

Chemical Analysis Report

TLH-ROC-2022-06-29-01

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

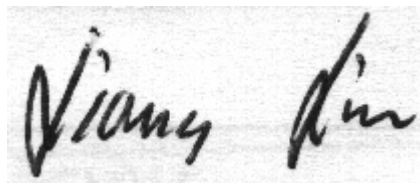
Event Description: **June-Aug. Aucilla, Fenholloway**
Request ID: **RQ-2022-06-20-19**
Customer: **TLH-ROC**
Project ID: **SMP**

Send Reports to:
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Attn: Chris Green

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Certified by: Liang Lin, Environmental Administrator

Date Certified: 12-JUL-2022 10:10

A handwritten signature in black ink, appearing to read "Liang Lin", is shown on a light-colored background.

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 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: Fenholloway River @ Mouth

Collection Date/Time: 06/29/2022 10:30

Field ID: G1TLHR0042

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338257	EPA 200.7 Rev. 4.4	Calcium	119		mg/L	P416058	
		Iron	220	I	ug/L	P416058	
		Magnesium	239		mg/L	P416058	
		Strontium	1.48E+03		ug/L	P416058	
		Tin	30	U	ug/L	P416058	
		Titanium	3.7	I	ug/L	P416058	
		Vanadium	6.0	U	ug/L	P416058	
	EPA 200.8 Rev. 5.4	Zinc	15	U	ug/L	P416058	
		Aluminum	100	U	ug/L	P416058	
		Antimony	0.20	U	ug/L	P416058	
		Arsenic	1.18		ug/L	P416058	
		Beryllium	0.10	U	ug/L	P416058	
		Cadmium	0.080	U	ug/L	P416058	
		Chromium	1.6	U	ug/L	P416058	
		Cobalt	0.11	I	ug/L	P416058	
		Copper	1.6	U	ug/L	P416058	
		Lead	0.80	U	ug/L	P416058	
		Manganese	40.1		ug/L	P416058	
		Molybdenum	2.7	I	ug/L	P416058	
		Nickel	5.0	U	ug/L	P416058	
		Selenium	0.80	U	ug/L	P416058	
		Silver	0.040	U	ug/L	P416058	
		Thallium	0.40	U	ug/L	P416058	

Ref. Method and Comment:

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium and magnesium are unavailable because of high analyte concentration in the QC sample.

Sample Location: Fenholloway River ENCOC

Collection Date/Time: 06/29/2022 10:15

Field ID: G1TLHR0120

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338258	EPA 200.7 Rev. 4.4	Calcium	63.4		mg/L	P416003	
		Iron	360		ug/L	P416003	
		Magnesium	50.2		mg/L	P416003	
		Strontium	268		ug/L	P416003	
		Tin	6.0	U	ug/L	P416003	
		Titanium	3.2		ug/L	P416003	
		Vanadium	3.3	I	ug/L	P416003	
	EPA 200.8 Rev. 5.4	Zinc	6.9	I	ug/L	P416003	
		Aluminum	103		ug/L	P416003	
		Antimony	0.080	I	ug/L	P416003	
		Arsenic	0.64		ug/L	P416003	
		Beryllium	0.020	U	ug/L	P416003	
		Cadmium	0.020	U	ug/L	P416003	
		Chromium	0.99	I	ug/L	P416003	
		Cobalt	0.058	I	ug/L	P416003	
		Copper	0.70	I	ug/L	P416003	
		Lead	0.20	U	ug/L	P416003	
		Manganese	35.6		ug/L	P416003	
		Molybdenum	1.03		ug/L	P416003	
		Nickel	1.1	I	ug/L	P416003	
		Selenium	0.20	U	ug/L	P416003	
		Silver	0.010	U	ug/L	P416003	
		Thallium	0.10	U	ug/L	P416003	

Sample Location: Fenholloway River @ Old Club H

Collection Date/Time: 06/29/2022 10:05

Field ID: G1TLHR0080

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338259	EPA 200.7 Rev. 4.4	Calcium	59.6		mg/L	P416003	
		Iron	430		ug/L	P416003	
		Magnesium	23.7		mg/L	P416003	
		Strontium	91.5		ug/L	P416003	
		Tin	6.0	U	ug/L	P416003	
		Titanium	1.2	I	ug/L	P416003	
		Vanadium	2.0	U	ug/L	P416003	
	EPA 200.8 Rev. 5.4	Zinc	5.0	U	ug/L	P416003	
		Aluminum	17	I	ug/L	P416003	
		Antimony	0.050	U	ug/L	P416003	
		Arsenic	0.58		ug/L	P416003	
		Beryllium	0.010	U	ug/L	P416003	
		Cadmium	0.020	U	ug/L	P416003	
		Chromium	0.49	I	ug/L	P416003	
		Cobalt	0.036	I	ug/L	P416003	
		Copper	0.40	U	ug/L	P416003	
		Lead	0.20	U	ug/L	P416003	
		Manganese	28.0		ug/L	P416003	
		Molybdenum	0.55	I	ug/L	P416003	
		Nickel	0.50	U	ug/L	P416003	
		Selenium	0.20	U	ug/L	P416003	
		Silver	0.010	U	ug/L	P416003	
		Thallium	0.10	U	ug/L	P416003	

