

## Radiocarbon Dating, non-bone samples

<b>Analysis</b>	<b>Standard 15–20 days</b>	<b>Rush 7 days</b>	<b>University System of Georgia &amp; Emory University</b>
<b>Full Processing &amp; Analysis</b>	<b>\$450</b>	<b>\$800</b>	<b>\$250</b>
<b>Prepared Samples (combustion only)</b>	<b>\$400</b>	<b>\$600</b>	<b>\$200</b>
<b>CO<sub>2</sub> Gas</b>	<b>\$300</b>	<b>\$450</b>	<b>\$150</b>
<b>Graphite (10 days)</b>	<b>\$120</b>		

## Radiocarbon Dating, bone & tooth samples

Analysis	Standard 15–20 days	Rush 7 days	University System of Georgia & Emory University
$^{14}\text{C}$ , plus $\delta^{13}\text{C}$ , $\delta^{15}\text{N}$ & C:N ratio (collagen)	\$500	\$850	\$300
$^{14}\text{C}$ , plus $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ (bioapatite)	\$500	\$850	\$300
$^{14}\text{C}$ , plus $\delta^{13}\text{C}$ , $\delta^{15}\text{N}$ & C:N ratio (collagen), & $\delta^{13}\text{C}$ & $\delta^{18}\text{O}$ (bioapatite)	\$550	\$1000	\$350
$^{14}\text{C}$ with XAD resin purification	\$825		\$625
$^{14}\text{C}$ on hydroxyproline	<i>please inquire</i>		
$\delta^{13}\text{C}$ , $\delta^{15}\text{N}$ & C:N ratio (collagen), & $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ (bioapatite)	\$160	\$300	\$120
$\delta^{13}\text{C}$ , $\delta^{15}\text{N}$ & C:N ratio, including collagen extraction	\$120	\$200	\$100
$\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ (bioapatite)	\$75	\$120	\$50
$^{87}\text{Sr}/^{86}\text{Sr}$	\$300		\$200

Submitting more than 10 samples? Contact us about volume discounts

NOTE: Additional charges may apply for samples requiring special or difficult processing. Under certain circumstances samples may fail during the pretreatment or analytical process. We may seek recovery of partial or full cost of laboratory treatment/analysis up to the point of failure.

## Radiocarbon Biobased Product Testing (ASTM D6866–16)

Analysis	Method	Standard 2–4 weeks	Rush 7 days	Rush 4 days
$^{14}\text{C}$ and $\delta^{13}\text{C}$	B (AMS)	\$260*	\$450*	\$650*
$^{14}\text{C}$ and $\delta^{13}\text{C}$	C (LSC)		<i>please inquire</i>	

\*sample pretreatment, if necessary, is extra.

## Radiocarbon & Stable Isotope Authenticity Testing

Analysis	Sample Size	Standard 2–3 weeks	Rush 7 days	Rush 4 days
$^{14}\text{C}$ , $\delta^{13}\text{C}$ and $\delta\text{D}^*$	5 g	\$325	\$540	\$750
$^{14}\text{C}$ and $\delta^{13}\text{C}$	5 g	\$260	\$450	\$650

\*Required for process validation and conclusive statement.

## Compound Specific & Authenticity Stable Isotope Analysis

Analysis	Sample	Standard 4–6 weeks
Compound Specific GC/IRMS $\delta^{13}\text{C}$	( $\leq$ 5 compounds)	\$100
Compound Specific GC/IRMS $\delta^{13}\text{C}$	( $>$ 5 compounds)	please inquire
Compound Specific GC/IRMS $\delta\text{D}$	( $\leq$ 5 compounds)	\$100
Compound Specific GC/IRMS $\delta\text{D}$	( $>$ 5 compounds)	please inquire
IRMS $\delta^{13}\text{C}$	organic compounds	\$20
IRMS $\delta\text{D}$	organic compounds	\$20
IRMS $\delta^{13}\text{C}$ & $\delta\text{D}$	organic compounds	\$25
IRMS $\delta^{13}\text{C}$ & $\delta^{15}\text{N}$	organic compounds	\$25
IRMS $\delta^{18}\text{O}$	organic compounds	\$20
IRMS $\delta^{18}\text{O}$ & $\delta\text{D}$	water	\$20

## Isotopic Preparation and Analysis by Isotope Ratio Mass Spectrometry (IRMS)

Analysis	Description	Standard 4 –6 weeks (for samples received ready for analysis)	Comment
<sup>15</sup> NH <sub>4</sub>	Ammonia Diffusion & Analysis by EA-IRMS; <=50/>50	\$60/ \$45	
Preparation	Dry & Grind	\$8	
<sup>15</sup> N & <sup>13</sup> C	Lipid-Urea Extraction & Analysis by EA-IRMS	\$24	
<sup>15</sup> N & <sup>13</sup> C	Analysis by EA/IRMS	\$8.50	
<sup>15</sup> NO <sub>3</sub>	Nitrate Diffusion & Analysis by EA- IRMS; <=50/>50	\$60/ \$45	
Preparation	Weighing microgram subsample	\$8	
<sup>13</sup> C & <sup>18</sup> O	Analysis by GasBench-IRMS	\$10.00 / \$12.50	*On-campus / Off-campus
<sup>13</sup> C & <sup>18</sup> O	Weighing	\$2.75 / \$3.00	*On-campus / Off-campus
<sup>13</sup> C & <sup>18</sup> O	Acidification	\$2.75 / \$3.00	*On-campus / Off-campus
Preparation	Acidification for IC Removal for Solids	\$7.50	
<sup>13</sup> CO <sub>2</sub>	Manual Injection and Analysis by GasBench-IRMS	\$20	
Dissolved Organic <sup>13</sup> C	Processing & Analysis by EA-IRMS	\$25	

