

October 24, 2019

Tyler Baker
Tennessee Valley Authority
Chickamauga Power Service Cent
4601 North Access Road, Bld. B
Chattanooga, TN 374153825

RE: Project: 0777010 CUMBERLAND FOSSIL PLAN
Pace Project No.: 40194809

Dear Tyler Baker:

Enclosed are the analytical results for sample(s) received by the laboratory between September 10, 2019 and September 25, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Tod Noltemeyer
tod.noltemeyer@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Jennifer Gable, Environmental Standards, Inc.
Roy Quinn, TVA



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302

Florida/NELAP Certification #: E87948

Illinois Certification #: 200050

Kentucky UST Certification #: 82

Louisiana Certification #: 04168

Minnesota Certification #: 055-999-334

New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001

Texas Certification #: T104704529-14-1

Wisconsin Certification #: 405132750

Wisconsin DATCP Certification #: 105-444

USDA Soil Permit #: P330-16-00157

Federal Fish & Wildlife Permit #: LE51774A-0

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40194809001	CUF-FH-CC-CURD-F-20190430	Tissue	04/30/19 15:00	09/10/19 10:45
40194809002	CUF-FH-CC-CURU-F-20190507	Tissue	05/07/19 11:35	09/10/19 10:45
40194809003	CUF-FH-CC-WCD-F-20190501	Tissue	05/01/19 10:50	09/10/19 10:45
40194809004	CUF-FH-CC-WCU-F-20190508	Tissue	05/08/19 10:50	09/10/19 10:45
40194809005	CUF-FH-CC-F-DUP01-20190430	Tissue	04/30/19 00:00	09/10/19 10:45
40194809006	CUF-FH-CC-CURA-O-20190520	Tissue	05/20/19 16:25	09/10/19 10:45
40194809007	CUF-FH-CC-CURD-O-20190430	Tissue	04/30/19 15:00	09/10/19 10:45
40194809008	CUF-FH-CC-CURU-O-20190507	Tissue	05/07/19 11:35	09/10/19 10:45
40194809009	CUF-FH-CC-WCD-O-20190501	Tissue	05/01/19 10:50	09/10/19 10:45
40194809010	CUF-FH-CC-WCU-O-20190508	Tissue	05/08/19 10:50	09/10/19 10:45
40194809011	CUF-FH-CC-O-DUP01-20190430	Tissue	04/30/19 00:00	09/10/19 10:45
40194809012	CUF-FH-CC-CURA-L-20190520	Tissue	05/20/19 16:25	09/10/19 10:45
40194809013	CUF-FH-CC-CURD-L-20190430	Tissue	04/30/19 15:00	09/10/19 10:45
40194809014	CUF-FH-CC-CURU-L-20190507	Tissue	05/07/19 11:35	09/10/19 10:45
40194809015	CUF-FH-CC-WCD-L-20190501	Tissue	05/01/19 10:50	09/10/19 10:45
40194809016	CUF-FH-CC-WCU-L-20190508	Tissue	05/08/19 10:50	09/10/19 10:45
40194809017	CUF-FH-CC-L-DUP01-20190430	Tissue	04/30/19 00:00	09/10/19 10:45
40194809018	CUF-FH-RS-CURA-F-20190429	Tissue	04/29/19 16:50	09/10/19 10:45
40194809019	CUF-FH-RS-CURD-F-20190429	Tissue	04/29/19 18:15	09/10/19 10:45
40194809020	CUF-FH-RS-CURU-F-20190429	Tissue	04/29/19 15:30	09/10/19 10:45
40194809021	RINSE BLANK 40194809-021-B	Tissue	09/25/19 00:00	09/25/19 00:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40194809001	CUF-FH-CC-CURD-F-20190430	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809002	CUF-FH-CC-CURU-F-20190507	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809003	CUF-FH-CC-WCD-F-20190501	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809004	CUF-FH-CC-WCU-F-20190508	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809005	CUF-FH-CC-F-DUP01-20190430	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809006	CUF-FH-CC-CURA-O-20190520	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809007	CUF-FH-CC-CURD-O-20190430	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809008	CUF-FH-CC-CURU-O-20190507	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809009	CUF-FH-CC-WCD-O-20190501	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809010	CUF-FH-CC-WCU-O-20190508	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809011	CUF-FH-CC-O-DUP01-20190430	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809012	CUF-FH-CC-CURA-L-20190520	EPA 6020	DS1	20
		EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
40194809013	CUF-FH-CC-CURD-L-20190430	EPA 6020	DS1	20

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SAMPLE ANALYTE COUNT

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40194809014	CUF-FH-CC-CURU-L-20190507	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809015	CUF-FH-CC-WCD-L-20190501	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809016	CUF-FH-CC-WCU-L-20190508	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809017	CUF-FH-CC-L-DUP01-20190430	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809018	CUF-FH-RS-CURA-F-20190429	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809019	CUF-FH-RS-CURD-F-20190429	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809020	CUF-FH-RS-CURU-F-20190429	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20
40194809021	RINSE BLANK 40194809-021-B	EPA 7473	AJT	1
		ASTM D2974-87	CWN	1
		EPA 6020	DS1	20

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Method: EPA 6020

Description: 6020 MET ICPMS

Client: TENNESSEE VALLEY AUTHORITY

Date: October 24, 2019

General Information:

21 samples were analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3050B with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 336121

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40194816001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1951524)
 - Strontium
- MSD (Lab ID: 1951525)
 - Strontium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Method: EPA 7473

Description: 7473 Mercury, Tissue

Client: TENNESSEE VALLEY AUTHORITY

Date: October 24, 2019

General Information:

21 samples were analyzed for EPA 7473. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 336171

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 40194809001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1951918)
 - Mercury
- MSD (Lab ID: 1951919)
 - Mercury

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Method: ASTM D2974-87

Description: Percent Moisture Reportable

Client: TENNESSEE VALLEY AUTHORITY

Date: October 24, 2019

General Information:

20 samples were analyzed for ASTM D2974-87. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURD-F-20190430 Lab ID: 40194809001 Collected: 04/30/19 15:00 Received: 09/10/19 10:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.099	0.021	1	09/27/19 06:52	10/03/19 16:10	7440-36-0	
Arsenic	0.044J	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 16:10	7440-38-2	
Barium	<0.030	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 16:10	7440-39-3	
Beryllium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 16:10	7440-41-7	
Boron	<0.69	mg/kg	2.3	0.69	1	09/27/19 06:52	10/03/19 16:10	7440-42-8	
Cadmium	0.027J	mg/kg	0.099	0.011	1	09/27/19 06:52	10/03/19 16:10	7440-43-9	
Calcium	66.6J	mg/kg	84.1	25.2	1	09/27/19 06:52	10/03/19 16:10	7440-70-2	
Chromium	<0.088	mg/kg	0.29	0.088	1	09/27/19 06:52	10/03/19 16:10	7440-47-3	
Cobalt	<0.019	mg/kg	0.099	0.019	1	09/27/19 06:52	10/03/19 16:10	7440-48-4	
Copper	0.54J	mg/kg	0.94	0.28	1	09/27/19 06:52	10/03/19 16:10	7440-50-8	
Lead	<0.030	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 16:10	7439-92-1	
Lithium	<0.021	mg/kg	0.099	0.021	1	09/27/19 06:52	10/03/19 16:10	7439-93-2	
Molybdenum	<0.036	mg/kg	0.12	0.036	1	09/27/19 06:52	10/03/19 16:10	7439-98-7	
Nickel	<0.041	mg/kg	0.14	0.041	1	09/27/19 06:52	10/03/19 16:10	7440-02-0	
Selenium	0.18	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 16:10	7782-49-2	
Silver	<0.011	mg/kg	0.050	0.011	1	09/27/19 06:52	10/03/19 16:10	7440-22-4	L5
Strontium	<0.16	mg/kg	0.54	0.16	1	09/27/19 06:52	10/03/19 16:10	7440-24-6	
Thallium	<0.013	mg/kg	0.099	0.013	1	09/27/19 06:52	10/03/19 16:10	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 16:10	7440-62-2	
Zinc	5.7	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 16:10	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.046	mg/kg	0.025	0.0074	1		10/03/19 13:50	7439-97-6	M0
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	80.9	%	0.10	0.10	1		09/25/19 13:29		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURU-F-20190507 **Lab ID:** 40194809002 **Collected:** 05/07/19 11:35 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 16:38	7440-36-0	
Arsenic	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 16:38	7440-38-2	
Barium	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 16:38	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 16:38	7440-41-7	
Boron	<0.68	mg/kg	2.3	0.68	1	09/27/19 06:52	10/03/19 16:38	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	09/27/19 06:52	10/03/19 16:38	7440-43-9	
Calcium	99.7	mg/kg	82.9	24.9	1	09/27/19 06:52	10/03/19 16:38	7440-70-2	
Chromium	<0.087	mg/kg	0.28	0.087	1	09/27/19 06:52	10/03/19 16:38	7440-47-3	
Cobalt	<0.019	mg/kg	0.098	0.019	1	09/27/19 06:52	10/03/19 16:38	7440-48-4	
Copper	0.39J	mg/kg	0.93	0.28	1	09/27/19 06:52	10/03/19 16:38	7440-50-8	
Lead	<0.029	mg/kg	0.098	0.029	1	09/27/19 06:52	10/03/19 16:38	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 16:38	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 16:38	7439-98-7	
Nickel	0.087J	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 16:38	7440-02-0	
Selenium	0.17	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 16:38	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	09/27/19 06:52	10/03/19 16:38	7440-22-4	L5
Strontium	<0.16	mg/kg	0.53	0.16	1	09/27/19 06:52	10/03/19 16:38	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	09/27/19 06:52	10/03/19 16:38	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 16:38	7440-62-2	
Zinc	5.7	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 16:38	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.11	mg/kg	0.025	0.0075	1		10/03/19 14:22	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	79.6	%	0.10	0.10	1		09/25/19 13:29		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCD-F-20190501 **Lab ID:** 40194809003 **Collected:** 05/01/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:07	7440-36-0	
Arsenic	0.032J	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:07	7440-38-2	
Barium	<0.029	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:07	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:07	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 17:07	7440-42-8	
Cadmium	<0.010	mg/kg	0.095	0.010	1	09/27/19 06:52	10/03/19 17:07	7440-43-9	
Calcium	91.4	mg/kg	80.2	24.1	1	09/27/19 06:52	10/03/19 17:07	7440-70-2	
Chromium	<0.084	mg/kg	0.27	0.084	1	09/27/19 06:52	10/03/19 17:07	7440-47-3	
Cobalt	<0.018	mg/kg	0.095	0.018	1	09/27/19 06:52	10/03/19 17:07	7440-48-4	
Copper	<0.27	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 17:07	7440-50-8	
Lead	<0.028	mg/kg	0.095	0.028	1	09/27/19 06:52	10/03/19 17:07	7439-92-1	
Lithium	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:07	7439-93-2	
Molybdenum	<0.034	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 17:07	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 17:07	7440-02-0	
Selenium	0.26	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 17:07	7782-49-2	
Silver	<0.011	mg/kg	0.047	0.011	1	09/27/19 06:52	10/03/19 17:07	7440-22-4	L5
Strontium	<0.15	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 17:07	7440-24-6	
Thallium	<0.012	mg/kg	0.095	0.012	1	09/27/19 06:52	10/03/19 17:07	7440-28-0	
Vanadium	<0.032	mg/kg	0.10	0.032	1	09/27/19 06:52	10/03/19 17:07	7440-62-2	
Zinc	5.4	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 17:07	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.11	mg/kg	0.024	0.0071	1		10/03/19 14:34	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	80.4	%	0.10	0.10	1		09/25/19 13:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCU-F-20190508 **Lab ID:** 40194809004 **Collected:** 05/08/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.10	0.021	1	09/27/19 06:52	10/03/19 17:14	7440-36-0	
Arsenic	<0.030	mg/kg	0.10	0.030	1	09/27/19 06:52	10/03/19 17:14	7440-38-2	
Barium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:14	7440-39-3	
Beryllium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:14	7440-41-7	
Boron	<0.70	mg/kg	2.3	0.70	1	09/27/19 06:52	10/03/19 17:14	7440-42-8	
Cadmium	<0.011	mg/kg	0.10	0.011	1	09/27/19 06:52	10/03/19 17:14	7440-43-9	
Calcium	74.4J	mg/kg	84.4	25.3	1	09/27/19 06:52	10/03/19 17:14	7440-70-2	
Chromium	<0.088	mg/kg	0.29	0.088	1	09/27/19 06:52	10/03/19 17:14	7440-47-3	
Cobalt	<0.019	mg/kg	0.10	0.019	1	09/27/19 06:52	10/03/19 17:14	7440-48-4	
Copper	<0.28	mg/kg	0.95	0.28	1	09/27/19 06:52	10/03/19 17:14	7440-50-8	
Lead	<0.030	mg/kg	0.10	0.030	1	09/27/19 06:52	10/03/19 17:14	7439-92-1	
Lithium	<0.021	mg/kg	0.10	0.021	1	09/27/19 06:52	10/03/19 17:14	7439-93-2	
Molybdenum	<0.036	mg/kg	0.12	0.036	1	09/27/19 06:52	10/03/19 17:14	7439-98-7	
Nickel	<0.041	mg/kg	0.14	0.041	1	09/27/19 06:52	10/03/19 17:14	7440-02-0	
Selenium	0.21	mg/kg	0.17	0.051	1	09/27/19 06:52	10/03/19 17:14	7782-49-2	
Silver	<0.011	mg/kg	0.050	0.011	1	09/27/19 06:52	10/03/19 17:14	7440-22-4	L5
Strontium	<0.16	mg/kg	0.54	0.16	1	09/27/19 06:52	10/03/19 17:14	7440-24-6	
Thallium	<0.013	mg/kg	0.10	0.013	1	09/27/19 06:52	10/03/19 17:14	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:14	7440-62-2	
Zinc	5.8	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 17:14	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.11	mg/kg	0.024	0.0071	1		10/03/19 14:45	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	80.0	%	0.10	0.10	1		09/25/19 13:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-F-DUP01-20190430 **Lab ID:** 40194809005 **Collected:** 04/30/19 00:00 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:21	7440-36-0	
Arsenic	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:21	7440-38-2	
Barium	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:21	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 17:21	7440-41-7	
Boron	<0.68	mg/kg	2.3	0.68	1	09/27/19 06:52	10/03/19 17:21	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	09/27/19 06:52	10/03/19 17:21	7440-43-9	
Calcium	145	mg/kg	82.9	24.9	1	09/27/19 06:52	10/03/19 17:21	7440-70-2	
Chromium	<0.087	mg/kg	0.28	0.087	1	09/27/19 06:52	10/03/19 17:21	7440-47-3	
Cobalt	<0.019	mg/kg	0.098	0.019	1	09/27/19 06:52	10/03/19 17:21	7440-48-4	
Copper	<0.28	mg/kg	0.93	0.28	1	09/27/19 06:52	10/03/19 17:21	7440-50-8	
Lead	<0.029	mg/kg	0.098	0.029	1	09/27/19 06:52	10/03/19 17:21	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:21	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 17:21	7439-98-7	
Nickel	0.048J	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 17:21	7440-02-0	
Selenium	0.17J	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 17:21	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	09/27/19 06:52	10/03/19 17:21	7440-22-4	L5
Strontium	<0.16	mg/kg	0.53	0.16	1	09/27/19 06:52	10/03/19 17:21	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	09/27/19 06:52	10/03/19 17:21	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:21	7440-62-2	
Zinc	6.2	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 17:21	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.12	mg/kg	0.025	0.0075	1		10/03/19 14:57	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	80.5	%	0.10	0.10	1		09/25/19 13:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURA-O-20190520 **Lab ID:** 40194809006 **Collected:** 05/20/19 16:25 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.093	0.020	1	09/27/19 06:52	10/03/19 17:29	7440-36-0	
Arsenic	<0.028	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 17:29	7440-38-2	
Barium	0.16	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 17:29	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:29	7440-41-7	
Boron	<0.65	mg/kg	2.2	0.65	1	09/27/19 06:52	10/03/19 17:29	7440-42-8	
Cadmium	<0.010	mg/kg	0.093	0.010	1	09/27/19 06:52	10/03/19 17:29	7440-43-9	
Calcium	879	mg/kg	78.6	23.6	1	09/27/19 06:52	10/03/19 17:29	7440-70-2	
Chromium	<0.082	mg/kg	0.27	0.082	1	09/27/19 06:52	10/03/19 17:29	7440-47-3	
Cobalt	0.023J	mg/kg	0.093	0.018	1	09/27/19 06:52	10/03/19 17:29	7440-48-4	
Copper	1.2	mg/kg	0.88	0.26	1	09/27/19 06:52	10/03/19 17:29	7440-50-8	
Lead	<0.028	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 17:29	7439-92-1	
Lithium	<0.020	mg/kg	0.093	0.020	1	09/27/19 06:52	10/03/19 17:29	7439-93-2	
Molybdenum	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:29	7439-98-7	
Nickel	<0.038	mg/kg	0.13	0.038	1	09/27/19 06:52	10/03/19 17:29	7440-02-0	
Selenium	1.1	mg/kg	0.16	0.047	1	09/27/19 06:52	10/03/19 17:29	7782-49-2	
Silver	<0.010	mg/kg	0.046	0.010	1	09/27/19 06:52	10/03/19 17:29	7440-22-4	L5
Strontium	0.99	mg/kg	0.50	0.15	1	09/27/19 06:52	10/03/19 17:29	7440-24-6	
Thallium	<0.012	mg/kg	0.093	0.012	1	09/27/19 06:52	10/03/19 17:29	7440-28-0	
Vanadium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:29	7440-62-2	
Zinc	39.4	mg/kg	4.3	1.3	1	09/27/19 06:52	10/03/19 17:29	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	<0.0075	mg/kg	0.025	0.0075	1		10/03/19 15:08	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	59.0	%	0.10	0.10	1		09/25/19 13:30		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURD-O-20190430 **Lab ID:** 40194809007 **Collected:** 04/30/19 15:00 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:36	7440-36-0	
Arsenic	<0.029	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:36	7440-38-2	
Barium	0.20	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:36	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:36	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 17:36	7440-42-8	
Cadmium	<0.010	mg/kg	0.095	0.010	1	09/27/19 06:52	10/03/19 17:36	7440-43-9	
Calcium	936	mg/kg	80.2	24.1	1	09/27/19 06:52	10/03/19 17:36	7440-70-2	
Chromium	<0.084	mg/kg	0.27	0.084	1	09/27/19 06:52	10/03/19 17:36	7440-47-3	
Cobalt	0.031J	mg/kg	0.095	0.018	1	09/27/19 06:52	10/03/19 17:36	7440-48-4	
Copper	1.2	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 17:36	7440-50-8	
Lead	<0.028	mg/kg	0.095	0.028	1	09/27/19 06:52	10/03/19 17:36	7439-92-1	
Lithium	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:36	7439-93-2	
Molybdenum	<0.034	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 17:36	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 17:36	7440-02-0	
Selenium	1.1	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 17:36	7782-49-2	
Silver	<0.011	mg/kg	0.047	0.011	1	09/27/19 06:52	10/03/19 17:36	7440-22-4	L5