Sample Location: Trib to Fenholloway River @ Mouth

Collection Date/Time: 06/29/2022 10:20

Field ID: G1TLHR0168

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338260	EPA 200.7 Rev. 4.4	Calcium	65.1		mg/L	P416003	
		Iron	330		ug/L	P416003	
		Magnesium	62.1		mg/L	P416003	
		Strontium	347		ug/L	P416003	
		Tin	6.0	U	ug/L	P416003	
		Titanium	3.6		ug/L	P416003	
		Vanadium	3.8	I	ug/L	P416003	
		Zinc	5.4	I	ug/L	P416003	
	EPA 200.8 Rev. 5.4	Aluminum	119		ug/L	P416003	
		Antimony	0.088	I	ug/L	P416003	
		Arsenic	0.65		ug/L	P416003	
		Beryllium	0.020	U	ug/L	P416003	
		Cadmium	0.020	U	ug/L	P416003	
		Chromium	1.1	I	ug/L	P416003	
		Cobalt	0.067	I	ug/L	P416003	
		Copper	0.70	I	ug/L	P416003	
		Lead	0.20	U	ug/L	P416003	
		Manganese	39.2		ug/L	P416003	
		Molybdenum	1.15		ug/L	P416003	
		Nickel	1.3	I	ug/L	P416003	
		Selenium	0.20	U	ug/L	P416003	
		Silver	0.010	U	ug/L	P416003	
		Thallium	0.10	U	ug/L	P416003	

Sample Location: Aucilla River @ Mouth

Collection Date/Time: 06/29/2022 11:40

Field ID: G1TLHR0091

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2338256	EPA 8321B	2,4-D	0.0020	U	ug/L	P416117	
		Acesulfame K	0.10	U	ug/L	P415969	
		2,4,5-T	0.0040	U	ug/L	P416117	
		AMPA	1.0	U	ug/L	P415969	MS
		Acetaminophen	0.0080	U	ug/L	P416117	
		Acetamiprid	0.0020	U	ug/L	P416117	
		Endothall	0.25	U	ug/L	P415969	
		Glufosinate	1.0	U	ug/L	P415969	MS
		Glyphosate	1.0	U	ug/L	P415969	MS
		Afidopyropen	0.0020	U	ug/L	P416117	
		Bentazon	8.0E-04	U	ug/L	P416117	
		Sucralose	0.013	I	ug/L	P415969	
		Benzovindiflupyr	0.0020	U	ug/L	P416117	
		Carbamazepine	8.0E-04	U	ug/L	P416117	
		Clothianidin	0.0020	U	ug/L	P416117	
		Dinotefuran	0.0020	U	ug/L	P416117	
		Diuron	0.0020	U	ug/L	P416117	
		Fenuron	0.032	U	ug/L	P416117	
		Fluridone	8.0E-04	U	ug/L	P416117	
		Imazapyr	0.0040	U	ug/L	P416117	
		Hydrocodone	0.0020	U	ug/L	P416117	
		Ibuprofen	0.080	U	ug/L	P416117	
		Imidacloprid	0.0020	UJ	ug/L	P416117	LCS, MS
		Linuron	0.0040	U	ug/L	P416117	
		Mandestrobin	0.0020	U	ug/L	P416117	
		MCPP	0.0040	U	ug/L	P416117	
		Naproxen	0.0080	U	ug/L	P416117	
		Primidone	0.0040	U	ug/L	P416117	
		Pyraclostrobin	0.0020	U	ug/L	P416117	
		Silvex	0.0040	U	ug/L	P416117	
		Thiamethoxam	0.0020	U	ug/L	P416117	
		Tolfenpyrad	0.0020	U	ug/L	P416117	
		Triclopyr	0.0040	U	ug/L	P416117	

Ref. Method and Comment:

EPA 8321B: Refer to the Lab Analysis Report for an explanation of QC Codes.

EPA 8321B: Some MDLs are elevated due to required dilution of sample matrix.

