

Chemical Analysis Report

NW-DIST-2022-02-11-01

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

Event Description: **Jay Run**
Request ID: **RQ-2022-01-17-35**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 Government Center
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

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

Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 08-MAR-2022 10:54



Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Big Coldwater Creek West fork upstream of Walling Rd

Collection Date/Time: 02/10/2022 10:15

Field ID: G4NW0436

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305281	DEP SOP: NU-094-1	Color (true)**	14		PCU	P409755	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P409760	
	EPA 300.0 Rev. 2.1	Chloride	5.9		mg Cl/L	P410027	
		Sulfate	1.8		mg SO4/L	P410029	
	SM 2320 B-2011	Total Alkalinity	2.7		mg CaCO3/L	P409896	
	SM 2540 C-2011	TDS	36		mg/L	P410160	
	SM 2540 D-2011	TSS	4	I	mg/L	P410191	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P409906	
2305282	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P410312	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.21		mg N/L	P409789	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.7		mg N/L	P410169	
	EPA 365.1 Rev. 2.0	Total-P	0.004	I	mg P/L	P409833	
	SM 5310 B-2011	Organic Carbon	2.0		mg C/L	P410394	
2305283	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409749	
2305308	EPA 8321B	2,4-D	0.0020	U	ug/L	P409839	
		Acesulfame K	0.10	U	ug/L	P409687	
		2,4,5-T	0.0040	U	ug/L	P409839	
		AMPA	0.10	U	ug/L	P409687	
		Acetaminophen	0.0080	U	ug/L	P409839	
		Acetamiprid	0.0020	U	ug/L	P409839	
		Endothall	0.25	U	ug/L	P409687	
		Glufosinate	0.10	U	ug/L	P409687	
		Glyphosate	0.10	U	ug/L	P409687	
		Afidopyropen	0.0020	U	ug/L	P409839	
		Bentazon	0.0024	I	ug/L	P409839	
		Sucralose	0.027	I	ug/L	P409687	
		Benzovindiflupyr	0.0020	U	ug/L	P409839	
		Carbamazepine	8.0E-04	U	ug/L	P409839	
		Clothianidin	0.0028	I	ug/L	P409839	
		Dinotefuran	0.0020	U	ug/L	P409839	
		Diuron	0.0020	U	ug/L	P409839	
		Fenuron	0.016	U	ug/L	P409839	
		Fluridone	8.0E-04	U	ug/L	P409839	
		Imazapyr	0.0060	I	ug/L	P409839	
		Hydrocodone	0.0020	U	ug/L	P409839	
		Ibuprofen	0.020	U	ug/L	P409839	
		Imidacloprid	0.0024	I	ug/L	P409839	
		Linuron	0.0040	U	ug/L	P409839	
		Mandestrobin	0.0020	U	ug/L	P409839	
		MCP	0.0040	U	ug/L	P409839	
		Naproxen	0.0080	U	ug/L	P409839	
		Primidone	0.0040	U	ug/L	P409839	

Field ID: G4NW0436

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305308	EPA 8321B	Pyraclostrobin	0.0020	U	ug/L	P409839	
		Silvex	0.0040	U	ug/L	P409839	
		Thiamethoxam	0.0020	U	ug/L	P409839	
		Tolfenpyrad	0.0020	U	ug/L	P409839	
		Triclopyr	0.0040	U	ug/L	P409839	

Ref. Method and Comment:
SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Manning Creek upstream of Manning Creek Rd Collection Date/Time: 02/10/2022 09:50

Field ID: G4NW0435

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305287	DEP SOP: NU-094-1	Color (true)**	16		PCU	P409755	
	EPA 180.1 Rev. 2.0	Turbidity	2.9		NTU	P409760	
	EPA 300.0 Rev. 2.1	Chloride	5.2		mg Cl/L	P410027	
		Sulfate	0.90		mg SO4/L	P410029	
	SM 2320 B-2011	Total Alkalinity	2.1	I	mg CaCO3/L	P409896	
	SM 2540 C-2011	TDS	19	I	mg/L	P410160	
	SM 2540 D-2011	TSS	3	I	mg/L	P410191	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P409906	
2305289	EPA 350.1 Rev. 2.0	Ammonia-N	0.013		mg N/L	P410312	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.18	I	mg N/L	P409789	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.4		mg N/L	P410169	
	EPA 365.1 Rev. 2.0	Total-P	0.007		mg P/L	P409833	
	SM 5310 B-2011	Organic Carbon	2.2		mg C/L	P410394	
2305291	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409750	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Manning creek at Whitfield Road (north Side) Collection Date/Time: 02/10/2022 10:45

Field ID: G4NW0200

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305288	DEP SOP: NU-094-1	Color (true)**	16		PCU	P409755	
	EPA 180.1 Rev. 2.0	Turbidity	0.70	I	NTU	P409760	
	EPA 300.0 Rev. 2.1	Chloride	3.5		mg Cl/L	P410027	
		Sulfate	0.98		mg SO4/L	P410029	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P409896	
	SM 2540 C-2011	TDS	15	U	mg/L	P410160	
	SM 2540 D-2011	TSS	3	I	mg/L	P410191	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P409906	
2305290	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P410312	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.12	I	mg N/L	P409789	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.018		mg N/L	P410169	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P409833	
	SM 5310 B-2011	Organic Carbon	2.7		mg C/L	P410394	
2305292	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409750	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Big Coldwater Creek upstream of HWY 4