Strontium	1.1	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 17:36	7440-24-6	
Thallium	<0.012	mg/kg	0.095	0.012	1	09/27/19 06:52	10/03/19 17:36	7440-28-0	
Vanadium	<0.032	mg/kg	0.10	0.032	1	09/27/19 06:52	10/03/19 17:36	7440-62-2	
Zinc	38.3	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 17:36	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	<0.0073	mg/kg	0.024	0.0073	1		10/03/19 15:57	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	58.3	%	0.10	0.10	1		09/25/19 13:30		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURU-O-20190507 **Lab ID:** 40194809008 **Collected:** 05/07/19 11:35 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:43	7440-36-0	
Arsenic	<0.029	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:43	7440-38-2	
Barium	0.18	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 17:43	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 17:43	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 17:43	7440-42-8	
Cadmium	<0.010	mg/kg	0.095	0.010	1	09/27/19 06:52	10/03/19 17:43	7440-43-9	
Calcium	832	mg/kg	80.2	24.1	1	09/27/19 06:52	10/03/19 17:43	7440-70-2	
Chromium	<0.084	mg/kg	0.27	0.084	1	09/27/19 06:52	10/03/19 17:43	7440-47-3	
Cobalt	0.022J	mg/kg	0.095	0.018	1	09/27/19 06:52	10/03/19 17:43	7440-48-4	
Copper	1.2	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 17:43	7440-50-8	
Lead	<0.028	mg/kg	0.095	0.028	1	09/27/19 06:52	10/03/19 17:43	7439-92-1	
Lithium	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 17:43	7439-93-2	
Molybdenum	<0.034	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 17:43	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 17:43	7440-02-0	
Selenium	1.1	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 17:43	7782-49-2	
Silver	<0.011	mg/kg	0.047	0.011	1	09/27/19 06:52	10/03/19 17:43	7440-22-4	L5
Strontium	1.0	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 17:43	7440-24-6	
Thallium	<0.012	mg/kg	0.095	0.012	1	09/27/19 06:52	10/03/19 17:43	7440-28-0	
Vanadium	<0.032	mg/kg	0.10	0.032	1	09/27/19 06:52	10/03/19 17:43	7440-62-2	
Zinc	36.7	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 17:43	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	<0.0072	mg/kg	0.024	0.0072	1		10/03/19 16:08	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	57.1	%	0.10	0.10	1		09/25/19 13:30		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCD-O-20190501 **Lab ID:** 40194809009 **Collected:** 05/01/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:50	7440-36-0	
Arsenic	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:50	7440-38-2	
Barium	0.25	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:50	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 17:50	7440-41-7	
Boron	<0.68	mg/kg	2.3	0.68	1	09/27/19 06:52	10/03/19 17:50	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	09/27/19 06:52	10/03/19 17:50	7440-43-9	
Calcium	883	mg/kg	82.9	24.9	1	09/27/19 06:52	10/03/19 17:50	7440-70-2	
Chromium	<0.087	mg/kg	0.28	0.087	1	09/27/19 06:52	10/03/19 17:50	7440-47-3	
Cobalt	0.022J	mg/kg	0.098	0.019	1	09/27/19 06:52	10/03/19 17:50	7440-48-4	
Copper	6.4	mg/kg	0.93	0.28	1	09/27/19 06:52	10/03/19 17:50	7440-50-8	
Lead	<0.029	mg/kg	0.098	0.029	1	09/27/19 06:52	10/03/19 17:50	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:50	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 17:50	7439-98-7	
Nickel	<0.040	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 17:50	7440-02-0	
Selenium	1.4	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 17:50	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	09/27/19 06:52	10/03/19 17:50	7440-22-4	L5
Strontium	1.1	mg/kg	0.53	0.16	1	09/27/19 06:52	10/03/19 17:50	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	09/27/19 06:52	10/03/19 17:50	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:50	7440-62-2	
Zinc	46.1	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 17:50	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	<0.0074	mg/kg	0.025	0.0074	1		10/03/19 16:20	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	59.0	%	0.10	0.10	1		09/25/19 13:31		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCU-O-20190508 **Lab ID:** 40194809010 **Collected:** 05/08/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:57	7440-36-0	
Arsenic	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:57	7440-38-2	
Barium	0.18	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:57	7440-39-3	
Beryllium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:57	7440-41-7	
Boron	<0.69	mg/kg	2.3	0.69	1	09/27/19 06:52	10/03/19 17:57	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	09/27/19 06:52	10/03/19 17:57	7440-43-9	
Calcium	916	mg/kg	83.3	25.0	1	09/27/19 06:52	10/03/19 17:57	7440-70-2	
Chromium	<0.087	mg/kg	0.29	0.087	1	09/27/19 06:52	10/03/19 17:57	7440-47-3	
Cobalt	0.061J	mg/kg	0.098	0.019	1	09/27/19 06:52	10/03/19 17:57	7440-48-4	
Copper	1.2	mg/kg	0.94	0.28	1	09/27/19 06:52	10/03/19 17:57	7440-50-8	
Lead	<0.030	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 17:57	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 17:57	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 17:57	7439-98-7	
Nickel	<0.040	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 17:57	7440-02-0	
Selenium	1.6	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 17:57	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	09/27/19 06:52	10/03/19 17:57	7440-22-4	L5
Strontium	1.2	mg/kg	0.53	0.16	1	09/27/19 06:52	10/03/19 17:57	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	09/27/19 06:52	10/03/19 17:57	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 17:57	7440-62-2	
Zinc	39.5	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 17:57	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	<0.0072	mg/kg	0.024	0.0072	1		10/03/19 16:31	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	59.8	%	0.10	0.10	1		09/25/19 13:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-O-DUP01-20190430 Lab ID: 40194809011 Collected: 04/30/19 00:00 Received: 09/10/19 10:45 Matrix: Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.099	0.021	1	09/27/19 06:52	10/03/19 18:04	7440-36-0	
Arsenic	<0.030	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 18:04	7440-38-2	
Barium	0.17	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 18:04	7440-39-3	
Beryllium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 18:04	7440-41-7	
Boron	<0.69	mg/kg	2.3	0.69	1	09/27/19 06:52	10/03/19 18:04	7440-42-8	
Cadmium	<0.011	mg/kg	0.099	0.011	1	09/27/19 06:52	10/03/19 18:04	7440-43-9	
Calcium	899	mg/kg	84.0	25.2	1	09/27/19 06:52	10/03/19 18:04	7440-70-2	
Chromium	<0.088	mg/kg	0.29	0.088	1	09/27/19 06:52	10/03/19 18:04	7440-47-3	
Cobalt	<0.019	mg/kg	0.099	0.019	1	09/27/19 06:52	10/03/19 18:04	7440-48-4	
Copper	1.2	mg/kg	0.94	0.28	1	09/27/19 06:52	10/03/19 18:04	7440-50-8	
Lead	<0.030	mg/kg	0.099	0.030	1	09/27/19 06:52	10/03/19 18:04	7439-92-1	
Lithium	<0.021	mg/kg	0.099	0.021	1	09/27/19 06:52	10/03/19 18:04	7439-93-2	
Molybdenum	<0.036	mg/kg	0.12	0.036	1	09/27/19 06:52	10/03/19 18:04	7439-98-7	
Nickel	<0.041	mg/kg	0.14	0.041	1	09/27/19 06:52	10/03/19 18:04	7440-02-0	
Selenium	1.0	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 18:04	7782-49-2	
Silver	<0.011	mg/kg	0.050	0.011	1	09/27/19 06:52	10/03/19 18:04	7440-22-4	L5
Strontium	1.1	mg/kg	0.54	0.16	1	09/27/19 06:52	10/03/19 18:04	7440-24-6	
Thallium	<0.013	mg/kg	0.099	0.013	1	09/27/19 06:52	10/03/19 18:04	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 18:04	7440-62-2	
Zinc	38.7	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 18:04	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	<0.0074	mg/kg	0.025	0.0074	1		10/03/19 16:43	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	59.1	%	0.10	0.10	1		09/25/19 13:31		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURA-L-20190520 **Lab ID:** 40194809012 **Collected:** 05/20/19 16:25 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.097	0.020	1	09/27/19 06:52	10/03/19 18:26	7440-36-0	
Arsenic	<0.029	mg/kg	0.097	0.029	1	09/27/19 06:52	10/03/19 18:26	7440-38-2	
Barium	<0.030	mg/kg	0.097	0.030	1	09/27/19 06:52	10/03/19 18:26	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 18:26	7440-41-7	
Boron	<0.67	mg/kg	2.3	0.67	1	09/27/19 06:52	10/03/19 18:26	7440-42-8	
Cadmium	0.24	mg/kg	0.097	0.011	1	09/27/19 06:52	10/03/19 18:26	7440-43-9	
Calcium	62.6J	mg/kg	81.9	24.6	1	09/27/19 06:52	10/03/19 18:26	7440-70-2	
Chromium	<0.086	mg/kg	0.28	0.086	1	09/27/19 06:52	10/03/19 18:26	7440-47-3	
Cobalt	0.035J	mg/kg	0.097	0.018	1	09/27/19 06:52	10/03/19 18:26	7440-48-4	
Copper	1.9	mg/kg	0.92	0.28	1	09/27/19 06:52	10/03/19 18:26	7440-50-8	
Lead	0.042J	mg/kg	0.097	0.029	1	09/27/19 06:52	10/03/19 18:26	7439-92-1	
Lithium	<0.021	mg/kg	0.097	0.021	1	09/27/19 06:52	10/03/19 18:26	7439-93-2	
Molybdenum	0.17	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 18:26	7439-98-7	
Nickel	<0.040	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 18:26	7440-02-0	
Selenium	0.97	mg/kg	0.16	0.049	1	09/27/19 06:52	10/03/19 18:26	7782-49-2	
Silver	<0.011	mg/kg	0.048	0.011	1	09/27/19 06:52	10/03/19 18:26	7440-22-4	L5
Strontium	<0.16	mg/kg	0.52	0.16	1	09/27/19 06:52	10/03/19 18:26	7440-24-6	
Thallium	<0.013	mg/kg	0.097	0.013	1	09/27/19 06:52	10/03/19 18:26	7440-28-0	
Vanadium	0.56	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 18:26	7440-62-2	
Zinc	22.4	mg/kg	4.5	1.4	1	09/27/19 06:52	10/03/19 18:26	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.18	mg/kg	0.025	0.0074	1		10/03/19 16:54	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	80.7	%	0.10	0.10	1		09/25/19 13:31		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURD-L-20190430 **Lab ID:** 40194809013 **Collected:** 04/30/19 15:00 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.019	mg/kg	0.093	0.019	1	09/27/19 06:52	10/03/19 18:33	7440-36-0	
Arsenic	<0.028	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 18:33	7440-38-2	
Barium	<0.028	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 18:33	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:33	7440-41-7	
Boron	<0.65	mg/kg	2.2	0.65	1	09/27/19 06:52	10/03/19 18:33	7440-42-8	
Cadmium	0.29	mg/kg	0.093	0.010	1	09/27/19 06:52	10/03/19 18:33	7440-43-9	
Calcium	52.6J	mg/kg	78.4	23.5	1	09/27/19 06:52	10/03/19 18:33	7440-70-2	
Chromium	<0.082	mg/kg	0.27	0.082	1	09/27/19 06:52	10/03/19 18:33	7440-47-3	
Cobalt	0.069J	mg/kg	0.093	0.018	1	09/27/19 06:52	10/03/19 18:33	7440-48-4	
Copper	1.8	mg/kg	0.88	0.26	1	09/27/19 06:52	10/03/19 18:33	7440-50-8	
Lead	0.056J	mg/kg	0.093	0.028	1	09/27/19 06:52	10/03/19 18:33	7439-92-1	
Lithium	<0.020	mg/kg	0.093	0.020	1	09/27/19 06:52	10/03/19 18:33	7439-93-2	
Molybdenum	0.22	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 18:33	7439-98-7	
Nickel	<0.038	mg/kg	0.13	0.038	1	09/27/19 06:52	10/03/19 18:33	7440-02-0	
Selenium	1.2	mg/kg	0.16	0.047	1	09/27/19 06:52	10/03/19 18:33	7782-49-2	
Silver	<0.010	mg/kg	0.046	0.010	1	09/27/19 06:52	10/03/19 18:33	7440-22-4	L5
Strontium	<0.15	mg/kg	0.50	0.15	1	09/27/19 06:52	10/03/19 18:33	7440-24-6	
Thallium	<0.012	mg/kg	0.093	0.012	1	09/27/19 06:52	10/03/19 18:33	7440-28-0	
Vanadium	0.66	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:33	7440-62-2	
Zinc	20.7	mg/kg	4.3	1.3	1	09/27/19 06:52	10/03/19 18:33	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.30	mg/kg	0.024	0.0071	1		10/03/19 17:06	7439-97-6	J
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	81.0	%	0.10	0.10	1		09/25/19 13:31		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-CURU-L-20190507 **Lab ID:** 40194809014 **Collected:** 05/07/19 11:35 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.019	mg/kg	0.092	0.019	1	09/27/19 06:52	10/03/19 18:40	7440-36-0	
Arsenic	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 18:40	7440-38-2	
Barium	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 18:40	7440-39-3	
Beryllium	<0.030	mg/kg	0.10	0.030	1	09/27/19 06:52	10/03/19 18:40	7440-41-7	
Boron	<0.64	mg/kg	2.1	0.64	1	09/27/19 06:52	10/03/19 18:40	7440-42-8	
Cadmium	0.35	mg/kg	0.092	0.010	1	09/27/19 06:52	10/03/19 18:40	7440-43-9	
Calcium	47.0J	mg/kg	77.6	23.3	1	09/27/19 06:52	10/03/19 18:40	7440-70-2	
Chromium	<0.081	mg/kg	0.27	0.081	1	09/27/19 06:52	10/03/19 18:40	7440-47-3	
Cobalt	0.053J	mg/kg	0.092	0.017	1	09/27/19 06:52	10/03/19 18:40	7440-48-4	