Quality Assurance Report Method Blank Results

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416003

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	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 200.7 Rev. 4.4
Batch ID: P416058

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Iron	30	U	ug/L
Magnesium	0.040	U	mg/L
Strontium	2.9	I	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: P416003

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	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 200.8 Rev. 5.4
Batch ID: P416058

Component	Result	Code	Units
Aluminum	5.0	U	ug/L
Antimony	0.050	U	ug/L
Arsenic	0.050	U	ug/L
Beryllium	0.010	U	ug/L
Cadmium	0.020	U	ug/L
Chromium	0.40	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416058

Component	Result	Code	Units
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 8321B

Batch ID: P415969

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: P416117

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	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	104		P	85 - 115
Iron	100		P	85 - 115
Magnesium	101		P	85 - 115
Strontium	106		P	85 - 115
Tin	106		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	104		P	85 - 115

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P416058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	97.9		P	85 - 115
Magnesium	97.9		P	85 - 115
Strontium	105		P	85 - 115
Tin	107		P	85 - 115
Titanium	106		P	85 - 115
Vanadium	98.5		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416003

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	103		P	85 - 115
Antimony	97.4		P	85 - 115
Arsenic	96.4		P	85 - 115
Beryllium	92.7		P	85 - 115
Cadmium	96.4		P	85 - 115
Chromium	96.2		P	85 - 115
Cobalt	99.1		P	85 - 115
Copper	96.9		P	85 - 115
Lead	97.6		P	85 - 115
Manganese	97.2		P	85 - 115
Molybdenum	97.2		P	85 - 115
Nickel	98.3		P	85 - 115
Selenium	96.1		P	85 - 115
Silver	97.5		P	85 - 115
Thallium	98.1		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P416058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	99.5		P	85 - 115
Antimony	100		P	85 - 115
Arsenic	99.8		P	85 - 115
Beryllium	90.9		P	85 - 115
Cadmium	96.8		P	85 - 115
Chromium	97.0		P	85 - 115

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416058

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Cobalt	99.2		P	85 - 115
Copper	97.2		P	85 - 115
Lead	98.4		P	85 - 115
Manganese	98.0		P	85 - 115
Molybdenum	99.0		P	85 - 115
Nickel	99.0		P	85 - 115
Selenium	98.2		P	85 - 115
Silver	103		P	85 - 115
Thallium	98.8		P	85 - 115

Reference Method: EPA 8321B

Batch ID: P415969

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	90.0		P	40 - 150
AMPA	91.3		P	40 - 150
Endothall	96.3		P	40 - 150
Glufosinate	82.5		P	40 - 150
Glyphosate	91.0		P	40 - 150
Sucralose	90.3		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416117

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	82.6		P	40 - 150
2,4,5-T	50.0		P	40 - 150
Acetaminophen	93.8		P	30 - 150
Acetamiprid	109		P	40 - 150
Afidopyropen	59.1		P	30 - 150
Bentazon	54.3		P	30 - 150
Benzovindiflupyr	87.6		P	40 - 150
Carbamazepine	84.8		P	40 - 150
Clothianidin	90.4		P	40 - 150
Dinotefuran	108		P	40 - 150
Diuron	63.5		P	40 - 150
Fenuron	99.0		P	40 - 150
Fluridone	82.0		P	40 - 150
Hydrocodone	94.8		P	40 - 150
Ibuprofen	66.9		P	40 - 150
Imazapyr	114		P	40 - 150
Imidacloprid	158		F	40 - 150
Linuron	63.0		P	40 - 150
Mandestrobin	82.6		P	40 - 150
MCPP	80.4		P	40 - 150
Naproxen	59.7		P	40 - 150
Primidone	99.8		P	40 - 150
Pyraclostrobin	83.5		P	40 - 150
Silvex	58.2		P	40 - 150
Thiamethoxam	106		P	40 - 150
Tolfenpyrad	39.0		P	30 - 150
Triclopyr	60.5		P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337973	Calcium	103	105	P/P	80 - 120
2337973	Iron	101	104	P/P	80 - 120
2337973	Magnesium	103	105	P/P	80 - 120
2337973	Strontium	105	106	P/P	80 - 120
2337973	Tin	106	107	P/P	80 - 120
2337973	Titanium	106	107	P/P	80 - 120
2337973	Vanadium	99.1	99.3	P/P	80 - 120
2337973	Zinc	104	104	P/P	80 - 120
2338026	Calcium	99.2		P	80 - 120
2338026	Iron	101		P	80 - 120
2338026	Magnesium	101		P	80 - 120
2338026	Strontium	106		P	80 - 120
2338026	Tin	105		P	80 - 120
2338026	Titanium	106		P	80 - 120
2338026	Vanadium	98.8		P	80 - 120
2338026	Zinc	103		P	80 - 120