Collection Date/Time: 02/10/2022 11:05

Field ID: G4NW0502

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305284	DEP SOP: NU-094-1	Color (true)**	12		PCU	P409755	
	EPA 180.1 Rev. 2.0	Turbidity	1.7		NTU	P409760	
	EPA 300.0 Rev. 2.1	Chloride	7.3		mg Cl/L	P410027	
		Sulfate	1.2		mg SO4/L	P410029	
	SM 2320 B-2011	Total Alkalinity	2.1	I	mg CaCO3/L	P409896	
	SM 2540 C-2011	TDS	32		mg/L	P410160	
	SM 2540 D-2011	TSS	3	I	mg/L	P410191	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P409906	
2305285	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P410312	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.20	I	mg N/L	P409789	
	EPA 353.2 Rev. 2.0	NO2NO3-N	1.3		mg N/L	P410169	
	EPA 365.1 Rev. 2.0	Total-P	0.003	I	mg P/L	P409833	
	SM 5310 B-2011	Organic Carbon	2.0		mg C/L	P410394	
2305286	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409750	
2305312	EPA 200.7 Rev. 4.4	Calcium	2.18		mg/L	P409769	
		Iron	180		ug/L	P409769	
		Magnesium	1.76		mg/L	P409769	
		Potassium	0.93	I	mg/L	P409769	
		Sodium	2.9		mg/L	P409769	
		Strontium	19.4		ug/L	P409769	
		Tin	3.0	U	ug/L	P409769	
		Titanium	0.75	U	ug/L	P409769	
		Vanadium	2.0	U	ug/L	P409769	
		Zinc	5.0	U	ug/L	P409769	
	EPA 200.8 Rev. 5.4	Aluminum	85		ug/L	P409769	
		Antimony	0.050	U	ug/L	P409769	
		Arsenic	0.13	I	ug/L	P409769	
		Barium	48.2		ug/L	P409769	
		Beryllium	0.050		ug/L	P409769	
		Boron**	14.8		ug/L	P409769	
		Cadmium	0.020	U	ug/L	P409769	
		Chromium	0.40	U	ug/L	P409769	
		Cobalt	0.388		ug/L	P409769	
		Copper	0.40	U	ug/L	P409769	
		Lead	0.20	U	ug/L	P409769	
		Manganese	29.3		ug/L	P409769	
		Molybdenum	0.15	U	ug/L	P409769	
		Nickel	0.59	I	ug/L	P409769	
		Selenium	0.20	U	ug/L	P409769	MS
		Silver	0.010	U	ug/L	P409769	
		Thallium	0.10	U	ug/L	P409769	
	SM 2340B	Hardness	12.7		mg/L	P409769	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bear Creek 40m blw Bear Lake Dam outfall

Collection Date/Time: 02/10/2022 12:00

Field ID: G4NW0001

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305278	DEP SOP: NU-094-1	Color (true)**	18		PCU	P409755	
	EPA 180.1 Rev. 2.0	Turbidity	1.0		NTU	P409760	
	EPA 300.0 Rev. 2.1	Chloride	2.4		mg Cl/L	P410027	
		Sulfate	0.62		mg SO4/L	P410029	
	SM 2320 B-2011	Total Alkalinity	3.2		mg CaCO3/L	P409896	
	SM 2540 C-2011	TDS	15	U	mg/L	P410160	
	SM 2540 D-2011	TSS	4	I	mg/L	P410191	
	SM 4500 F-C-2011	Fluoride	0.035	U	mg F/L	P409906	
2305279	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P410312	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.26		mg N/L	P409823	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P410082	
	EPA 365.1 Rev. 2.0	Total-P	0.010		mg P/L	P410211	
	SM 5310 B-2011	Organic Carbon	3.9		mg C/L	P410394	
2305280	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P409749	
2305309	EPA 200.7 Rev. 4.4	Calcium	1.40		mg/L	P409769	
		Iron	310		ug/L	P409769	
		Magnesium	0.57		mg/L	P409769	
		Potassium	0.30	U	mg/L	P409769	
		Sodium	1.5	I	mg/L	P409769	
		Strontium	2.9	I	ug/L	P409769	
		Tin	3.0	U	ug/L	P409769	
		Titanium	0.75	U	ug/L	P409769	
		Vanadium	2.0	U	ug/L	P409769	
		Zinc	5.0	U	ug/L	P409769	
	EPA 200.8 Rev. 5.4	Aluminum	26		ug/L	P409769	
		Antimony	0.050	U	ug/L	P409769	
		Arsenic	0.18	I	ug/L	P409769	
		Barium	6.60		ug/L	P409769	
		Beryllium	0.016	I	ug/L	P409769	
		Boron**	8.4		ug/L	P409769	
		Cadmium	0.020	U	ug/L	P409769	
		Chromium	0.40	U	ug/L	P409769	
		Cobalt	0.034	I	ug/L	P409769	
		Copper	0.40	U	ug/L	P409769	
		Lead	0.20	U	ug/L	P409769	
		Manganese	8.65		ug/L	P409769	
		Molybdenum	0.15	U	ug/L	P409769	
		Nickel	0.50	U	ug/L	P409769	
		Selenium	0.20	U	ug/L	P409769	MS
		Silver	0.010	U	ug/L	P409769	
		Thallium	0.10	U	ug/L	P409769	
	SM 2340B	Hardness	5.8		mg/L	P409769	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bear Creek @ Forest Rd 0.7 miles West of Bear Lake **Collection Date/Time: 02/10/2022 12:35**

Field ID: G4NW0380

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305310	EPA 200.7 Rev. 4.4	Calcium	1.0		mg/L	P409769	
		Iron	270		ug/L	P409769	
		Magnesium	0.50		mg/L	P409769	
		Potassium	0.30	U	mg/L	P409769	
		Sodium	1.6	I	mg/L	P409769	
		Strontium	2.7	I	ug/L	P409769	
		Tin	3.0	U	ug/L	P409769	
		Titanium	0.75	U	ug/L	P409769	
		Vanadium	2.0	U	ug/L	P409769	
		Zinc	5.0	U	ug/L	P409769	
	EPA 200.8 Rev. 5.4	Aluminum	32		ug/L	P409769	
		Antimony	0.050	U	ug/L	P409769	
		Arsenic	0.15	I	ug/L	P409769	
		Barium	6.45		ug/L	P409769	
		Beryllium	0.010	I	ug/L	P409769	
		Boron**	8.2		ug/L	P409769	
		Cadmium	0.020	U	ug/L	P409769	
		Chromium	0.40	U	ug/L	P409769	
		Cobalt	0.099		ug/L	P409769	
		Copper	0.40	U	ug/L	P409769	
		Lead	0.20	U	ug/L	P409769	
		Manganese	10.4		ug/L	P409769	
		Molybdenum	0.15	U	ug/L	P409769	
		Nickel	0.50	U	ug/L	P409769	
		Selenium	0.20	U	ug/L	P409769	MS
		Silver	0.010	U	ug/L	P409769	
		Thallium	0.10	U	ug/L	P409769	
	SM 2340B	Hardness	4.6		mg/L	P409769	