Copper	2.6	mg/kg	0.87	0.26	1	09/27/19 06:52	10/03/19 18:40	7440-50-8	
Lead	0.053J	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 18:40	7439-92-1	
Lithium	<0.019	mg/kg	0.092	0.019	1	09/27/19 06:52	10/03/19 18:40	7439-93-2	
Molybdenum	0.15	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 18:40	7439-98-7	
Nickel	<0.038	mg/kg	0.13	0.038	1	09/27/19 06:52	10/03/19 18:40	7440-02-0	
Selenium	1.1	mg/kg	0.16	0.046	1	09/27/19 06:52	10/03/19 18:40	7782-49-2	
Silver	<0.010	mg/kg	0.046	0.010	1	09/27/19 06:52	10/03/19 18:40	7440-22-4	L5
Strontium	<0.15	mg/kg	0.50	0.15	1	09/27/19 06:52	10/03/19 18:40	7440-24-6	
Thallium	<0.012	mg/kg	0.092	0.012	1	09/27/19 06:52	10/03/19 18:40	7440-28-0	
Vanadium	0.54	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:40	7440-62-2	
Zinc	22.6	mg/kg	4.3	1.3	1	09/27/19 06:52	10/03/19 18:40	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.19	mg/kg	0.025	0.0074	1		10/03/19 17:17	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	80.8	%	0.10	0.10	1		09/25/19 13:32		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCD-L-20190501 **Lab ID:** 40194809015 **Collected:** 05/01/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 18:47	7440-36-0	
Arsenic	<0.029	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 18:47	7440-38-2	
Barium	<0.029	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 18:47	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:47	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 18:47	7440-42-8	
Cadmium	0.45	mg/kg	0.095	0.010	1	09/27/19 06:52	10/03/19 18:47	7440-43-9	
Calcium	61.6J	mg/kg	80.5	24.1	1	09/27/19 06:52	10/03/19 18:47	7440-70-2	
Chromium	<0.084	mg/kg	0.28	0.084	1	09/27/19 06:52	10/03/19 18:47	7440-47-3	
Cobalt	0.058J	mg/kg	0.095	0.018	1	09/27/19 06:52	10/03/19 18:47	7440-48-4	
Copper	2.2	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 18:47	7440-50-8	
Lead	0.067J	mg/kg	0.095	0.029	1	09/27/19 06:52	10/03/19 18:47	7439-92-1	
Lithium	<0.020	mg/kg	0.095	0.020	1	09/27/19 06:52	10/03/19 18:47	7439-93-2	
Molybdenum	0.17	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 18:47	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 18:47	7440-02-0	
Selenium	1.6	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 18:47	7782-49-2	
Silver	<0.011	mg/kg	0.048	0.011	1	09/27/19 06:52	10/03/19 18:47	7440-22-4	L5
Strontium	<0.15	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 18:47	7440-24-6	
Thallium	<0.012	mg/kg	0.095	0.012	1	09/27/19 06:52	10/03/19 18:47	7440-28-0	
Vanadium	0.54	mg/kg	0.10	0.032	1	09/27/19 06:52	10/03/19 18:47	7440-62-2	
Zinc	24.5	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 18:47	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.19	mg/kg	0.024	0.0072	1		10/03/19 17:28	7439-97-6	J
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	80.5	%	0.10	0.10	1		09/25/19 13:32		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-WCU-L-20190508 **Lab ID:** 40194809016 **Collected:** 05/08/19 10:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.094	0.020	1	09/27/19 06:52	10/03/19 18:54	7440-36-0	
Arsenic	<0.029	mg/kg	0.094	0.029	1	09/27/19 06:52	10/03/19 18:54	7440-38-2	
Barium	<0.029	mg/kg	0.094	0.029	1	09/27/19 06:52	10/03/19 18:54	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:54	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 18:54	7440-42-8	
Cadmium	0.45	mg/kg	0.094	0.010	1	09/27/19 06:52	10/03/19 18:54	7440-43-9	
Calcium	47.2J	mg/kg	79.9	24.0	1	09/27/19 06:52	10/03/19 18:54	7440-70-2	
Chromium	<0.084	mg/kg	0.27	0.084	1	09/27/19 06:52	10/03/19 18:54	7440-47-3	
Cobalt	0.089J	mg/kg	0.094	0.018	1	09/27/19 06:52	10/03/19 18:54	7440-48-4	
Copper	2.0	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 18:54	7440-50-8	
Lead	0.062J	mg/kg	0.094	0.028	1	09/27/19 06:52	10/03/19 18:54	7439-92-1	
Lithium	<0.020	mg/kg	0.094	0.020	1	09/27/19 06:52	10/03/19 18:54	7439-93-2	
Molybdenum	0.17	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 18:54	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 18:54	7440-02-0	
Selenium	1.8	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 18:54	7782-49-2	
Silver	<0.011	mg/kg	0.047	0.011	1	09/27/19 06:52	10/03/19 18:54	7440-22-4	L5
Strontium	<0.15	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 18:54	7440-24-6	
Thallium	0.013J	mg/kg	0.094	0.012	1	09/27/19 06:52	10/03/19 18:54	7440-28-0	
Vanadium	0.72	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 18:54	7440-62-2	
Zinc	24.9	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 18:54	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.12	mg/kg	0.025	0.0075	1		10/03/19 17:40	7439-97-6	J
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	80.4	%	0.10	0.10	1		09/25/19 13:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-CC-L-DUP01-20190430 **Lab ID:** 40194809017 **Collected:** 04/30/19 00:00 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.020	mg/kg	0.094	0.020	1	09/27/19 06:52	10/03/19 19:01	7440-36-0	
Arsenic	<0.028	mg/kg	0.094	0.028	1	09/27/19 06:52	10/03/19 19:01	7440-38-2	
Barium	<0.029	mg/kg	0.094	0.029	1	09/27/19 06:52	10/03/19 19:01	7440-39-3	
Beryllium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 19:01	7440-41-7	
Boron	<0.66	mg/kg	2.2	0.66	1	09/27/19 06:52	10/03/19 19:01	7440-42-8	
Cadmium	0.19	mg/kg	0.094	0.010	1	09/27/19 06:52	10/03/19 19:01	7440-43-9	
Calcium	49.1J	mg/kg	79.8	23.9	1	09/27/19 06:52	10/03/19 19:01	7440-70-2	
Chromium	<0.083	mg/kg	0.27	0.083	1	09/27/19 06:52	10/03/19 19:01	7440-47-3	
Cobalt	0.041J	mg/kg	0.094	0.018	1	09/27/19 06:52	10/03/19 19:01	7440-48-4	
Copper	1.6	mg/kg	0.90	0.27	1	09/27/19 06:52	10/03/19 19:01	7440-50-8	
Lead	0.038J	mg/kg	0.094	0.028	1	09/27/19 06:52	10/03/19 19:01	7439-92-1	
Lithium	<0.020	mg/kg	0.094	0.020	1	09/27/19 06:52	10/03/19 19:01	7439-93-2	
Molybdenum	0.085J	mg/kg	0.11	0.034	1	09/27/19 06:52	10/03/19 19:01	7439-98-7	
Nickel	<0.039	mg/kg	0.13	0.039	1	09/27/19 06:52	10/03/19 19:01	7440-02-0	
Selenium	0.81	mg/kg	0.16	0.048	1	09/27/19 06:52	10/03/19 19:01	7782-49-2	
Silver	<0.011	mg/kg	0.047	0.011	1	09/27/19 06:52	10/03/19 19:01	7440-22-4	L5
Strontium	<0.15	mg/kg	0.51	0.15	1	09/27/19 06:52	10/03/19 19:01	7440-24-6	
Thallium	<0.012	mg/kg	0.094	0.012	1	09/27/19 06:52	10/03/19 19:01	7440-28-0	
Vanadium	0.44	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 19:01	7440-62-2	
Zinc	20.4	mg/kg	4.4	1.3	1	09/27/19 06:52	10/03/19 19:01	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.18	mg/kg	0.025	0.0075	1		10/03/19 18:29	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	81.3	%	0.10	0.10	1		09/25/19 13:32		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-RS-CURA-F-20190429 **Lab ID:** 40194809018 **Collected:** 04/29/19 16:50 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.019	mg/kg	0.092	0.019	1	09/27/19 06:52	10/03/19 19:09	7440-36-0	
Arsenic	0.073J	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:09	7440-38-2	
Barium	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:09	7440-39-3	
Beryllium	<0.030	mg/kg	0.10	0.030	1	09/27/19 06:52	10/03/19 19:09	7440-41-7	
Boron	<0.64	mg/kg	2.1	0.64	1	09/27/19 06:52	10/03/19 19:09	7440-42-8	
Cadmium	<0.010	mg/kg	0.092	0.010	1	09/27/19 06:52	10/03/19 19:09	7440-43-9	
Calcium	201	mg/kg	77.9	23.4	1	09/27/19 06:52	10/03/19 19:09	7440-70-2	
Chromium	<0.081	mg/kg	0.27	0.081	1	09/27/19 06:52	10/03/19 19:09	7440-47-3	
Cobalt	<0.017	mg/kg	0.092	0.017	1	09/27/19 06:52	10/03/19 19:09	7440-48-4	
Copper	0.29J	mg/kg	0.87	0.26	1	09/27/19 06:52	10/03/19 19:09	7440-50-8	
Lead	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:09	7439-92-1	
Lithium	<0.020	mg/kg	0.092	0.020	1	09/27/19 06:52	10/03/19 19:09	7439-93-2	
Molybdenum	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 19:09	7439-98-7	
Nickel	0.062J	mg/kg	0.13	0.038	1	09/27/19 06:52	10/03/19 19:09	7440-02-0	
Selenium	0.45	mg/kg	0.16	0.047	1	09/27/19 06:52	10/03/19 19:09	7782-49-2	
Silver	<0.010	mg/kg	0.046	0.010	1	09/27/19 06:52	10/03/19 19:09	7440-22-4	L5
Strontium	<0.15	mg/kg	0.50	0.15	1	09/27/19 06:52	10/03/19 19:09	7440-24-6	
Thallium	<0.012	mg/kg	0.092	0.012	1	09/27/19 06:52	10/03/19 19:09	7440-28-0	
Vanadium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 19:09	7440-62-2	
Zinc	6.3	mg/kg	4.3	1.3	1	09/27/19 06:52	10/03/19 19:09	7440-66-6	
7473 Mercury, Tissue Analytical Method: EPA 7473									
Mercury	0.089	mg/kg	0.024	0.0071	1		10/03/19 18:40	7439-97-6	
Percent Moisture Reportable Analytical Method: ASTM D2974-87									
Percent Moisture	81.0	%	0.10	0.10	1		09/25/19 13:32		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-RS-CURD-F-20190429 **Lab ID:** 40194809019 **Collected:** 04/29/19 18:15 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 19:16	7440-36-0	
Arsenic	0.085J	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 19:16	7440-38-2	
Barium	0.057J	mg/kg	0.098	0.030	1	09/27/19 06:52	10/03/19 19:16	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	09/27/19 06:52	10/03/19 19:16	7440-41-7	
Boron	<0.68	mg/kg	2.3	0.68	1	09/27/19 06:52	10/03/19 19:16	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	09/27/19 06:52	10/03/19 19:16	7440-43-9	
Calcium	956	mg/kg	83.0	24.9	1	09/27/19 06:52	10/03/19 19:16	7440-70-2	
Chromium	<0.087	mg/kg	0.28	0.087	1	09/27/19 06:52	10/03/19 19:16	7440-47-3	
Cobalt	<0.019	mg/kg	0.098	0.019	1	09/27/19 06:52	10/03/19 19:16	7440-48-4	
Copper	<0.28	mg/kg	0.93	0.28	1	09/27/19 06:52	10/03/19 19:16	7440-50-8	
Lead	<0.029	mg/kg	0.098	0.029	1	09/27/19 06:52	10/03/19 19:16	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	09/27/19 06:52	10/03/19 19:16	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	09/27/19 06:52	10/03/19 19:16	7439-98-7	
Nickel	<0.040	mg/kg	0.14	0.040	1	09/27/19 06:52	10/03/19 19:16	7440-02-0	
Selenium	0.42	mg/kg	0.17	0.050	1	09/27/19 06:52	10/03/19 19:16	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	09/27/19 06:52	10/03/19 19:16	7440-22-4	L5
Strontium	0.61	mg/kg	0.53	0.16	1	09/27/19 06:52	10/03/19 19:16	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	09/27/19 06:52	10/03/19 19:16	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 19:16	7440-62-2	
Zinc	8.3	mg/kg	4.6	1.4	1	09/27/19 06:52	10/03/19 19:16	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.12	mg/kg	0.024	0.0070	1		10/03/19 18:52	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	82.0	%	0.10	0.10	1		09/25/19 13:33		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: CUF-FH-RS-CURU-F-20190429 **Lab ID:** 40194809020 **Collected:** 04/29/19 15:30 **Received:** 09/10/19 10:45 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.019	mg/kg	0.092	0.019	1	09/27/19 06:52	10/03/19 19:23	7440-36-0	
Arsenic	0.049J	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:23	7440-38-2	
Barium	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:23	7440-39-3	
Beryllium	<0.030	mg/kg	0.10	0.030	1	09/27/19 06:52	10/03/19 19:23	7440-41-7	
Boron	<0.64	mg/kg	2.1	0.64	1	09/27/19 06:52	10/03/19 19:23	7440-42-8	
Cadmium	<0.010	mg/kg	0.092	0.010	1	09/27/19 06:52	10/03/19 19:23	7440-43-9	
Calcium	187	mg/kg	77.9	23.4	1	09/27/19 06:52	10/03/19 19:23	7440-70-2	
Chromium	<0.081	mg/kg	0.27	0.081	1	09/27/19 06:52	10/03/19 19:23	7440-47-3	
Cobalt	<0.017	mg/kg	0.092	0.017	1	09/27/19 06:52	10/03/19 19:23	7440-48-4	
Copper	<0.26	mg/kg	0.87	0.26	1	09/27/19 06:52	10/03/19 19:23	7440-50-8	
Lead	<0.028	mg/kg	0.092	0.028	1	09/27/19 06:52	10/03/19 19:23	7439-92-1	
Lithium	<0.020	mg/kg	0.092	0.020	1	09/27/19 06:52	10/03/19 19:23	7439-93-2	
Molybdenum	<0.033	mg/kg	0.11	0.033	1	09/27/19 06:52	10/03/19 19:23	7439-98-7	
Nickel	<0.038	mg/kg	0.13	0.038	1	09/27/19 06:52	10/03/19 19:23	7440-02-0	
Selenium	0.49	mg/kg	0.16	0.047	1	09/27/19 06:52	10/03/19 19:23	7782-49-2	
Silver	<0.010	mg/kg	0.046	0.010	1	09/27/19 06:52	10/03/19 19:23	7440-22-4	L5
Strontium	<0.15	mg/kg	0.50	0.15	1	09/27/19 06:52	10/03/19 19:23	7440-24-6	
Thallium	<0.012	mg/kg	0.092	0.012	1	09/27/19 06:52	10/03/19 19:23	7440-28-0	
Vanadium	<0.031	mg/kg	0.10	0.031	1	09/27/19 06:52	10/03/19 19:23	7440-62-2	
Zinc	6.2	mg/kg	4.3	1.3	1	09/27/19 06:52	10/03/19 19:23	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	0.11	mg/kg	0.023	0.0070	1		10/03/19 19:03	7439-97-6	
Percent Moisture Reportable									
Analytical Method: ASTM D2974-87									
Percent Moisture	81.1	%	0.10	0.10	1		09/25/19 13:33		

