKinley C Carter	2370963
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/29/2022 23:25	McKinley C Carter	2370964
EPA 200.8 Rev. 5.4	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/29/2022 23:31	McKinley C Carter	2370965
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/29/2022 23:37	McKinley C Carter	2370966
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/28/2022 00:24	Megan Whitefoot	2370963
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/28/2022 00:34	Megan Whitefoot	2370964
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/28/2022 00:43	Megan Whitefoot	2370965
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/28/2022 00:53	Megan Whitefoot	2370966
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/30/2022 19:27	Emily M Philpot	2370963
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/30/2022 19:36	Emily M Philpot	2370964
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/30/2022 19:46	Emily M Philpot	2370965
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	11/30/2022 19:56	Emily M Philpot	2370966
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/01/2022 20:07	Emily M Philpot	2370963
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/01/2022 20:14	Emily M Philpot	2370964
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/01/2022 20:20	Emily M Philpot	2370965
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/01/2022 20:27	Emily M Philpot	2370966
EPA 300.0 Rev. 2.1	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/03/2022 03:03	Emily M Philpot	2370963
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/03/2022 03:13	Emily M Philpot	2370964
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/03/2022 03:22	Emily M Philpot	2370965
	11/18/2022	11/22/2022 12:00	Vijayalakshmi Reddy	12/03/2022 09:19	Emily M Philpot	2370966
	11/18/2022			12/02/2022 23:27	Anna M. Plaviak	2370947
	11/18/2022			12/02/2022 23:42	Anna M. Plaviak	2370948
EPA 350.1 Rev. 2.0	11/18/2022			12/02/2022 23:57	Anna M. Plaviak	2370949
	11/18/2022			12/06/2022 15:44	Judith K. Clark	2370952
	11/18/2022			12/07/2022 12:25	Ping Hua	2370950
EPA 351.2 Rev. 2.0	11/18/2022			12/07/2022 12:26	Ping Hua	2370951
	11/18/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 14:31	Judith K. Clark	2370950
	11/18/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 14:33	Judith K. Clark	2370951
	11/18/2022	12/02/2022 13:20	Simonne.V. Calhoun	12/05/2022 14:35	Judith K. Clark	2370952
EPA 353.2 Rev. 2.0	11/18/2022			11/28/2022 11:48	Beverly Y. Sanders	2370950
	11/18/2022			11/28/2022 11:50	Beverly Y. Sanders	2370951
	11/18/2022			11/28/2022 11:51	Beverly Y. Sanders	2370952
EPA 365.1 Rev. 2.0	11/18/2022	11/22/2022 12:22	Adam P Silver	11/22/2022 17:49	James L Waggeberby	2370950
	11/18/2022	11/22/2022 12:22	Adam P Silver	11/22/2022 17:50	James L Waggeberby	2370951
	11/18/2022	11/22/2022 12:22	Adam P Silver	11/22/2022 17:51	James L Waggeberby	2370952
EPA 8321B	11/18/2022	11/22/2022 06:30	Umesh Chiluwal	11/22/2022 09:52	Umesh Chiluwal	2370962

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 8321B	11/18/2022	11/22/2022 06:30	Umesh Chiluwal	11/23/2022 02:17	Umesh Chiluwal	2370962
	11/18/2022	11/22/2022 09:30	June Rhew	11/23/2022 18:44	Juyoung Kim	2370962
SM 2320 B-2011	11/18/2022			11/30/2022 04:28	Dale L. Simmons	2370947
	11/18/2022			11/30/2022 04:35	Dale L. Simmons	2370948
	11/18/2022			11/30/2022 04:42	Dale L. Simmons	2370949
SM 2340 B-2011	11/18/2022			11/29/2022 23:20	McKinley C Carter	2370963
	11/18/2022			11/29/2022 23:25	McKinley C Carter	2370964
	11/18/2022			11/29/2022 23:31	McKinley C Carter	2370965
	11/18/2022			11/29/2022 23:37	McKinley C Carter	2370966
SM 2540 C-2015	11/18/2022			11/22/2022 16:06	Yijie Li	2370947, 2370948, 2370949
SM 2540 D-2015	11/18/2022			11/22/2022 16:06	Yijie Li	2370947, 2370948, 2370949
SM 4500-F- C-2011	11/18/2022			11/30/2022 04:28	Dale L. Simmons	2370947
	11/18/2022			11/30/2022 04:35	Dale L. Simmons	2370948
	11/18/2022			11/30/2022 04:42	Dale L. Simmons	2370949
SM 5310 B-2011	11/18/2022			11/30/2022 01:31	Khloe J Berg	2370950
	11/18/2022			11/30/2022 01:45	Khloe J Berg	2370951
	11/18/2022			11/30/2022 01:59	Khloe J Berg	2370952