Sample Location: Ates Creek upstream of Fish Hatchery Road

Collection Date/Time: 02/10/2022 13:05

Field ID: G4NW0525

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2305311	EPA 200.7 Rev. 4.4	Calcium	0.75		mg/L	P409769	
		Iron	330		ug/L	P409769	
		Magnesium	0.49		mg/L	P409769	
		Potassium	0.32	I	mg/L	P409769	
		Sodium	2.7		mg/L	P409769	
		Strontium	10.8		ug/L	P409769	
		Tin	3.0	U	ug/L	P409769	
		Titanium	0.75	U	ug/L	P409769	
		Vanadium	2.0	U	ug/L	P409769	
		Zinc	5.0	U	ug/L	P409769	
	EPA 200.8 Rev. 5.4	Aluminum	36		ug/L	P409769	
		Antimony	0.050	U	ug/L	P409769	
		Arsenic	0.093	I	ug/L	P409769	
		Barium	8.62		ug/L	P409769	
		Beryllium	0.014	I	ug/L	P409769	
		Boron**	9.0		ug/L	P409769	
		Cadmium	0.020	U	ug/L	P409769	
		Chromium	0.40	U	ug/L	P409769	
		Cobalt	0.084		ug/L	P409769	
		Copper	0.40	U	ug/L	P409769	
		Lead	0.20	U	ug/L	P409769	
		Manganese	20.4		ug/L	P409769	
		Molybdenum	0.15	U	ug/L	P409769	
		Nickel	0.50	U	ug/L	P409769	
		Selenium	0.20	U	ug/L	P409769	MS
		Silver	0.010	U	ug/L	P409769	
		Thallium	0.10	U	ug/L	P409769	
	SM 2340B	Hardness	3.9		mg/L	P409769	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P409755

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409760

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P409769

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: P409769

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: P410027

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: P410029

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410312

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409789

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409823

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410082

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410169

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409833

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P410211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409749

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409750

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

Reference Method: EPA 8321B
Batch ID: P409687

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: P409839

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
Fenuron	0.016	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.020	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
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: P409896

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

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 C-2011
Batch ID: P410160

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011
Batch ID: P410191

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500 F-C-2011
Batch ID: P409906

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P410394

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: P409755

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	98.2		P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409760

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.0		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P409769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	85 - 115
Iron	107		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	109		P	85 - 115
Sodium	104		P	85 - 115
Strontium	105		P	85 - 115
Tin	109		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	99.4		P	85 - 115
Zinc	105		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P409769

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	98.9		P	85 - 115
Arsenic	102		P	85 - 115
Barium	103		P	85 - 115
Beryllium	98.8		P	85 - 115
Boron	103		P	85 - 115
Cadmium	100		P	85 - 115
Chromium	96.5		P	85 - 115
Cobalt	102		P	85 - 115
Copper	98.4		P	85 - 115
Lead	99.1		P	85 - 115
Manganese	98.3		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	104		P	85 - 115
Selenium	101		P	85 - 115
Silver	99.9		P	85 - 115
Thallium	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P410027

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: P410029

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	99.7		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410312

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409789

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409823

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410082

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410169

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409833

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P410211

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409749

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	98.9		P	90 - 110

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P409750

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

Reference Method: EPA 8321B
Batch ID: P409687

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	102		P	40 - 150
AMPA	95.6		P	40 - 150
Endothall	68.0		P	40 - 150
Glufosinate	108		P	40 - 150
Glyphosate	101		P	40 - 150
Sucralose	93.5		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P409839

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	115		P	40 - 150
2,4,5-T	69.2		P	40 - 150
Acetaminophen	88.3		P	30 - 150
Acetamiprid	109		P	40 - 150
Afidopyropen	91.0		P	40 - 150
Bentazon	85.0		P	30 - 150
Benzovindiflupyr	66.3		P	40 - 150
Carbamazepine	107		P	40 - 150
Clothianidin	92.1		P	40 - 150
Dinotefuran	106		P	40 - 150
Diuron	73.5		P	40 - 150
Fenuron	102		P	40 - 150
Fluridone	99.3		P	40 - 150
Hydrocodone	109		P	40 - 150
Ibuprofen	76.7		P	40 - 150
Imazapyr	106		P	40 - 150
Imidacloprid	107		P	40 - 150
Linuron	81.5		P	40 - 150
Mandestrobin	99.2		P	40 - 150
MCPP	98.7		P	40 - 150
Naproxen	66.5		P	40 - 150
Primidone	84.7		P	40 - 150
Pyraclostrobin	72.0		P	40 - 150
Silvex	64.0		P	40 - 150
Thiamethoxam	115		P	40 - 150
Tolfenpyrad	36.2		P	30 - 150
Triclopyr	72.7		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P409896