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ANALYTICAL RESULTS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Sample: RINSE BLANK 40194809-021-B **Lab ID:** 40194809021 **Collected:** 09/25/19 00:00 **Received:** 09/25/19 00:00 **Matrix:** Tissue

Results reported on a "wet-weight" basis

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS									
Analytical Method: EPA 6020 Preparation Method: EPA 3050B									
Antimony	<0.021	mg/kg	0.098	0.021	1	10/03/19 07:37	10/18/19 04:54	7440-36-0	
Arsenic	<0.030	mg/kg	0.098	0.030	1	10/03/19 07:37	10/18/19 04:54	7440-38-2	
Barium	<0.030	mg/kg	0.098	0.030	1	10/03/19 07:37	10/18/19 04:54	7440-39-3	
Beryllium	<0.032	mg/kg	0.11	0.032	1	10/03/19 07:37	10/18/19 04:54	7440-41-7	
Boron	<0.68	mg/kg	2.3	0.68	1	10/03/19 07:37	10/18/19 04:54	7440-42-8	
Cadmium	<0.011	mg/kg	0.098	0.011	1	10/03/19 07:37	10/18/19 04:54	7440-43-9	
Calcium	<24.9	mg/kg	82.9	24.9	1	10/03/19 07:37	10/18/19 04:54	7440-70-2	
Chromium	<0.087	mg/kg	0.28	0.087	1	10/03/19 07:37	10/18/19 04:54	7440-47-3	
Cobalt	<0.019	mg/kg	0.098	0.019	1	10/03/19 07:37	10/18/19 04:54	7440-48-4	
Copper	<0.28	mg/kg	0.93	0.28	1	10/03/19 07:37	10/18/19 04:54	7440-50-8	
Lead	<0.029	mg/kg	0.098	0.029	1	10/03/19 07:37	10/18/19 04:54	7439-92-1	
Lithium	<0.021	mg/kg	0.098	0.021	1	10/03/19 07:37	10/18/19 04:54	7439-93-2	
Molybdenum	<0.035	mg/kg	0.12	0.035	1	10/03/19 07:37	10/18/19 04:54	7439-98-7	
Nickel	<0.040	mg/kg	0.14	0.040	1	10/03/19 07:37	10/18/19 04:54	7440-02-0	
Selenium	<0.050	mg/kg	0.17	0.050	1	10/03/19 07:37	10/18/19 04:54	7782-49-2	
Silver	<0.011	mg/kg	0.049	0.011	1	10/03/19 07:37	10/18/19 04:54	7440-22-4	
Strontium	<0.16	mg/kg	0.53	0.16	1	10/03/19 07:37	10/18/19 04:54	7440-24-6	
Thallium	<0.013	mg/kg	0.098	0.013	1	10/03/19 07:37	10/18/19 04:54	7440-28-0	
Vanadium	<0.033	mg/kg	0.11	0.033	1	10/03/19 07:37	10/18/19 04:54	7440-62-2	
Zinc	<1.4	mg/kg	4.6	1.4	1	10/03/19 07:37	10/18/19 04:54	7440-66-6	
7473 Mercury, Tissue									
Analytical Method: EPA 7473									
Mercury	<0.0076	mg/kg	0.025	0.0076	1		10/03/19 19:14	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

QC Batch:	336171	Analysis Method:	EPA 7473
QC Batch Method:	EPA 7473	Analysis Description:	7473 Mercury
Associated Lab Samples:	40194809001, 40194809002, 40194809003, 40194809004, 40194809005, 40194809006, 40194809007, 40194809008, 40194809009, 40194809010, 40194809011, 40194809012, 40194809013, 40194809014, 40194809015, 40194809016, 40194809017, 40194809018, 40194809019, 40194809020, 40194809021		

