

## RAFTER RADIOCARBON LABORATORY

| Sample Type  | Sample Material &<br>Additional Methods                      | Sample Mass<br>Required | 1-5<br>Samples       | 6-10<br>Samples<br>NZD\$ | 11+<br>Samples |
|--|--|-------------------------|----------------------|--------------------------|----------------|
| Organic carbon   | Charcoal   | 10-50 mg                |                      |                          |                |
| (needs pre-treatment)  | Plant  | 10-50 mg                |                      |                          |                |
| acid wash, acid/alkali/acid, humic acids available.  | Peat   | 100-1000 mg             | \$1,025              | \$975                    | \$880          |
| We DO NOT pick fragments from<br>sediments/soils/peats.  | Sediment<br>Wood   | 1-3 g<br>50-300 mg      |                      |                          |                |
| Inorganic carbon   | shell, foram, carbonate, coral                               | 10mg                    | \$1,025              | \$975                    | \$880          |
| Collagen   | Bone, ivory, antler, teeth                                   | 500-3000 mg             | \$1,290              | \$1,190                  | \$1,075        |
|  | d <sup>13</sup> C, d <sup>15</sup> N C/N ratio (with dating) | 000 0000 mg             | +\$230               | +\$140                   | +\$130         |
|  | Molecular weight separation                                  |                         | +\$575               | +\$405                   | +\$365         |
| <b>Antiquities</b><br>Note antiquity samples require additional processing<br>to remove preservatives vs other materials   | leather, textiles, lacquer, paper, wood                      | 15 mg                   | \$1,195              | \$1,145                  | \$1,035        |
|  | antiquity bone/ivory/antler/teeth                            | 500-3000 mg             | \$1,475              | \$1,375                  | \$1,240        |
| Sinters, pollen concentration  |  | Contact Lab             | price on application |                          |                |
| <b>Water (DIC)</b><br>Water with TDIC < 0.5 mmol/kg H2O will incur a<br>surcharge as it requires combining multiple aliquots<br>to obtain sufficient material for a standard AMS <sup>14</sup> C<br>determination. Please be aware that samples with<br>such low DIC content are also at higher risk of<br>contamination during collection and preparation.  |  | 250-500 ml              | \$875                | \$825                    | \$745          |
|  | Hydrogen sulphide removal (per<br>sample)                    |                         | +\$230               |                          |                |
|  | Multiple extractions needed (per additional extraction)      |                         | +\$230               |                          |                |
| $\mathbf{CO}_2$ from air/ $\mathbf{CO}_2$ in sodium hydroxide  |  | Contact Lab             | \$875                | \$825                    | \$745          |
| <b>CO</b> <sub>2</sub> <b>ampoules</b><br>(requires clean up)  |  | Contact Lab             | \$625                | \$575                    | \$520          |
| <b>CO</b> <sub>2</sub> <b>ampoules pre-purified</b><br>(6mm breakseal, approved labs)  |  | Contact Lab             | \$510                | \$460                    | \$415          |
| <b>Graphite</b><br>(approved labs)   |  | Contact Lab             | \$340                | \$290                    | \$265          |
| Organic carbon pretreated ready to combust<br>(pre-treated, ready to combust, approved submitters)   | Pretreated, bioproduct verification                          |                         | \$740                | \$690                    | \$625          |
| <ul> <li>See T&amp;C's for pretreated samples on Submission page.</li> <li>Note the pricing conditions for processing blanks and known age or replicate samples as follows apply:</li> <li>For batches of 6 or more samples we will prepare and measure 1 blank or known age or replicate sample at no charge.</li> <li>For batches of 5 or fewer samples blanks or known age or replicates will be charged at the same rate as unknown samples</li> </ul> |  |                         |                      |                          |                |
| Ramped pyrolysis/ Pyrolysis GC-MS available on a collaborative basis   |  | Contact Lab             | price on application |                          |                |
| Additional fees (per sample)   |  |                         | NZD\$                |                          |                |
| Small samples (<0.2mg graphite realised)<br>Note: Turnaround time will increase  |  |                         | +15%                 |                          |                |
| High Precision measurement (minimum 5 samples)<br>Note: Turnaround time will increase  |  |                         | +30%                 |                          |                |
| Solvent extraction (removing oil, glue, conservation contaminants). This is included in antiquities at no extra<br>charge  |  |                         | +\$230               |                          |                |

d<sup>13</sup>C, d<sup>15</sup>N, C/N ratio (no dating) The price per sample is dependent on the number of samples submitted to the laboratory at one time. Sets of samples with the same cost per sample are acceptable, e.g. a mixture of inorganic and organic samples.

Prices are exclusive of import inspection fees, local taxes, withholding taxes and New Zealand GST that may be applicable. All prices are quoted in NZ dollars and may be reviewed at any time.

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