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.0		P	94 - 106

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-2011
Batch ID: P409906

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	98.9		P	93 - 104

Reference Method: SM 5310 B-2011
Batch ID: P410394

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	93.3		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P409769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304833	Calcium	110		P	80 - 120
2304833	Iron	111	107	P/P	80 - 120
2304833	Magnesium	108		P	80 - 120
2304833	Potassium	109	104	P/P	80 - 120
2304833	Sodium	107		P	80 - 120
2304833	Strontium	107	101	P/P	80 - 120
2304833	Tin	110	105	P/P	80 - 120
2304833	Titanium	109	104	P/P	80 - 120
2304833	Vanadium	103	98.0	P/P	80 - 120
2304833	Zinc	106	100	P/P	80 - 120
2305312	Calcium	109		P	80 - 120
2305312	Iron	109		P	80 - 120
2305312	Magnesium	109		P	80 - 120
2305312	Potassium	106		P	80 - 120
2305312	Sodium	104		P	80 - 120
2305312	Strontium	105		P	80 - 120
2305312	Tin	108		P	80 - 120
2305312	Titanium	108		P	80 - 120
2305312	Vanadium	99.5		P	80 - 120
2305312	Zinc	104		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P409769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2304833	Aluminum	102	102	P/P	80 - 120
2304833	Antimony	103	102	P/P	80 - 120
2304833	Arsenic	103	103	P/P	80 - 120
2304833	Barium	105	104	P/P	80 - 120
2304833	Beryllium	95.6	97.6	P/P	80 - 120
2304833	Boron	110	111	P/P	80 - 120
2304833	Cadmium	102	104	P/P	80 - 120
2304833	Chromium	100	101	P/P	80 - 120
2304833	Cobalt	103	102	P/P	80 - 120
2304833	Copper	98.7	99.3	P/P	80 - 120
2304833	Lead	99.7	101	P/P	80 - 120
2304833	Manganese	101	102	P/P	80 - 120
2304833	Molybdenum	105	105	P/P	80 - 120
2304833	Nickel	102	101	P/P	80 - 120
2304833	Selenium	79.5	79.2	F/F	80 - 120
2304833	Silver	102	102	P/P	80 - 120
2304833	Thallium	106	108	P/P	80 - 120
2305312	Aluminum	102		P	80 - 120
2305312	Antimony	99.9		P	80 - 120
2305312	Arsenic	99.7		P	80 - 120
2305312	Barium	102		P	80 - 120
2305312	Beryllium	93.3		P	80 - 120
2305312	Boron	109		P	80 - 120
2305312	Cadmium	102		P	80 - 120
2305312	Chromium	99.0		P	80 - 120
2305312	Cobalt	99.9		P	80 - 120
2305312	Copper	97.8		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P409769

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305312	Lead	100		P	80 - 120
2305312	Manganese	97.7		P	80 - 120
2305312	Molybdenum	101		P	80 - 120
2305312	Nickel	98.4		P	80 - 120
2305312	Selenium	99.7		P	80 - 120
2305312	Silver	98.6		P	80 - 120
2305312	Thallium	105		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P410027

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305105	Chloride	99.5		P	90 - 110
2305189	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P410029

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305105	Sulfate	99.9		P	90 - 110
2305189	Sulfate	99.2		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410312

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305279	Ammonia-N	98.2	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409789

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305289	Kjeldahl Nitrogen	97.8	101	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409823

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305190	Kjeldahl Nitrogen	98.6	96.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410082

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305250	NO2NO3-N	97.0	97.0	P/P	90 - 110
2305250	NO2NO3-N	98.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410169

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305270	NO2NO3-N	100	100	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P409833

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305271	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P410211

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2306923	Total-P	107	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409749

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305216	O-Phosphate-P	98.7	100	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409750

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305286	O-Phosphate-P	99.8	100	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P409687

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305124	Acesulfame K	102	94.3	P/P	40 - 150
2305124	AMPA	98.8	97.3	P/P	40 - 150
2305124	Endothall	76.4	82.9	P/P	40 - 150
2305124	Glufosinate	107	105	P/P	40 - 150
2305124	Glyphosate	93.0	90.3	P/P	40 - 150
2305124	Sucralose	80.0	83.2	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P409839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305308	2,4-D	94.5	81.9	P/P	40 - 150
2305308	2,4,5-T	60.7	77.5	P/P	40 - 150
2305308	Acetaminophen	83.5	93.5	P/P	30 - 150
2305308	Acetamiprid	76.7	91.7	P/P	40 - 150
2305308	Afidopyropen	59.3	57.9	P/P	40 - 150
2305308	Bentazon	76.2	62.5	P/P	30 - 150
2305308	Benzovindiflupyr	92.9	97.4	P/P	40 - 150
2305308	Carbamazepine	96.7	88.7	P/P	40 - 150
2305308	Clothianidin	92.0	76.2	P/P	40 - 150
2305308	Dinotefuran	115	120	P/P	40 - 150
2305308	Diuron	64.9	81.8	P/P	40 - 150
2305308	Fenuron	93.6	99.7	P/P	40 - 150
2305308	Fluridone	96.3	96.5	P/P	40 - 150
2305308	Hydrocodone	103	99.8	P/P	40 - 150
2305308	Ibuprofen	65.1	57.6	P/P	40 - 150
2305308	Imazapyr	99.9	99.8	P/P	40 - 150
2305308	Imidacloprid	140	106	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P409839

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305308	Linuron	103	79.4	P/P	40 - 150
2305308	Mandestrobin	91.9	92.1	P/P	40 - 150
2305308	MCPP	85.6	105	P/P	40 - 150
2305308	Naproxen	59.3	55.0	P/P	40 - 150
2305308	Primidone	86.5	111	P/P	40 - 150
2305308	Pyraclostrobin	92.2	86.3	P/P	40 - 150
2305308	Silvex	55.1	62.6	P/P	40 - 150
2305308	Thiamethoxam	122	116	P/P	40 - 150
2305308	Tolfenpyrad	41.5	49.0	P/P	30 - 150
2305308	Triclopyr	70.0	70.7	P/P	40 - 150

Reference Method: SM 4500 F-C-2011
Batch ID: P409906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305329	Fluoride	99.5	98.9	P/P	92 - 107

Reference Method: SM 5310 B-2011
Batch ID: P410394

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2305163	Organic Carbon	100		P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P409755

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305266	Color (true)	0.266	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P409760

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305323	Turbidity	18.7	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P409769

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304833	Calcium	4.87	Spike	P	0 - 20
2304833	Iron	4.13	Spike	P	0 - 20
2304833	Magnesium	4.40	Spike	P	0 - 20
2304833	Potassium	3.97	Spike	P	0 - 20
2304833	Sodium	4.61	Spike	P	0 - 20
2304833	Strontium	4.68	Spike	P	0 - 20
2304833	Tin	4.72	Spike	P	0 - 20
2304833	Titanium	5.28	Spike	P	0 - 20
2304833	Vanadium	5.25	Spike	P	0 - 20
2304833	Zinc	5.10	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P409769