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338257	Iron	99.8	99.4	P/P	70 - 130
2338257	Strontium	105	103	P/P	70 - 130
2338257	Tin	101	105	P/P	70 - 130
2338257	Titanium	106	110	P/P	70 - 130
2338257	Vanadium	105	106	P/P	70 - 130
2338257	Zinc	103	105	P/P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337973	Aluminum	102	98.5	P/P	80 - 120
2337973	Antimony	98.0	96.1	P/P	80 - 120
2337973	Arsenic	97.2	94.8	P/P	80 - 120
2337973	Beryllium	97.4	94.4	P/P	80 - 120
2337973	Cadmium	97.0	93.9	P/P	80 - 120
2337973	Chromium	96.2	92.8	P/P	80 - 120
2337973	Cobalt	97.8	95.2	P/P	80 - 120
2337973	Copper	97.2	94.6	P/P	80 - 120
2337973	Lead	96.8	94.3	P/P	80 - 120
2337973	Manganese	96.8	93.5	P/P	80 - 120
2337973	Molybdenum	96.9	95.0	P/P	80 - 120
2337973	Nickel	98.5	96.1	P/P	80 - 120
2337973	Selenium	95.8	93.9	P/P	80 - 120
2337973	Silver	95.9	95.4	P/P	80 - 120
2337973	Thallium	97.3	96.1	P/P	80 - 120
2338026	Aluminum	98.0		P	80 - 120
2338026	Antimony	97.2		P	80 - 120
2338026	Arsenic	97.3		P	80 - 120
2338026	Beryllium	95.0		P	80 - 120
2338026	Cadmium	96.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416003

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338026	Chromium	95.8		P	80 - 120
2338026	Cobalt	98.1		P	80 - 120
2338026	Copper	99.2		P	80 - 120
2338026	Lead	96.3		P	80 - 120
2338026	Manganese	96.7		P	80 - 120
2338026	Molybdenum	96.8		P	80 - 120
2338026	Nickel	98.4		P	80 - 120
2338026	Selenium	94.7		P	80 - 120
2338026	Silver	95.0		P	80 - 120
2338026	Thallium	97.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416058

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338257	Aluminum	98.6	102	P/P	70 - 130
2338257	Antimony	102	100	P/P	70 - 130
2338257	Arsenic	115	113	P/P	70 - 130
2338257	Beryllium	108	99.7	P/P	70 - 130
2338257	Cadmium	92.5	94.4	P/P	70 - 130
2338257	Chromium	100	98.8	P/P	70 - 130
2338257	Cobalt	115	113	P/P	70 - 130
2338257	Copper	108	109	P/P	70 - 130
2338257	Lead	104	103	P/P	70 - 130
2338257	Manganese	95.7	94.7	P/P	70 - 130
2338257	Molybdenum	107	106	P/P	70 - 130
2338257	Nickel	114	113	P/P	70 - 130
2338257	Selenium	105	103	P/P	70 - 130
2338257	Silver	95.1	93.6	P/P	70 - 130
2338257	Thallium	105	104	P/P	70 - 130

Reference Method: EPA 8321B

Batch ID: P415969

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2337995	Acesulfame K	70.7	74.9	P/P	40 - 150
2337995	AMPA	37.3	43.6	F/P	40 - 150
2337995	Endothall	117	121	P/P	40 - 150
2337995	Glufosinate	25.5	20.7	F/F	40 - 150
2337995	Glyphosate	39.8	45.5	F/P	40 - 150
2337995	Sucralose	81.6	90.6	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P416117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338388	2,4-D	79.1	96.3	P/P	40 - 150
2338388	2,4,5-T	56.8	58.6	P/P	40 - 150
2338388	Acetaminophen	92.5	92.6	P/P	30 - 150
2338388	Acetamiprid	92.7	100	P/P	40 - 150
2338388	Afidopyropen	65.7	68.2	P/P	30 - 150
2338388	Bentazon	51.8	55.5	P/P	30 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P416117