METHOD BLANK:	1951916	Matrix:	Tissue
Associated Lab Samples:	40194809001, 40194809002, 40194809003, 40194809004, 40194809005, 40194809006, 40194809007, 40194809008, 40194809009, 40194809010, 40194809011, 40194809012, 40194809013, 40194809014, 40194809015, 40194809016, 40194809017, 40194809018, 40194809019, 40194809020, 40194809021		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	mg/kg	<0.0076	0.025	0.0076	10/03/19 12:47	

LABORATORY CONTROL SAMPLE: 1951917						
Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	0.25	0.28	109	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1951918					1951919							
		40194809001	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits		Max RPD	
Parameter	Units	Result								RPD		Qual
Mercury	mg/kg	0.046	0.14	0.15	0.26	0.27	148	154	80-120	3	20	M0

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

QC Batch:	335361	Analysis Method:	EPA 6020
QC Batch Method:	EPA 3050B	Analysis Description:	6020 MET TISSUE
Associated Lab Samples:	40194809001, 40194809002, 40194809003, 40194809004, 40194809005, 40194809006, 40194809007, 40194809008, 40194809009, 40194809010, 40194809011, 40194809012, 40194809013, 40194809014, 40194809015, 40194809016, 40194809017, 40194809018, 40194809019, 40194809020		

METHOD BLANK: 1946901

Matrix: Tissue

Associated Lab Samples: 40194809001, 40194809002, 40194809003, 40194809004, 40194809005, 40194809006, 40194809007, 40194809008, 40194809009, 40194809010, 40194809011, 40194809012, 40194809013, 40194809014, 40194809015, 40194809016, 40194809017, 40194809018, 40194809019, 40194809020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/kg	<0.021	0.10	0.021	10/03/19 15:34	
Arsenic	mg/kg	<0.030	0.10	0.030	10/03/19 15:34	
Barium	mg/kg	<0.031	0.10	0.031	10/03/19 15:34	
Beryllium	mg/kg	<0.033	0.11	0.033	10/03/19 15:34	
Boron	mg/kg	<0.70	2.3	0.70	10/03/19 15:34	
Cadmium	mg/kg	<0.011	0.10	0.011	10/03/19 15:34	
Calcium	mg/kg	<25.4	84.7	25.4	10/03/19 15:34	
Chromium	mg/kg	<0.088	0.29	0.088	10/03/19 15:34	
Cobalt	mg/kg	<0.019	0.10	0.019	10/03/19 15:34	
Copper	mg/kg	<0.28	0.95	0.28	10/03/19 15:34	
Lead	mg/kg	<0.030	0.10	0.030	10/03/19 15:34	
Lithium	mg/kg	<0.021	0.10	0.021	10/03/19 15:34	
Molybdenum	mg/kg	<0.036	0.12	0.036	10/03/19 15:34	
Nickel	mg/kg	<0.041	0.14	0.041	10/03/19 15:34	
Selenium	mg/kg	<0.051	0.17	0.051	10/03/19 15:34	
Silver	mg/kg	<0.011	0.050	0.011	10/03/19 15:34	
Strontium	mg/kg	<0.16	0.54	0.16	10/03/19 15:34	
Thallium	mg/kg	<0.013	0.10	0.013	10/03/19 15:34	
Vanadium	mg/kg	<0.033	0.11	0.033	10/03/19 15:34	
Zinc	mg/kg	<1.4	4.7	1.4	10/03/19 15:34	

LABORATORY CONTROL SAMPLE: 1946903

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/kg	5	5.3	106	80-120	
Arsenic	mg/kg	5	5.1	102	80-120	
Barium	mg/kg	5	5.0	100	80-120	
Beryllium	mg/kg	5	4.5	91	80-120	
Boron	mg/kg	10	9.0	90	80-120	
Cadmium	mg/kg	5	5.3	106	80-120	
Calcium	mg/kg	250	247	99	80-120	
Chromium	mg/kg	5	4.8	95	80-120	
Cobalt	mg/kg	5	4.7	94	80-120	
Copper	mg/kg	5	4.8	96	80-120	
Lead	mg/kg	5	4.9	97	80-120	
Lithium	mg/kg	5	4.3	87	80-120	

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

LABORATORY CONTROL SAMPLE: 1946903

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	mg/kg	5	4.7	95	80-120	
Nickel	mg/kg	5	4.8	95	80-120	
Selenium	mg/kg	5	5.5	110	80-120	
Silver	mg/kg	2.5	2.0	79	80-120	L5
Strontium	mg/kg	5	4.9	97	80-120	
Thallium	mg/kg	5	5.0	99	80-120	
Vanadium	mg/kg	5	4.8	96	80-120	
Zinc	mg/kg	20	19.8	99	80-120	

LABORATORY CONTROL SAMPLE: 1946904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	59.5	69.3	117	80-126	
Cadmium	mg/kg	42.3	41.4	98	80-120	
Chromium	mg/kg	2	1.4	70	13-93	
Cobalt	mg/kg	1.1	0.97	91	80-120	
Copper	mg/kg	497	397	80	77-120	
Lead	mg/kg	0.22	0.19	84	79-120	
Molybdenum	mg/kg	3.4	3.0	88	80-120	
Nickel	mg/kg	5.3	4.5	85	76-120	
Selenium	mg/kg	10.9	12.5	115	80-130	
Strontium	mg/kg	36.5	30.4	83	79-120	
Vanadium	mg/kg	9.1	8.5	94	80-120	
Zinc	mg/kg	136	132	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1946905 1946906

Parameter	Units	40194809001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike Conc.	Spike Conc.							
Antimony	mg/kg	<0.021	5	5	5.4	5.3	109	106	75-125	3	20
Arsenic	mg/kg	0.044J	5	5	5.2	5.1	103	101	75-125	2	20
Barium	mg/kg	<0.030	5	5	5.4	5.0	107	101	75-125	6	20
Beryllium	mg/kg	<0.033	5	5	4.6	4.4	93	88	75-125	6	20
Boron	mg/kg	<0.69	10	9.9	8.8	8.0	88	80	75-125	9	20
Cadmium	mg/kg	0.027J	5	5	5.4	5.3	108	106	75-125	2	20
Calcium	mg/kg	66.6J	249	248	339	330	109	106	75-125	3	20
Chromium	mg/kg	<0.088	5	5	5.0	4.8	99	97	75-125	3	20
Cobalt	mg/kg	<0.019	5	5	4.9	4.8	99	96	75-125	3	20
Copper	mg/kg	0.54J	5	5	5.4	5.2	97	93	75-125	4	20
Lead	mg/kg	<0.030	5	5	5.0	4.9	101	99	75-125	3	20
Lithium	mg/kg	<0.021	5	5	4.4	4.0	88	82	75-125	8	20
Molybdenum	mg/kg	<0.036	5	5	4.8	4.7	96	94	75-125	2	20
Nickel	mg/kg	<0.041	5	5	5.0	4.8	99	97	75-125	3	20
Selenium	mg/kg	0.18	5	5	5.9	5.8	116	113	75-125	3	20

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1946905 1946906											
Parameter	Units	40194809001		MS		MSD		MS		MSD	
		Result	Conc.	Spike	Conc.	Result	Conc.	% Rec	% Rec	% Rec	Max
								Limits	RPD	RPD	Qual
Silver	mg/kg	<0.011	2.5	2.5	2.0	2.0	80	80	75-125	1	20
Strontium	mg/kg	<0.16	5	5	5.1	4.9	101	98	75-125	3	20
Thallium	mg/kg	<0.013	5	5	5.1	5.0	103	101	75-125	2	20
Vanadium	mg/kg	<0.033	5	5	5.1	4.9	101	99	75-125	3	20
Zinc	mg/kg	5.7	20	19.9	28.0	26.7	112	106	75-125	5	20

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

QC Batch: 336121

Analysis Method: EPA 6020

QC Batch Method: EPA 3050B

Analysis Description: 6020 MET TISSUE

Associated Lab Samples: 40194809021

METHOD BLANK: 1951520

Matrix: Tissue

Associated Lab Samples: 40194809021

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	mg/kg	<0.021	0.10	0.021	10/18/19 03:56	
Arsenic	mg/kg	<0.030	0.10	0.030	10/18/19 03:56	
Barium	mg/kg	<0.031	0.10	0.031	10/18/19 03:56	
Beryllium	mg/kg	<0.033	0.11	0.033	10/18/19 03:56	
Boron	mg/kg	<0.70	2.3	0.70	10/18/19 03:56	
Cadmium	mg/kg	<0.011	0.10	0.011	10/18/19 03:56	
Calcium	mg/kg	<25.4	84.7	25.4	10/18/19 03:56	
Chromium	mg/kg	<0.088	0.29	0.088	10/18/19 03:56	
Cobalt	mg/kg	<0.019	0.10	0.019	10/18/19 03:56	
Copper	mg/kg	<0.28	0.95	0.28	10/18/19 03:56	
Lead	mg/kg	<0.030	0.10	0.030	10/18/19 03:56	
Lithium	mg/kg	<0.021	0.10	0.021	10/18/19 03:56	
Molybdenum	mg/kg	<0.036	0.12	0.036	10/18/19 03:56	
Nickel	mg/kg	<0.041	0.14	0.041	10/18/19 03:56	
Selenium	mg/kg	<0.051	0.17	0.051	10/18/19 03:56	
Silver	mg/kg	<0.011	0.050	0.011	10/18/19 03:56	
Strontium	mg/kg	<0.16	0.54	0.16	10/18/19 03:56	
Thallium	mg/kg	<0.013	0.10	0.013	10/18/19 03:56	
Vanadium	mg/kg	<0.033	0.11	0.033	10/18/19 03:56	
Zinc	mg/kg	<1.4	4.7	1.4	10/18/19 03:56	

LABORATORY CONTROL SAMPLE: 1951522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	mg/kg	5	5.5	110	80-120	
Arsenic	mg/kg	5	5.5	109	80-120	
Barium	mg/kg	5	5.2	104	80-120	
Beryllium	mg/kg	5	4.9	97	80-120	
Boron	mg/kg	10	10.0	100	80-120	
Cadmium	mg/kg	5	5.4	109	80-120	
Calcium	mg/kg	250	268	107	80-120	
Chromium	mg/kg	5	5.1	102	80-120	
Cobalt	mg/kg	5	5.2	104	80-120	
Copper	mg/kg	5	5.6	112	80-120	
Lead	mg/kg	5	5.1	102	80-120	
Lithium	mg/kg	5	4.7	94	80-120	
Molybdenum	mg/kg	5	4.9	99	80-120	
Nickel	mg/kg	5	5.2	103	80-120	
Selenium	mg/kg	5	5.6	113	80-120	
Silver	mg/kg	2.5	2.6	106	80-120	