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2304833	Aluminum	0.613	Spike	P	0 - 20
2304833	Antimony	1.04	Spike	P	0 - 20
2304833	Arsenic	0.462	Spike	P	0 - 20
2304833	Barium	0.483	Spike	P	0 - 20
2304833	Beryllium	2.05	Spike	P	0 - 20
2304833	Boron	1.02	Spike	P	0 - 20
2304833	Cadmium	2.02	Spike	P	0 - 20
2304833	Chromium	0.394	Spike	P	0 - 20
2304833	Cobalt	0.196	Spike	P	0 - 20
2304833	Copper	0.663	Spike	P	0 - 20
2304833	Lead	1.68	Spike	P	0 - 20
2304833	Manganese	0.733	Spike	P	0 - 20
2304833	Molybdenum	0.118	Spike	P	0 - 20
2304833	Nickel	0.784	Spike	P	0 - 20
2304833	Selenium	0.347	Spike	P	0 - 20
2304833	Silver	0.265	Spike	P	0 - 20
2304833	Thallium	1.82	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P410027

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305105	Chloride	0.625	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P410029

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305105	Sulfate	0.00956	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P410312

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305279	Ammonia-N	1.37	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409789

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305289	Kjeldahl Nitrogen	2.90	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P409823

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305190	Kjeldahl Nitrogen	1.67	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410082

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305250	NO2NO3-N	0.347	Spike	P	0 - 15

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P410169

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305270	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P409833

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305271	Total-P	0.692	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P410211

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2306923	Total-P	4.23	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409749

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305216	O-Phosphate-P	1.61	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P409750

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305286	O-Phosphate-P	0.200	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P409687

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305124	Acesulfame K	7.82	Spike	P	0 - 30
2305124	AMPA	1.46	Spike	P	0 - 30
2305124	Endothall	8.18	Spike	P	0 - 30
2305124	Glufosinate	1.83	Spike	P	0 - 30
2305124	Glyphosate	2.99	Spike	P	0 - 30
2305124	Sucralose	3.66	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P409839

Replicated

Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305308	2,4-D	14.2	Spike	P	0 - 30
2305308	2,4,5-T	24.4	Spike	P	0 - 30
2305308	Acetaminophen	11.3	Spike	P	0 - 30
2305308	Acetamiprid	17.9	Spike	P	0 - 30
2305308	Afidopyropen	2.32	Spike	P	0 - 30
2305308	Bentazon	13.7	Spike	P	0 - 30
2305308	Benzovindiflupyr	4.76	Spike	P	0 - 30
2305308	Carbamazepine	8.71	Spike	P	0 - 30
2305308	Clothianidin	18.1	Spike	P	0 - 30
2305308	Dinotefuran	3.84	Spike	P	0 - 30
2305308	Diuron	23.1	Spike	P	0 - 30
2305308	Fenuron	6.38	Spike	P	0 - 30
2305308	Fluridone	0.199	Spike	P	0 - 30
2305308	Hydrocodone	2.80	Spike	P	0 - 30
2305308	Ibuprofen	12.2	Spike	P	0 - 30
2305308	Imazapyr	0.0729	Spike	P	0 - 30
2305308	Imidacloprid	26.9	Spike	P	0 - 30
2305308	Linuron	26.3	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
 Batch ID: P409839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305308	Mandestrobin	0.196	Spike	P	0 - 30
2305308	MCP	20.0	Spike	P	0 - 30
2305308	Naproxen	7.57	Spike	P	0 - 30
2305308	Primidone	25.1	Spike	P	0 - 30
2305308	Pyraclostrobin	6.59	Spike	P	0 - 30
2305308	Silvex	12.7	Spike	P	0 - 30
2305308	Thiamethoxam	5.32	Spike	P	0 - 30
2305308	Tolfenpyrad	16.6	Spike	P	0 - 30
2305308	Triclopyr	0.904	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
 Batch ID: P409896

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305329	Total Alkalinity	2.53	Sample	P	0 - 5.2

Reference Method: SM 2540 C-2011
 Batch ID: P410160

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305249	TDS	0.619	Sample	P	0 - 10

Reference Method: SM 4500 F-C-2011
 Batch ID: P409906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305329	Fluoride	0.500	Spike	P	0 - 2.1

Reference Method: SM 5310 B-2011
 Batch ID: P410394

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2305163	Organic Carbon	0.322	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2305308

Field Sample ID: G4NW0436

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	87.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	74.5	P	30 - 160
EPA 8321B	Carbamazepine-d10	86.9	P	30 - 160
EPA 8321B	Diuron-d6	73.6	P	30 - 160
EPA 8321B	Endothall-d6	83.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	92.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	43.5	P	30 - 160
EPA 8321B	Primidone-d5	96.8	P	30 - 160
EPA 8321B	Sucralose-d6	88.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A110364

Included Lab Sample IDs: 2305280, 2305283, 2305286, 2305291, 2305292

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	98.7	99.3	P/P	90 - 110
O-Phosphate-P	99.5	98.7	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A110369

Included Lab Sample IDs: 2305278, 2305281, 2305284, 2305287, 2305288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	100	101	P/P	85 - 115

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A110371

Included Lab Sample IDs: 2305278, 2305281, 2305284, 2305287, 2305288

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

Reference Method: EPA 8321B

Run ID: A110387

Included Lab Sample IDs: 2305308

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.1	97.2	P/P	60 - 160
Glufosinate	103	105	P/P	60 - 160
Glyphosate	98.1	95.7	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A110393

Included Lab Sample IDs: 2305308

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	72.7	85.2	P/P	60 - 160
Endothall	60.4	66.8	P/P	60 - 160
Sucralose	71.4	84.9	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A110423

Included Lab Sample IDs: 2305278, 2305281, 2305284, 2305287, 2305288

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110425

Included Lab Sample IDs: 2305309, 2305310, 2305311, 2305312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Aluminum	102	103	P/P	90 - 110
Antimony	95.9	96.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A110425