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2338388	Benzovindiflupyr	89.5	102	P/P	40 - 150
2338388	Carbamazepine	82.7	88.4	P/P	40 - 150
2338388	Clothianidin	99.9	111	P/P	40 - 150
2338388	Dinotefuran	128	132	P/P	40 - 150
2338388	Diuron	66.7	65.1	P/P	40 - 150
2338388	Fenuron	97.3	105	P/P	40 - 150
2338388	Fluridone	81.8	90.2	P/P	40 - 150
2338388	Hydrocodone	101	107	P/P	40 - 150
2338388	Ibuprofen	71.8	87.8	P/P	40 - 150
2338388	Imazapyr	95.0	112	P/P	40 - 150
2338388	Imidacloprid	164	175	F/F	40 - 150
2338388	Linuron	76.4	76.2	P/P	40 - 150
2338388	Mandestrobin	87.0	95.0	P/P	40 - 150
2338388	MCP	86.1	91.6	P/P	40 - 150
2338388	Naproxen	74.4	67.9	P/P	40 - 150
2338388	Primidone	121	111	P/P	40 - 150
2338388	Pyraclostrobin	91.0	95.4	P/P	40 - 150
2338388	Silvex	51.0	63.0	P/P	40 - 150
2338388	Thiamethoxam	116	126	P/P	40 - 150
2338388	Tolfenpyrad	50.8	55.3	P/P	30 - 150
2338388	Triclopyr	65.0	68.0	P/P	40 - 150

Quality Assurance Report Precision

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337973	Calcium	1.54	Spike	P	0 - 20
2337973	Iron	2.27	Spike	P	0 - 20
2337973	Magnesium	1.79	Spike	P	0 - 20
2337973	Strontium	0.295	Spike	P	0 - 20
2337973	Tin	0.949	Spike	P	0 - 20
2337973	Titanium	0.467	Spike	P	0 - 20
2337973	Vanadium	0.214	Spike	P	0 - 20
2337973	Zinc	0.275	Spike	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P416058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338257	Calcium	1.51	Spike	P	0 - 20
2338257	Iron	0.363	Spike	P	0 - 20
2338257	Magnesium	1.36	Spike	P	0 - 20
2338257	Strontium	1.05	Spike	P	0 - 20
2338257	Tin	4.08	Spike	P	0 - 20
2338257	Titanium	3.22	Spike	P	0 - 20
2338257	Vanadium	1.53	Spike	P	0 - 20
2338257	Zinc	2.27	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416003

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337973	Aluminum	3.33	Spike	P	0 - 20
2337973	Antimony	1.96	Spike	P	0 - 20
2337973	Arsenic	2.45	Spike	P	0 - 20
2337973	Beryllium	3.16	Spike	P	0 - 20
2337973	Cadmium	3.25	Spike	P	0 - 20
2337973	Chromium	3.59	Spike	P	0 - 20
2337973	Cobalt	2.62	Spike	P	0 - 20
2337973	Copper	2.75	Spike	P	0 - 20
2337973	Lead	2.61	Spike	P	0 - 20
2337973	Manganese	3.15	Spike	P	0 - 20
2337973	Molybdenum	1.91	Spike	P	0 - 20
2337973	Nickel	2.50	Spike	P	0 - 20
2337973	Selenium	1.91	Spike	P	0 - 20
2337973	Silver	0.577	Spike	P	0 - 20
2337973	Thallium	1.31	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338257	Aluminum	3.67	Spike	P	0 - 20
2338257	Antimony	2.03	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P416058

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338257	Arsenic	1.82	Spike	P	0 - 20
2338257	Beryllium	7.59	Spike	P	0 - 20
2338257	Cadmium	2.06	Spike	P	0 - 20
2338257	Chromium	1.29	Spike	P	0 - 20
2338257	Cobalt	1.73	Spike	P	0 - 20
2338257	Copper	0.555	Spike	P	0 - 20
2338257	Lead	1.07	Spike	P	0 - 20
2338257	Manganese	0.690	Spike	P	0 - 20
2338257	Molybdenum	0.0938	Spike	P	0 - 20
2338257	Nickel	0.658	Spike	P	0 - 20
2338257	Selenium	1.26	Spike	P	0 - 20
2338257	Silver	1.53	Spike	P	0 - 20
2338257	Thallium	0.611	Spike	P	0 - 20

Reference Method: EPA 8321B

Batch ID: P415969

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2337995	Acesulfame K	5.65	Spike	P	0 - 30
2337995	AMPA	6.52	Spike	P	0 - 30
2337995	Endothall	3.24	Spike	P	0 - 30
2337995	Glufosinate	20.7	Spike	P	0 - 30
2337995	Glyphosate	4.33	Spike	P	0 - 30
2337995	Sucralose	9.99	Spike	P	0 - 30