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

LABORATORY CONTROL SAMPLE: 1951522

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Strontium	mg/kg	5	5.2	103	80-120	
Thallium	mg/kg	5	4.9	99	80-120	
Vanadium	mg/kg	5	5.1	103	80-120	
Zinc	mg/kg	20	22.9	115	80-120	

LABORATORY CONTROL SAMPLE: 1951523

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	59.5	68.7	115	80-126	
Cadmium	mg/kg	42.3	38.2	90	80-120	
Chromium	mg/kg	2	0.69	35	13-93	
Cobalt	mg/kg	1.1	0.99	93	80-120	
Copper	mg/kg	497	443	89	77-120	
Lead	mg/kg	0.22	0.19	85	79-120	
Molybdenum	mg/kg	3.4	2.9	84	80-120	
Nickel	mg/kg	5.3	4.1	78	76-120	
Selenium	mg/kg	10.9	12.7	116	80-130	
Strontium	mg/kg	36.5	29.5	81	79-120	
Vanadium	mg/kg	9.1	8.8	97	80-120	
Zinc	mg/kg	136	125	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1951524 1951525

Parameter	Units	40194816001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	mg/kg	<0.021	5	5	5.4	5.4	109	109	75-125	0	20	
Arsenic	mg/kg	0.24	5	5	5.5	5.4	105	103	75-125	2	20	
Barium	mg/kg	4.5	5	5	9.0	8.7	90	84	75-125	3	20	
Beryllium	mg/kg	<0.033	5	5	5.0	5.0	101	100	75-125	1	20	
Boron	mg/kg	<0.69	10	10	9.9	9.6	99	96	75-125	3	20	
Cadmium	mg/kg	0.037J	5	5	5.3	5.2	106	104	75-125	1	20	
Calcium	mg/kg	17900	249	250	14000	11400	-1570	-2610	75-125	20	20	P6
Chromium	mg/kg	0.42	5	5	5.6	5.4	103	100	75-125	2	20	
Cobalt	mg/kg	0.13	5	5	5.3	5.1	103	100	75-125	2	20	
Copper	mg/kg	1.0	5	5	5.9	5.8	98	95	75-125	2	20	
Lead	mg/kg	0.22	5	5	5.4	5.3	104	101	75-125	3	20	
Lithium	mg/kg	0.092J	5	5	5.1	4.9	101	97	75-125	4	20	
Molybdenum	mg/kg	0.049J	5	5	4.9	4.8	98	95	75-125	3	20	
Nickel	mg/kg	0.23	5	5	5.3	5.2	102	99	75-125	2	20	
Selenium	mg/kg	0.42	5	5	6.3	6.2	118	117	75-125	1	20	
Silver	mg/kg	<0.011	2.5	2.5	2.5	2.5	102	101	75-125	1	20	
Strontium	mg/kg	11.6	5	5	13.3	11.9	34	6	75-125	11	20	M0
Thallium	mg/kg	<0.013	5	5	5.1	5.0	102	99	75-125	3	20	
Vanadium	mg/kg	0.30	5	5	5.6	5.5	106	104	75-125	2	20	

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1951524 1951525												
Parameter	Units	40194816001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Zinc	mg/kg	19.1	19.9	20	39.3	38.3	102	96	75-125	3	20	

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QUALITY CONTROL DATA

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

QC Batch:	335214	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight Reporting Only
Associated Lab Samples:	40194809001, 40194809002, 40194809003, 40194809004, 40194809005, 40194809006, 40194809007, 40194809008, 40194809009, 40194809010, 40194809011, 40194809012, 40194809013, 40194809014, 40194809015, 40194809016, 40194809017, 40194809018, 40194809019, 40194809020		

SAMPLE DUPLICATE: 1946079

Parameter	Units	40194809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	80.9	80.9	0	10	

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QUALIFIERS

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

- | | |
|----|---|
| J | Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs. |
| L5 | LCS recovery exceeded QC limits. Batch accepted based on matrix spike recovery within LCS limits. |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits. |
| P6 | Matrix spike recovery was outside laboratory control limits due to a parent sample concentration notably higher than the spike level. |

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40194809001	CUF-FH-CC-CURD-F-20190430	EPA 3050B	335361	EPA 6020	335703
40194809002	CUF-FH-CC-CURU-F-20190507	EPA 3050B	335361	EPA 6020	335703
40194809003	CUF-FH-CC-WCD-F-20190501	EPA 3050B	335361	EPA 6020	335703
40194809004	CUF-FH-CC-WCU-F-20190508	EPA 3050B	335361	EPA 6020	335703
40194809005	CUF-FH-CC-F-DUP01-20190430	EPA 3050B	335361	EPA 6020	335703
40194809006	CUF-FH-CC-CURA-O-20190520	EPA 3050B	335361	EPA 6020	335703
40194809007	CUF-FH-CC-CURD-O-20190430	EPA 3050B	335361	EPA 6020	335703
40194809008	CUF-FH-CC-CURU-O-20190507	EPA 3050B	335361	EPA 6020	335703
40194809009	CUF-FH-CC-WCD-O-20190501	EPA 3050B	335361	EPA 6020	335703
40194809010	CUF-FH-CC-WCU-O-20190508	EPA 3050B	335361	EPA 6020	335703
40194809011	CUF-FH-CC-O-DUP01-20190430	EPA 3050B	335361	EPA 6020	335703
40194809012	CUF-FH-CC-CURA-L-20190520	EPA 3050B	335361	EPA 6020	335703
40194809013	CUF-FH-CC-CURD-L-20190430	EPA 3050B	335361	EPA 6020	335703
40194809014	CUF-FH-CC-CURU-L-20190507	EPA 3050B	335361	EPA 6020	335703
40194809015	CUF-FH-CC-WCD-L-20190501	EPA 3050B	335361	EPA 6020	335703
40194809016	CUF-FH-CC-WCU-L-20190508	EPA 3050B	335361	EPA 6020	335703
40194809017	CUF-FH-CC-L-DUP01-20190430	EPA 3050B	335361	EPA 6020	335703
40194809018	CUF-FH-RS-CURA-F-20190429	EPA 3050B	335361	EPA 6020	335703
40194809019	CUF-FH-RS-CURD-F-20190429	EPA 3050B	335361	EPA 6020	335703
40194809020	CUF-FH-RS-CURU-F-20190429	EPA 3050B	335361	EPA 6020	335703
40194809021	RINSE BLANK 40194809-021-B	EPA 3050B	336121	EPA 6020	336356
40194809001	CUF-FH-CC-CURD-F-20190430	EPA 7473	336171		
40194809002	CUF-FH-CC-CURU-F-20190507	EPA 7473	336171		
40194809003	CUF-FH-CC-WCD-F-20190501	EPA 7473	336171		
40194809004	CUF-FH-CC-WCU-F-20190508	EPA 7473	336171		
40194809005	CUF-FH-CC-F-DUP01-20190430	EPA 7473	336171		
40194809006	CUF-FH-CC-CURA-O-20190520	EPA 7473	336171		
40194809007	CUF-FH-CC-CURD-O-20190430	EPA 7473	336171		
40194809008	CUF-FH-CC-CURU-O-20190507	EPA 7473	336171		
40194809009	CUF-FH-CC-WCD-O-20190501	EPA 7473	336171		
40194809010	CUF-FH-CC-WCU-O-20190508	EPA 7473	336171		
40194809011	CUF-FH-CC-O-DUP01-20190430	EPA 7473	336171		
40194809012	CUF-FH-CC-CURA-L-20190520	EPA 7473	336171		
40194809013	CUF-FH-CC-CURD-L-20190430	EPA 7473	336171		
40194809014	CUF-FH-CC-CURU-L-20190507	EPA 7473	336171		
40194809015	CUF-FH-CC-WCD-L-20190501	EPA 7473	336171		
40194809016	CUF-FH-CC-WCU-L-20190508	EPA 7473	336171		
40194809017	CUF-FH-CC-L-DUP01-20190430	EPA 7473	336171		
40194809018	CUF-FH-RS-CURA-F-20190429	EPA 7473	336171		
40194809019	CUF-FH-RS-CURD-F-20190429	EPA 7473	336171		
40194809020	CUF-FH-RS-CURU-F-20190429	EPA 7473	336171		
40194809021	RINSE BLANK 40194809-021-B	EPA 7473	336171		
40194809001	CUF-FH-CC-CURD-F-20190430	ASTM D2974-87	335214		
40194809002	CUF-FH-CC-CURU-F-20190507	ASTM D2974-87	335214		
40194809003	CUF-FH-CC-WCD-F-20190501	ASTM D2974-87	335214		
40194809004	CUF-FH-CC-WCU-F-20190508	ASTM D2974-87	335214		
40194809005	CUF-FH-CC-F-DUP01-20190430	ASTM D2974-87	335214		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0777010 CUMBERLAND FOSSIL PLAN

Pace Project No.: 40194809

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40194809006	CUF-FH-CC-CURA-O-20190520	ASTM D2974-87	335214		
40194809007	CUF-FH-CC-CURD-O-20190430	ASTM D2974-87	335214		
40194809008	CUF-FH-CC-CURU-O-20190507	ASTM D2974-87	335214		
40194809009	CUF-FH-CC-WCD-O-20190501	ASTM D2974-87	335214		
40194809010	CUF-FH-CC-WCU-O-20190508	ASTM D2974-87	335214		
40194809011	CUF-FH-CC-O-DUP01-20190430	ASTM D2974-87	335214		
40194809012	CUF-FH-CC-CURA-L-20190520	ASTM D2974-87	335214		
40194809013	CUF-FH-CC-CURD-L-20190430	ASTM D2974-87	335214		
40194809014	CUF-FH-CC-CURU-L-20190507	ASTM D2974-87	335214		
40194809015	CUF-FH-CC-WCD-L-20190501	ASTM D2974-87	335214		
40194809016	CUF-FH-CC-WCU-L-20190508	ASTM D2974-87	335214		
40194809017	CUF-FH-CC-L-DUP01-20190430	ASTM D2974-87	335214		
40194809018	CUF-FH-RS-CURA-F-20190429	ASTM D2974-87	335214		
40194809019	CUF-FH-RS-CURD-F-20190429	ASTM D2974-87	335214		
40194809020	CUF-FH-RS-CURU-F-20190429	ASTM D2974-87	335214		