## Total %N & %C

Analysis	Standard 4 –6 weeks
%N & %C Processing, Dry & Grind	\$8
<b>Total %N &amp; %C Analysis</b>	<b>\$5.50</b>
Weighing microgram subsample	\$8

## Total %S

Analysis	Standard 4 –6 weeks
%S Processing, Dry & Grind	\$8
%S Analysis	\$10
Weighing microgram subsample	\$8

## Water Quality Analysis: Alpkem, Colorimetric Analysis

Analysis	Standard 4 –6 weeks
Alpkem-Ammonium (NH <sub>4</sub> -N)	\$5
Alpkem-Nitrate (NO <sub>3</sub> -N)	\$5
Alpkem-Phosphate (PO <sub>4</sub> )	\$5
Total Persulfate N & P Digest	\$9
Total Persulfate N Digestion	\$9
Total Persulfate P Digestion	\$9
Dissolved Organic N	\$5
Dissolved Organic P	\$5
Silicates via Colorimeter	\$6



### Water Quality Analysis: Fluorometer

Analysis	Standard 4 –6 weeks
Chlorophyll a, Analysis	\$3
Chlorophyll a, Extraction	\$4

### Water Quality Analysis: TOC/DOC Analyzer, Combustion IR

Analysis	Standard 4 –6 weeks
Dissolved Inorganic Carbon-DIC	\$6
Dissolved Organic Carbon-DOC	\$6
Total Dissolved Carbon	\$6
Total Inorganic Carbon-TIC	\$6
Total Organic Carbon-TOC	\$6

## Water Quality Analysis: Ion Chromatography

Analysis	Sample	Standard 4 –6 weeks
Ion Chromatography - acetate	water quality	\$5
Ion Chromatography - bromide	water quality	\$5
Ion Chromatography - carbonate	water quality	\$5
Ion Chromatography - chlorate	water quality	\$5
Ion Chromatography - chloride	water quality	\$5
Ion Chromatography - chlorite	water quality	\$5
Ion Chromatography - fluoride	water quality	\$5
Ion Chromatography - formate	water quality	\$5
Ion Chromatography - nitrate	water quality	\$5
Ion Chromatography - nitrite	water quality	\$5
Ion Chromatography - sulfate	water quality	\$5

## Water Quality Analysis: Filtering

Analysis	Standard 4 –6 weeks
Filtering 0.45 Micron Membrane	\$5
Filtering, Glass Fiber Filter	\$5

## Water Quality Analysis: TOC/DOC Analyzer, Combustion IR

Analysis	Standard 4 –6 weeks
Dissolved Inorganic Carbon-DIC	\$6
Dissolved Organic Carbon-DOC	\$6
Total Dissolved Carbon	\$6
Total Inorganic Carbon-TIC	\$6
Total Organic Carbon-TOC	\$6

## Other Services

Sample Preparation	Price
Dry Ash, Double Acid Extraction (Metals & Total P)	\$9
Soil Persulfate Digest (Total P)	\$9
Lyophilization / Freeze Drying of Solids (per sample)	\$5
Lyophilization / Freeze Drying of Solids (per liter)	\$50

## Plasma Chemistry Analytical Services

Analysis	Standard 2–4 weeks	Rush 3 days	Rush 1 days	University System of Georgia & Emory University
ICP–OES (1 element)	\$30	\$50	\$60	\$15
ICP–OES (20 element)	\$40	\$60	\$80	\$25
ICP–OES (27 element)	\$50	\$70	\$100	\$35
ICP–MS (1 element)	\$30	\$50	\$60	\$20
ICP–MS (20 element)	\$50	\$70	\$100	\$40
ICP–MS (27 element)	\$70	\$90	\$140	\$60
ICP–OES & ICP–MS (20 element)	\$80	\$100	\$160	\$50

**Plasma Chemistry Analytical Services  
(continued)**

Analysis	Standard 2–4 weeks	Rush 3 days	Rush 1 days	University System of Georgia & Emory University
ICP–OES & ICP–MS (20 element)	\$80	\$100	\$160	\$50
ICP–OES & ICP–MS (27 element)	\$110	\$130	\$220	\$70
$^{86}\text{Sr}/^{87}\text{Sr}$	\$300			\$100
$^{204}\text{Pb}/^{206}\text{Pb}/^{207}\text{Pb}/^{208}\text{Pb}$	\$150			\$100
Digestion	\$20			\$20
Additional Element	\$5			\$5
Dilution	\$10			\$10

## XRF Analytical Services

Analysis	Standard 2– 4 weeks	Rush 3 days	Rush 1 day*
Major Elements by WD-XRF	\$40	\$60	\$80
Trace Elements by ED-XRF	\$35	\$52	\$70
Obsidian & other volcanics (non-destructive)	\$18	\$27	\$36
Obsidian & other volcanics (student projects)	\$12	\$18	\$24
Other rock types (non-destructive)	\$25	\$37	\$50
Obsidian source samples		no charge	
Other rock types (non-destructive)	\$25	\$37	\$50
Pigments (non-destructive)	\$25	\$37	\$50
Metals & Alloys	\$35	\$52	\$70
Qualitative Composition	\$25	\$37	\$50

**MINIMUM CHARGE: \$200**

\* when possible, call ahead to inquire

University System of Georgia and Emory University 30% discount