Included Lab Sample IDs: 2305309, 2305310, 2305311, 2305312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Antimony	96.6	95.9	P/P	90 - 110
Arsenic	99.0	100	P/P	90 - 110
Arsenic	99.2	99.0	P/P	90 - 110
Barium	99.8	101	P/P	90 - 110
Barium	99.9	99.8	P/P	90 - 110
Beryllium	96.1	96.1	P/P	90 - 110
Beryllium	96.1	96.2	P/P	90 - 110
Boron	105	106	P/P	90 - 110
Boron	106	105	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Cadmium	101	101	P/P	90 - 110
Chromium	97.8	98.2	P/P	90 - 110
Chromium	98.2	98.9	P/P	90 - 110
Cobalt	101	99.4	P/P	90 - 110
Cobalt	99.4	101	P/P	90 - 110
Copper	98.4	99.1	P/P	90 - 110
Copper	99.6	98.4	P/P	90 - 110
Lead	97.9	98.6	P/P	90 - 110
Lead	98.6	98.5	P/P	90 - 110
Manganese	98.3	99.0	P/P	90 - 110
Manganese	98.7	98.3	P/P	90 - 110
Molybdenum	100	101	P/P	90 - 110
Molybdenum	101	101	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Nickel	100	100	P/P	90 - 110
Selenium	99.5	99.6	P/P	90 - 110
Selenium	99.6	100	P/P	90 - 110
Silver	92.3	92.4	P/P	90 - 110
Silver	92.4	93.2	P/P	90 - 110
Thallium	104	103	P/P	90 - 110
Thallium	105	104	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A110433

Included Lab Sample IDs: 2305278, 2305281, 2305284, 2305287, 2305288

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.8	91.3	P/P	90 - 110

Reference Method: SM 4500 F-C-2011

Run ID: A110433

Included Lab Sample IDs: 2305278, 2305281, 2305284, 2305287, 2305288

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110453

Included Lab Sample IDs: 2305282, 2305285, 2305289, 2305290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
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Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110453

Included Lab Sample IDs: 2305282, 2305285, 2305289, 2305290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	98.0	P/P	90 - 110
Kjeldahl Nitrogen	102	101	P/P	90 - 110
Kjeldahl Nitrogen	98.0	99.1	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A110467

Included Lab Sample IDs: 2305279

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.2	99.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110502

Included Lab Sample IDs: 2305279

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110521

Included Lab Sample IDs: 2305282, 2305285, 2305289, 2305290

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A110534

Included Lab Sample IDs: 2305282, 2305285, 2305289, 2305290

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

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110559

Included Lab Sample IDs: 2305309, 2305311, 2305312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	100	103	P/P	90 - 110
Calcium	105	100	P/P	90 - 110
Iron	101	103	P/P	90 - 110
Iron	105	101	P/P	90 - 110
Magnesium	101	102	P/P	90 - 110
Magnesium	105	101	P/P	90 - 110
Potassium	102	98.7	P/P	90 - 110
Potassium	98.7	100	P/P	90 - 110
Sodium	103	99.4	P/P	90 - 110
Sodium	99.4	101	P/P	90 - 110
Strontium	102	103	P/P	90 - 110
Strontium	103	102	P/P	90 - 110
Tin	104	105	P/P	90 - 110
Tin	105	104	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110559

Included Lab Sample IDs: 2305309, 2305311, 2305312

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Titanium	104	104	P/P	90 - 110
Titanium	104	103	P/P	90 - 110
Vanadium	103	104	P/P	90 - 110
Vanadium	104	103	P/P	90 - 110
Zinc	103	104	P/P	90 - 110
Zinc	104	102	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A110602

Included Lab Sample IDs: 2305279, 2305282, 2305285, 2305289, 2305290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.0	98.2	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A110620

Included Lab Sample IDs: 2305308

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	102	98.0	P/P	50 - 150
2,4,5-T	117	86.1	P/P	50 - 150
Acetaminophen	121	111	P/P	60 - 160
Acetamiprid	105	106	P/P	50 - 150
Afidopyropen	83.5	88.4	P/P	50 - 150
Bentazon	107	111	P/P	50 - 160
Benzovindiflupyr	88.1	97.7	P/P	50 - 150
Carbamazepine	93.7	100	P/P	60 - 150
Clothianidin	82.8	97.4	P/P	60 - 150
Dinotefuran	108	101	P/P	50 - 150
Diuron	118	114	P/P	60 - 160
Fenuron	99.8	99.5	P/P	60 - 150
Fluridone	92.7	116	P/P	60 - 160
Hydrocodone	104	112	P/P	60 - 150
Ibuprofen	90.9	114	P/P	50 - 160
Imazapyr	106	93.5	P/P	50 - 150
Imidacloprid	91.3	99.1	P/P	60 - 150
Linuron	103	92.0	P/P	60 - 150
Mandestrobin	110	96.8	P/P	50 - 150
MCPP	103	95.4	P/P	50 - 150
Naproxen	129	89.5	P/P	50 - 160
Primidone	131	94.1	P/P	60 - 150
Pyraclostrobin	115	94.5	P/P	60 - 150
Silvex	92.1	102	P/P	50 - 150
Thiamethoxam	88.2	108	P/P	50 - 150
Tolfenpyrad	123	114	P/P	60 - 150
Triclopyr	85.8	96.2	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A110630

Included Lab Sample IDs: 2305279

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.0	100	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A110637

Included Lab Sample IDs: 2305310

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	101	P/P	90 - 110
Iron	105	102	P/P	90 - 110
Magnesium	104	101	P/P	90 - 110
Potassium	103	100	P/P	90 - 110
Sodium	102	101	P/P	90 - 110
Strontium	101	100	P/P	90 - 110
Tin	101	99.7	P/P	90 - 110
Titanium	99.9	98.8	P/P	90 - 110
Vanadium	98.1	96.9	P/P	90 - 110
Zinc	100	100	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A110639