REPORT OF LABORATORY ANALYSIS

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Tennessee Valley Authority

TVA Environmental Investigations

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER No.:	1	of	5
COC No:	CUF_FH 20190415_1A		
4 of 8 Pages			
Task Desc:	CUF_FH		

Required Ship to Lab:		Required Project Information:		Required Sampler Information:	
Lab Name:	Pace Analytical Green Bay	Site ID #:	CUMBERLAND FOSSIL PLANT	Sampler:	Tyler Baker
Lab Address:	1241 Bellevue Street	Project #:	077010	Sampling Company:	TVA
	Suite 9	Site Address:	815 Cumberland City Road	Address:	TVA Chattanooga Power Service Center, 4801 N. Access Road
	Green Bay, WI 54302	City:	Cumberland City, TN 37733	City/State:	Chattanooga, TN 37415
Lab Manager Contact Information		Site PII Name:	Roy Quinn	Phone:	423-876-6733
Lab PII:	Tod Noltemeyer	Phone/Fax:	423-751-3753	Sampling Team Number:	1
Phone/Fax:	920-469-2436	Site PII Email:	iqunin@tva.gov	Send EDD/Hand Copy to:	isa-ell@tva.com
Lab Email:	tod.noltemeyer@paceplus.com				
<div><input type="checkbox"/> 24 Hours <input type="checkbox"/> 3 Business Days <input type="checkbox"/> 5 Business Days <input checked="" type="checkbox"/> 10 Business Days (Standard)</div> <div><input type="checkbox"/> Calendar Days <input checked="" type="checkbox"/> Turnaround Time TAT if different from below _____</div>					
SAMPLE ID		SAMPLE LOCATION		SAMPLE DATE	
SAMPLES IDs MUST BE UNIQUE		Start Depth		SAMPLE TIME	
		End Depth		# OF CONTAINERS	
		MATRIX CODE		Comments/ Lab Sample I.D.	
		G= GRAB C=COMP		MS/MSD	
		SAMPLE TYPE			
ITEMS #		Depth Unit	Feet		
1	CUF-FH-LB-CURA-L-20190430	NA	NA	4/30/2019	1320 1
2	CUF-FH-LB-CURD-L-20190424	NA	NA	4/24/2019	1620 1
3	CUF-FH-LB-CURU-L-20190424	NA	NA	4/24/2019	1105 1
4	CUF-FH-LB-WCD-L-20190415	NA	NA	4/15/2019	1905 1
5	CUF-FH-LB-WCU-L-20190423	NA	NA	4/23/2019	1500 1
6	CUF-FH-LB-L-DUP01-20190416	NA	NA	4/16/2019	---
7	CUF-FH-CC-CURA-F-20190520	NA	NA	5/20/2019	1625 1
8	CUF-FH-CC-CURD-F-20190430	NA	NA	4/30/2019	1500 1
9	CUF-FH-CC-CURU-F-20190507	NA	NA	5/7/2019	1135 1
10	CUF-FH-CC-WCD-F-20190501	NA	NA	5/1/2019	1050 1
11	CUF-FH-CC-WCU-F-20190508	NA	NA	5/8/2019	1050 1
12	CUF-FH-CC-F-DUP01-20190430	NA	NA	4/30/2019	---
13					
Additional Comments/Special Instructions:					
REINFORCED BY AFFILIATION					
DATE TIME ACCEPTED BY AFFILIATION DATE TIME					
SHIPPING METHOD: FedEx					
SAMPLER NAME AND SIGNATURE					
Temperature in °C					
Sample on Ice?					
Sample Intact?					
Trip Blank?					



Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate.

COOLER No.:	1	of	5
COG No:	CUF_FH_20190415_1A		
5 of 8 Pages			
Task Desc.:	CUF_FH		

Form TVA 30067A



Tennessee Valley Authority

TVA Environmental Investigations

Chain-of-Custody / Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed and accurate

COOLER NO.:	1	of	5
COC NO.:	CUF_FH 20190415 1A		
6 of 8 Pages			
Task Desc:	CUF_FH		

Required Ship to Lab:

Lab Name:	Pace Analytical Green Bay
Lab Address:	1241 Bellevue Street Suite 9 Green Bay, WI 54302
Lab Manager Contact Information:	Site PM Name: Roy Quinn Phone/Fax: 423-51-3733 Site PM Email: rquinn@tva.gov
Lab PM:	Tod Noltemeyer Phone/Fax: 920-469-2436 Lab Email: tod.noltemeyer@paceelabs.com

Required Project Information:

Site ID #:	CUMBERLAND FOSSIL PLANT
Project #:	0777010
Site Address:	815 Cumberland City Road Cumberland City, TN 37763
State, Zip:	TN 37763

Required Sampler Information:

Sampler:	Tyler Baker
Sampling Company:	TVA
Address:	TVA Chickamauga Power Service Center, 4601 N. Access Road Chattanooga, TN 37415
Phone:	423-676-6733
Sampling Team Number:	1
Send EDD/Hand copy to:	tye-b@tvasd.com

Analysis Turnaround Time

☐ 24 Hours
☐ 3 Business Days
☒ 10 Business Days (Standard)

Analysis	Preserve	Filtered
CUF_FISH	see comments	N

ITEMS #	SAMPLE ID Samples IDs MUST BE UNIQUE	SAMPLE LOCATION	Sample Depth		MATRIX CODE	SAMPLE TYPE	SAMPLE DATE	SAMPLE TIME	# OF CONTAINERS	Comments/ Lab Sample I.D.	MS/MSD	DATE	TIME	Sample Receipt Conditions			
			Start Depth	End Depth										Temperature in °C	Sample on Ice?	Sample Intact?	Trip Blank?
1	CUF-FH-RS-CURA-F-20190429	FH-CURA	NA	NA	FH C	N	4/29/2019	1650	1	218		X		10			
2	CUF-FH-RS-CURD-F-20190429	FH-CURD	NA	NA	FH C	N	4/29/2019	1815	1	019		X		10			
3	CUF-FH-RS-CURU-F-20190429	FH-CURU	NA	NA	FH C	N	4/29/2019	1630	1	020		X		10			
4	CUF-FH-RS-WCD-F-20190501	FH-WCD	NA	NA	FH C	N	5/1/2019	1050	1			X		10			
5	CUF-FH-RS-WCU-F-20190430	FH-WCU	NA	NA	FH C	N	4/30/2019	1715	1			X		10			
6	CUF-FH-RS-F-DUP01-20190424	---	NA	NA	FH C	FD	4/24/2019	---	1			X		10			
7	CUF-FH-RS-F-DUP02-20190501	---	NA	NA	FH C	FD	5/1/2019	---	1			X		10			
8	CUF-FH-RS-CURA-O-20190429	FH-CURA	NA	NA	FH C	N	4/29/2019	1650	1			X		10			
9	CUF-FH-RS-CURD-O-20190429	FH-CURD	NA	NA	FH C	N	4/29/2019	1815	1			X		10			
10	CUF-FH-RS-CURU-O-20190429	FH-CURU	NA	NA	FH C	N	4/29/2019	1530	1			X		10			
11	CUF-FH-RS-WCD-O-20190501	FH-WCD	NA	NA	FH C	N	5/1/2019	1050	1			X		10			
12	CUF-FH-RS-WCU-O-20190430	FH-WCU	NA	NA	FH C	N	4/30/2019	1715	1			X		10			
13	CUF-FH-RS-O-DUP01-20190424	---	NA	NA	FH C	FD	4/24/2019	---	1			X		10			

Additional Comments/Special Instructions:

Tyler Baker TVA

9-9-19 1630

CUF_FH 20190415 1A

SHIPPING METHOD:

Fedex

SAMPLER NAME AND SIGNATURE

Tyler Baker

Client Name:

TVA

Sample Preservation Receipt Form

Project #

4694809

All containers needing preservation have been checked and noted below: ☐ Yes ☐ No ☒ A

Lab Lot# of pH paper:

Lab Std #ID of preservation (if pH adjusted):

Initial when completed:

Date/Time:

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 905
Green Bay, WI 54302


Page

Pace Lab #	Glass						Plastic						Vials				Jars		General		VOA Vials (>6mm) *	H2SO4 pH ≤	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤	pH after adjusted	Volume (mL)					
	AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP2N	BP2Z	BP3U	BP3B	BP3N	BP3S	DG9A	DG9T	VG9U	VG9H	VG9M	VG9D								JGFU	WGFU	WPFU	SP5T	ZPLC
001																																2.5 / 5 / 10
002																																2.5 / 5 / 10
003																																2.5 / 5 / 10
004																																2.5 / 5 / 10
005																																2.5 / 5 / 10
006																																2.5 / 5 / 10
007																																2.5 / 5 / 10
008																																2.5 / 5 / 10
009																																2.5 / 5 / 10
010																																2.5 / 5 / 10
011																																2.5 / 5 / 10
012																																2.5 / 5 / 10
013																																2.5 / 5 / 10
014																																2.5 / 5 / 10
015																																2.5 / 5 / 10
016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, O&G, W/DRO, Phenolics, Other:

Headspace in VOA Vials (>6mm): ☐ Yes ☒ No ☒ A *If yes look in headspace column

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3B	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH		
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3				
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4	VG9D	40 mL clear vial DI	SP5T	120 mL plastic Na Thiosulfate
						ZPLC	ziploc bag
						GN:	

 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Client Name: TVA
 Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other: _____

Project #:

WO#: 40194809



Tracking #: _____
 Custody Seal on Cooler/Box Present: ☒ Yes ☐ No Seals intact: ☒ Yes ☐ No
 Custody Seal on Samples Present: ☐ Yes ☒ No Seals intact: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR-82 Type of Ice: Wet Blue ☒ Dry ☐ None ☒ Samples on ice, cooling process has begun
 Cooler Temperature Uncorr: 1 / Corr: 1

Temp Blank Present: ☐ Yes ☒ No Biological Tissue is Frozen: ☒ Yes ☐ No

Temp should be above freezing to 6°C.
 Biota Samples may be received at ≤ 0°C.

Person examining contents:
 Date: 9/11/19
 Initials: CB

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time:
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	
-Pace IR Containers Used:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>B</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution:

Person Contacted:

Date/Time:

If checked, see attached form for additional comments ☐

Comments/ Resolution: 0789696228174 ± -5, 78969696289 ± 0, 789696964100 ± -5,
7896961169 ± -5, 789696128701 ± -5

Project Manager Review:

Arfr TN

Date:

9/11/19