Reference Method: EPA 8321B

Batch ID: P416117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338388	2,4-D	19.6	Spike	P	0 - 30
2338388	2,4,5-T	3.02	Spike	P	0 - 30
2338388	Acetaminophen	0.113	Spike	P	0 - 30
2338388	Acetamiprid	7.82	Spike	P	0 - 30
2338388	Afidopyropen	3.78	Spike	P	0 - 30
2338388	Bentazon	6.96	Spike	P	0 - 30
2338388	Benzovindiflupyr	13.1	Spike	P	0 - 30
2338388	Carbamazepine	6.64	Spike	P	0 - 30
2338388	Clothianidin	10.1	Spike	P	0 - 30
2338388	Dinotefuran	3.21	Spike	P	0 - 30
2338388	Diuron	2.48	Spike	P	0 - 30
2338388	Fenuron	7.92	Spike	P	0 - 30
2338388	Fluridone	9.84	Spike	P	0 - 30
2338388	Hydrocodone	5.86	Spike	P	0 - 30
2338388	Ibuprofen	20.0	Spike	P	0 - 30
2338388	Imazapyr	16.9	Spike	P	0 - 30
2338388	Imidacloprid	6.43	Spike	P	0 - 30
2338388	Linuron	0.160	Spike	P	0 - 30
2338388	Mandestrobin	8.76	Spike	P	0 - 30
2338388	MCP	6.21	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P416117

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2338388	Naproxen	9.06	Spike	P	0 - 30
2338388	Primidone	8.28	Spike	P	0 - 30
2338388	Pyraclostrobin	4.72	Spike	P	0 - 30
2338388	Silvex	21.1	Spike	P	0 - 30
2338388	Thiamethoxam	7.56	Spike	P	0 - 30
2338388	Tolfenpyrad	8.52	Spike	P	0 - 30
2338388	Triclopyr	4.57	Spike	P	0 - 30

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

Quality Assurance Report Surrogates

Lab Sample ID: 2338256

Field Sample ID: G1TLHR0091

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	95.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	94.4	P	30 - 160
EPA 8321B	Diuron-d6	72.0	P	30 - 160
EPA 8321B	Endothall-d6	70.8	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	78.5	P	30 - 160
EPA 8321B	Ibuprofen-d3	96.4	P	30 - 160
EPA 8321B	Primidone-d5	123	P	30 - 160
EPA 8321B	Sucralose-d6	85.5	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113218

Included Lab Sample IDs: 2338258, 2338259, 2338260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	103	102	P/P	90 - 110
Antimony	99.0	97.0	P/P	90 - 110
Arsenic	100	98.1	P/P	90 - 110
Beryllium	98.2	96.2	P/P	90 - 110
Cadmium	98.2	97.2	P/P	90 - 110
Chromium	98.3	98.2	P/P	90 - 110
Cobalt	99.5	100	P/P	90 - 110
Copper	101	100	P/P	90 - 110
Lead	96.7	95.7	P/P	90 - 110
Manganese	98.6	98.7	P/P	90 - 110
Molybdenum	98.7	96.8	P/P	90 - 110
Nickel	101	101	P/P	90 - 110
Selenium	99.4	97.1	P/P	90 - 110
Silver	100	99.2	P/P	90 - 110
Thallium	97.0	95.3	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A113247

Included Lab Sample IDs: 2338257, 2338258, 2338260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	101	101	P/P	90 - 110
Antimony	99.3	99.8	P/P	90 - 110
Arsenic	104	104	P/P	90 - 110
Beryllium	97.3	98.5	P/P	90 - 110
Beryllium	98.1	97.9	P/P	90 - 110
Cadmium	99.5	99.7	P/P	90 - 110
Chromium	99.3	98.3	P/P	90 - 110
Cobalt	104	104	P/P	90 - 110
Copper	105	104	P/P	90 - 110
Lead	99.0	98.1	P/P	90 - 110
Manganese	99.6	98.9	P/P	90 - 110
Molybdenum	100	102	P/P	90 - 110
Nickel	103	105	P/P	90 - 110
Selenium	99.9	100	P/P	90 - 110
Silver	105	104	P/P	90 - 110
Thallium	98.4	97.7	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A113263

Included Lab Sample IDs: 2338256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	92.8	103	P/P	60 - 160
Sucralose	91.7	98.3	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A113269

Included Lab Sample IDs: 2338256

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

Reference Method: EPA 8321B
Run ID: A113269
Included Lab Sample IDs: 2338256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	94.6	99.9	P/P	60 - 160
Endothall	102	85.7	P/P	60 - 160
Glufosinate	63.8	68.3	P/P	60 - 160
Glyphosate	88.0	90.6	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A113284
Included Lab Sample IDs: 2338257