Included Lab Sample IDs: 2305279, 2305282, 2305285, 2305289, 2305290

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	103	92.2	P/P	90 - 110
Organic Carbon	95.4	103	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)	98.2					0.266	
EPA 180.1 Rev. 2.0	Turbidity	96.0					18.7	
EPA 200.7 Rev. 4.4	Calcium	106	110	109				4.87
	Iron	107	111	107	109			4.13
	Magnesium	106	108	109				4.40
	Potassium	109	109	104	106			3.97
	Sodium	104	107	104				4.61
	Strontium	105	107	101	105			4.68
	Tin	109	110	105	108			4.72
	Titanium	107	109	104	108			5.28
	Vanadium	99.4	103	98.0	99.5			5.25
	Zinc	105	106	100	104			5.10
EPA 200.8 Rev. 5.4	Aluminum	101	102	102	102			0.613
	Antimony	98.9	103	102	99.9			1.04
	Arsenic	102	103	103	99.7			0.462
	Barium	103	105	104	102			0.483
	Beryllium	98.8	95.6	97.6	93.3			2.05
	Boron	103	110	111	109			1.02
	Cadmium	100	102	104	102			2.02
	Chromium	96.5	100	101	99.0			0.394
	Cobalt	102	103	102	99.9			0.196
	Copper	98.4	98.7	99.3	97.8			0.663
	Lead	99.1	99.7	101	100			1.68
	Manganese	98.3	101	102	97.7			0.733
	Molybdenum	101	105	105	101			0.118
	Nickel	104	102	101	98.4			0.784
	Selenium	101	79.5	79.2	99.7			0.347
	Silver	99.9	102	102	98.6			0.265
	Thallium	103	106	108	105			1.82
EPA 300.0 Rev. 2.1	Chloride	101	99.5	102			0.625	
	Sulfate	99.7	99.9	99.2			0.0095	
EPA 350.1 Rev. 2.0	Ammonia-N	97.0	98.2	100				1.37
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	97.6	97.8	101				2.90
	Kjeldahl Nitrogen	97.7	98.6	96.2				1.67
EPA 353.2 Rev. 2.0	NO2NO3-N	99.0	97.0	98.0	97.0			0.347 RSD
	NO2NO3-N	102	100	100				0.0
EPA 365.1 Rev. 2.0	Total-P	102	103	102				0.692
	Total-P	108	107	102				4.23
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	98.9	98.7	100				1.61
	O-Phosphate-P	99.5	99.8	100				0.200
EPA 8321B	2,4-D	115	94.5	81.9				14.2
	2,4,5-T	69.2	60.7	77.5				24.4
	Acesulfame K	102	102	94.3				7.82
	Acetaminophen	88.3	83.5	93.5				11.3
	Acetamiprid	109	76.7	91.7				17.9
	Afidopyropen	91.0	59.3	57.9				2.32
	AMPA	95.6	98.8	97.3				1.46
	Bentazon	85.0	76.2	62.5				13.7
	Benzovindiflupyr	66.3	92.9	97.4				4.76
	Carbamazepine	107	96.7	88.7				8.71
	Clothianidin	92.1	92.0	76.2				18.1
	Dinotefuran	106	115	120				3.84
	Diuron	73.5	64.9	81.8				23.1
	Endothall	68.0	76.4	82.9				8.18

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Fenuron	102	93.6	99.7		6.38
	Fluridone	99.3	96.3	96.5		0.199
	Glufosinate	108	107	105		1.83
	Glyphosate	101	93.0	90.3		2.99
	Hydrocodone	109	103	99.8		2.80
	Ibuprofen	76.7	65.1	57.6		12.2
	Imazapyr	106	99.9	99.8		0.0729
	Imidacloprid	107	140	106		26.9
	Linuron	81.5	103	79.4		26.3
	Mandestrobin	99.2	91.9	92.1		0.196
	MCPP	98.7	85.6	105		20.0
	Naproxen	66.5	59.3	55.0		7.57
	Primidone	84.7	86.5	111		25.1
	Pyraclostrobin	72.0	92.2	86.3		6.59
	Silvex	64.0	55.1	62.6		12.7
	Sucralose	93.5	80.0	83.2		3.66
	Thiamethoxam	115	122	116		5.32
	Tolfenpyrad	36.2	41.5	49.0		16.6
	Triclopyr	72.7	70.0	70.7		0.904
SM 2320 B-2011	Total Alkalinity	97.0				2.53
SM 2540 C-2011	TDS					0.619
SM 4500 F-C-2011	Fluoride	98.9	99.5	98.9		0.500
SM 5310 B-2011	Organic Carbon	93.3	100			0.322

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2305278, 2305281, 2305284, 2305287, 2305288
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2305278, 2305281, 2305284, 2305287, 2305288
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2305309, 2305310, 2305311, 2305312
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2305309, 2305310, 2305311, 2305312
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2305278, 2305281, 2305284, 2305287, 2305288
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2305278, 2305281, 2305284, 2305287, 2305288
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2305279, 2305282, 2305285, 2305289, 2305290
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2305279, 2305282, 2305285, 2305289, 2305290
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2305279, 2305282, 2305285, 2305289, 2305290
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2305279, 2305282, 2305285, 2305289, 2305290
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2305280, 2305283, 2305286, 2305291, 2305292
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2305308
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2305278, 2305281, 2305284, 2305287, 2305288
SM 2340B	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2305309, 2305310, 2305311, 2305312
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2305278, 2305281, 2305284, 2305287, 2305288

Reference Method Descriptions

Method	Description	Associated Samples
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2305278, 2305281, 2305284, 2305287, 2305288
SM 4500 F-C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2305278, 2305281, 2305284, 2305287, 2305288
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2305279, 2305282, 2305285, 2305289, 2305290