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	97.8	98.4	P/P	90 - 110
Iron	97.7	97.7	P/P	90 - 110
Magnesium	97.6	98.0	P/P	90 - 110
Strontium	104	106	P/P	90 - 110
Tin	105	105	P/P	90 - 110
Titanium	104	105	P/P	90 - 110
Vanadium	105	106	P/P	90 - 110
Zinc	104	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A113291
Included Lab Sample IDs: 2338257

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	97.4	99.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A113301
Included Lab Sample IDs: 2338256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	95.7	106	P/P	50 - 150
2,4,5-T	105	110	P/P	50 - 150
Acetaminophen	107	106	P/P	60 - 160
Acetamiprid	116	109	P/P	50 - 150
Afidopyropen	99.5	107	P/P	50 - 150
Bentazon	105	109	P/P	50 - 160
Benzovindiflupyr	111	106	P/P	50 - 150
Carbamazepine	108	108	P/P	60 - 150
Clothianidin	103	111	P/P	60 - 150
Dinotefuran	105	105	P/P	50 - 150
Diuron	108	112	P/P	60 - 160
Fenuron	105	105	P/P	60 - 150
Fluridone	108	110	P/P	60 - 160
Hydrocodone	103	103	P/P	60 - 150
Ibuprofen	74.9	96.5	P/P	50 - 160
Imazapyr	111	110	P/P	50 - 150
Imidacloprid	99.3	99.1	P/P	60 - 150
Linuron	117	109	P/P	60 - 150
Mandestrobin	105	108	P/P	50 - 150
MCPP	105	112	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A113301
Included Lab Sample IDs: 2338256

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Naproxen	137	124	P/P	50 - 160
Primidone	110	106	P/P	60 - 150
Pyraclostrobin	108	108	P/P	60 - 150
Silvex	109	87.2	P/P	50 - 150
Thiamethoxam	103	104	P/P	50 - 150
Tolfenpyrad	97.6	91.5	P/P	60 - 150
Triclopyr	107	99.6	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A113317
Included Lab Sample IDs: 2338258, 2338259, 2338260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	98.3	97.7	P/P	90 - 110
Iron	97.7	99.2	P/P	90 - 110
Magnesium	97.6	98.0	P/P	90 - 110
Strontium	103	102	P/P	90 - 110
Titanium	101	98.5	P/P	90 - 110
Vanadium	101	101	P/P	90 - 110
Zinc	102	99.0	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A113349
Included Lab Sample IDs: 2338258, 2338259, 2338260

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Tin	97.6	97.1	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
EPA 200.7 Rev. 4.4	Calcium	104	103	105	99.2			1.54
	Calcium	100						1.51
	Iron	100	101	104	101			2.27
	Iron	97.9	99.8	99.4				0.363
	Magnesium	101	103	105	101			1.79
	Magnesium	97.9						1.36
	Strontium	106	105	106	106			0.295
	Strontium	105	105	103				1.05
	Tin	106	106	107	105			0.949
	Tin	107	101	105				4.08
	Titanium	106	106	107	106			0.467
	Titanium	106	106	110				3.22
	Vanadium	98.5	99.1	99.3	98.8			0.214
	Vanadium	98.5	105	106				1.53
	Zinc	104	104	104	103			0.275
	Zinc	103	103	105				2.27
EPA 200.8 Rev. 5.4	Aluminum	103	102	98.5	98.0			3.33
	Aluminum	99.5	98.6	102				3.67
	Antimony	97.4	98.0	96.1	97.2			1.96
	Antimony	100	102	100				2.03
	Arsenic	96.4	97.2	94.8	97.3			2.45
	Arsenic	99.8	115	113				1.82
	Beryllium	92.7	97.4	94.4	95.0			3.16
	Beryllium	90.9	108	99.7				7.59
	Cadmium	96.4	97.0	93.9	96.2			3.25
	Cadmium	96.8	92.5	94.4				2.06
	Chromium	96.2	96.2	92.8	95.8			3.59
	Chromium	97.0	100	98.8				1.29
	Cobalt	99.1	97.8	95.2	98.1			2.62
	Cobalt	99.2	115	113				1.73
	Copper	96.9	97.2	94.6	99.2			2.75
	Copper	97.2	108	109				0.555
	Lead	97.6	96.8	94.3	96.3			2.61
	Lead	98.4	104	103				1.07
	Manganese	97.2	96.8	93.5	96.7			3.15
	Manganese	98.0	95.7	94.7				0.690
	Molybdenum	97.2	96.8	96.9	95.0			1.91
	Molybdenum	99.0	107	106				0.0938
	Nickel	98.3	98.5	96.1	98.4			2.50
	Nickel	99.0	114	113				0.658
	Selenium	96.1	95.8	93.9	94.7			1.91
	Selenium	98.2	105	103				1.26
	Silver	97.5	95.9	95.4	95.0			0.577
	Silver	103	95.1	93.6				1.53
	Thallium	98.1	97.3	96.1	97.4			1.31
	Thallium	98.8	105	104				0.611
EPA 8321B	2,4-D	82.6	79.1	96.3				19.6
	2,4,5-T	50.0	56.8	58.6				3.02
	Acesulfame K	90.0	70.7	74.9				5.65
	Acetaminophen	93.8	92.5	92.6				0.113
	Acetamiprid	109	92.7	100				7.82
	Afidopyropen	59.1	65.7	68.2				3.78
	AMPA	91.3	37.3	43.6				6.52
	Bentazon	54.3	51.8	55.5				6.96

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
EPA 8321B	Benzovindiflupyr	87.6	89.5	102			13.1
	Carbamazepine	84.8	82.7	88.4			6.64
	Clothianidin	90.4	99.9	111			10.1
	Dinotefuran	108	128	132			3.21
	Diuron	63.5	66.7	65.1			2.48
	Endothall	96.3	117	121			3.24
	Fenuron	99.0	97.3	105			7.92
	Fluridone	82.0	81.8	90.2			9.84
	Glufosinate	82.5	25.5	20.7			20.7
	Glyphosate	91.0	39.8	45.5			4.33
	Hydrocodone	94.8	101	107			5.86
	Ibuprofen	66.9	71.8	87.8			20.0
	Imazapyr	114	95.0	112			16.9
	Imidacloprid	158	164	175			6.43
	Linuron	63.0	76.4	76.2			0.160
	Mandestrobin	82.6	87.0	95.0			8.76
	MCPP	80.4	86.1	91.6			6.21
	Naproxen	59.7	74.4	67.9			9.06
	Primidone	99.8	121	111			8.28
	Pyraclostrobin	83.5	91.0	95.4			4.72
	Silvex	58.2	51.0	63.0			21.1
	Sucralose	90.3	81.6	90.6			9.99
	Thiamethoxam	106	116	126			7.56
	Tolfenpyrad	39.0	50.8	55.3			8.52
	Triclopyr	60.5	65.0	68.0			4.57

Reference Method Descriptions

Method	Description	Associated Samples
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2338257, 2338258, 2338259, 2338260
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2338257, 2338258, 2338259, 2338260
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2338256

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 200.7 Rev. 4.4	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/06/2022 21:54	McKinley C Carter	2338258
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/06/2022 22:10	McKinley C Carter	2338259
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/06/2022 22:17	McKinley C Carter	2338260
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/07/2022 20:22	McKinley C Carter	2338258
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/07/2022 20:38	McKinley C Carter	2338259
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/07/2022 20:53	McKinley C Carter	2338260
	06/29/2022	07/01/2022 09:30	Mackenzie Hunt	07/06/2022 03:03	McKinley C Carter	2338257
	06/29/2022	07/01/2022 09:30	Mackenzie Hunt	07/06/2022 03:35	McKinley C Carter	2338257
EPA 200.8 Rev. 5.4	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	06/30/2022 15:33	Alexander Thompson	2338258
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	06/30/2022 15:42	Alexander Thompson	2338259
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	06/30/2022 15:51	Alexander Thompson	2338260
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/01/2022 23:39	Alexander Thompson	2338258
	06/29/2022	06/30/2022 08:57	Mackenzie Hunt	07/01/2022 23:48	Alexander Thompson	2338260
	06/29/2022	07/01/2022 09:30	Mackenzie Hunt	07/01/2022 20:07	Alexander Thompson	2338257
	06/29/2022	07/01/2022 09:30	Mackenzie Hunt	07/01/2022 21:53	Alexander Thompson	2338257
	06/29/2022	07/01/2022 09:30	Mackenzie Hunt	07/05/2022 14:39	Emily M Philpot	2338257
EPA 8321B	06/29/2022	07/01/2022 09:00	Umesh Chiluwal	07/01/2022 12:44	Umesh Chiluwal	2338256
	06/29/2022	07/01/2022 09:00	Umesh Chiluwal	07/01/2022 21:27	Umesh Chiluwal	2338256
	06/29/2022	07/01/2022 09:00	Umesh Chiluwal	07/02/2022 00:29	Umesh Chiluwal	2338256
	06/29/2022	07/05/2022 09:00	June Rhew	07/05/2022 19:13	Juyoung Kim	2338256