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	02/11/2022			02/11/2022 16:06	Anna M. Plaviak	2305278
	02/11/2022			02/11/2022 16:07	Anna M. Plaviak	2305281
	02/11/2022			02/11/2022 16:08	Anna M. Plaviak	2305284, 2305287
	02/11/2022			02/11/2022 16:09	Anna M. Plaviak	2305288
	02/11/2022			02/11/2022 14:47	Khloe J Berg	2305278
EPA 180.1 Rev. 2.0	02/11/2022			02/11/2022 14:49	Khloe J Berg	2305281
	02/11/2022			02/11/2022 14:55	Khloe J Berg	2305284
	02/11/2022			02/11/2022 14:56	Khloe J Berg	2305287
	02/11/2022			02/11/2022 14:57	Khloe J Berg	2305288
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/22/2022 16:02	Josef B Mick	2305309
EPA 200.7 Rev. 4.4	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/22/2022 16:14	Josef B Mick	2305311
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/22/2022 16:51	Josef B Mick	2305312
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/26/2022 03:16	Josef B Mick	2305310
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/15/2022 17:36	Alexander Thompson	2305312
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/15/2022 18:24	Alexander Thompson	2305309
EPA 200.8 Rev. 5.4	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/15/2022 18:33	Alexander Thompson	2305310
	02/11/2022	02/14/2022 10:40	Megan Whitefoot	02/15/2022 18:43	Alexander Thompson	2305311
	02/11/2022			02/17/2022 16:21	Roberta Tatti	2305278
	02/11/2022			02/17/2022 16:33	Roberta Tatti	2305281
	02/11/2022			02/17/2022 16:45	Roberta Tatti	2305284
EPA 300.0 Rev. 2.1	02/11/2022			02/17/2022 16:57	Roberta Tatti	2305287
	02/11/2022			02/17/2022 17:09	Roberta Tatti	2305288
	02/11/2022			02/24/2022 12:03	Ping Hua	2305279
	02/11/2022			02/24/2022 12:10	Ping Hua	2305282
	02/11/2022			02/24/2022 12:11	Ping Hua	2305285
EPA 350.1 Rev. 2.0	02/11/2022			02/24/2022 12:13	Ping Hua	2305289
	02/11/2022			02/24/2022 12:14	Ping Hua	2305290
	02/11/2022	02/15/2022 13:57	Samantha L Bates	02/16/2022 15:31	Alexandra J Mattheus	2305282
	02/11/2022	02/15/2022 13:57	Samantha L Bates	02/16/2022 15:32	Alexandra J Mattheus	2305285
	02/11/2022	02/15/2022 13:57	Samantha L Bates	02/16/2022 16:33	Alexandra J Mattheus	2305289
EPA 351.2 Rev. 2.0	02/11/2022	02/15/2022 13:57	Samantha L Bates	02/16/2022 16:41	Alexandra J Mattheus	2305290
	02/11/2022	02/16/2022 13:48	Samantha L Bates	02/17/2022 12:07	Alexandra J Mattheus	2305279
	02/11/2022			02/18/2022 11:10	Beverly Y. Sanders	2305279
	02/11/2022			02/22/2022 10:34	Beverly Y. Sanders	2305282
	02/11/2022			02/22/2022 10:35	Beverly Y. Sanders	2305285
EPA 353.2 Rev. 2.0	02/11/2022			02/22/2022 10:37	Beverly Y. Sanders	2305289
	02/11/2022			02/22/2022 10:38	Beverly Y. Sanders	2305290
	02/11/2022	02/16/2022 14:20	Simonne.V. Calhoun	02/21/2022 15:01	Sarah A Nixon	2305282
	02/11/2022	02/16/2022 14:20	Simonne.V. Calhoun	02/21/2022 15:02	Sarah A Nixon	2305285
	02/11/2022	02/16/2022 14:20	Simonne.V. Calhoun	02/21/2022 15:03	Sarah A Nixon	2305289

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 365.1 Rev. 2.0	02/11/2022	02/16/2022 14:20	Simonne.V. Calhoun	02/21/2022 15:04	Sarah A Nixon	2305290
	02/11/2022	02/23/2022 15:05	Simonne.V. Calhoun	02/24/2022 14:13	Sarah A Nixon	2305279
EPA 365.1 Rev. 2.0 dissolved	02/11/2022			02/11/2022 14:43	James L Waggeberby	2305280
	02/11/2022			02/11/2022 14:44	James L Waggeberby	2305283
	02/11/2022			02/11/2022 14:47	James L Waggeberby	2305286
	02/11/2022			02/11/2022 14:50	James L Waggeberby	2305291
	02/11/2022			02/11/2022 14:55	James L Waggeberby	2305292
EPA 8321B	02/11/2022	02/11/2022 14:00	Umesh Chiluwal	02/11/2022 17:29	Umesh Chiluwal	2305308
	02/11/2022	02/11/2022 14:00	Umesh Chiluwal	02/11/2022 22:58	Umesh Chiluwal	2305308
SM 2320 B-2011	02/11/2022	02/16/2022 09:00	June Rhew	02/17/2022 17:00	Juyoung Kim	2305308
	02/11/2022			02/15/2022 23:37	Dale L. Simmons	2305278
	02/11/2022			02/15/2022 23:46	Dale L. Simmons	2305281
	02/11/2022			02/15/2022 23:55	Dale L. Simmons	2305284
	02/11/2022			02/16/2022 00:04	Dale L. Simmons	2305287
SM 2340B	02/11/2022			02/16/2022 00:12	Dale L. Simmons	2305288
	02/11/2022			02/22/2022 16:02	Josef B Mick	2305309
	02/11/2022			02/22/2022 16:14	Josef B Mick	2305311
	02/11/2022			02/22/2022 16:51	Josef B Mick	2305312
SM 2540 C-2011	02/11/2022			02/26/2022 03:16	Josef B Mick	2305310
	02/11/2022			02/16/2022 15:36	Yijie Li	2305278, 2305281, 2305284, 2305287, 2305288
SM 2540 D-2011	02/11/2022			02/16/2022 15:36	Yijie Li	2305278, 2305281, 2305284, 2305287, 2305288
SM 4500 F-C-2011	02/11/2022			02/15/2022 23:37	Dale L. Simmons	2305278
	02/11/2022			02/15/2022 23:46	Dale L. Simmons	2305281
	02/11/2022			02/15/2022 23:55	Dale L. Simmons	2305284
	02/11/2022			02/16/2022 00:04	Dale L. Simmons	2305287
	02/11/2022			02/16/2022 00:12	Dale L. Simmons	2305288
SM 5310 B-2011	02/11/2022			02/26/2022 22:56	Touraj Touran	2305289
	02/11/2022			02/26/2022 23:38	Touraj Touran	2305282
	02/11/2022			02/27/2022 00:16	Touraj Touran	2305290
	02/11/2022			02/27/2022 01:07	Touraj Touran	2305285
	02/11/2022			02/27/2022 14:22	Touraj Touran	2305279