Eucalyptus camaldulensis (river red gum)
Biogeochemistry: An Innovative Tool for Mineral Exploration in the Curnamona Province and Adjacent Regions

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Figure 10: Raw data and spatial distribution of detectable Mn in E. camaldulensis (leaves) down Racecourse Creek with accompanying boxplots, histogram, and cumulative frequency plot and summary statistics.
Figure 4.11: Mn concentrations within *E. camaldulensis* leaves flanking different landform settings along Racecourse Creek. G (granodiorite), DP1 (depositional 1), M (metasediment) and DP2 (depositional 2). Green region denotes ‘values below the mean’ and the dashed line indicates the 90th percentile.

<table>
<thead>
<tr>
<th>Element</th>
<th>Parameters</th>
<th>Total data set</th>
<th>Granodiorite (n=38)</th>
<th>Upper catchment depositional (n=16)</th>
<th>Lower catchment depositional (n=19)</th>
<th>Data set comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mn [ppm]</td>
<td>Concentration range (Mean)</td>
<td>30-600 (177)</td>
<td>33-344 (160)</td>
<td>30-246 (141)</td>
<td>18.7-900 (221)</td>
<td>71-389 (166)</td>
</tr>
<tr>
<td></td>
<td>25th - 75th percentile</td>
<td>115-200</td>
<td>120-186</td>
<td>96-202</td>
<td>188.221.04</td>
<td>51-169</td>
</tr>
<tr>
<td></td>
<td>95% confidence level</td>
<td>17</td>
<td>21</td>
<td>34</td>
<td>56</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>&gt;90th percentile (outliers), # of samples</td>
<td>344-600 (5)</td>
<td>290-344 (2)</td>
<td>228-246 (4)</td>
<td>280-600 (6)</td>
<td>229-389 (3)</td>
</tr>
<tr>
<td><em>E. camaldulensis</em> position with the greatest concentration</td>
<td>adjacent to metasediment</td>
<td>central &amp; adjacent to flanking Cl-apd &amp; Cldpd</td>
<td>central margin &amp; down stream of intersecting Aed unit</td>
<td>evenly scattered adjacent to Eps1 regolith-landform unit flanking the metasediment</td>
<td>central margin &amp; down stream of intersecting Aed unit</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.19: Variation of Mn concentrations within *E. camaldulensis* s (river red gums), flanking different landform settings along Racecourse Creek. Initial values concentration range, 25th - 75th percentile concentration range, 95% confidence level, >90th percentile (outliers) C= composite sample.
E. camaldulensis (leaves) Biogeochemistry
Racecourse Creek Tibooburra W/Nsw - (Nd)

Summary Statistics

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Count</td>
<td>90</td>
</tr>
<tr>
<td>Max</td>
<td>0.2</td>
</tr>
<tr>
<td>Min</td>
<td>0.05</td>
</tr>
<tr>
<td>Mean</td>
<td>0.076531</td>
</tr>
<tr>
<td>Median</td>
<td>0.1</td>
</tr>
<tr>
<td>StDev</td>
<td>0.0299416</td>
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<tr>
<td>Range</td>
<td>0.15</td>
</tr>
<tr>
<td>Detection Limit</td>
<td>0.01</td>
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</tbody>
</table>

Figure 1.2: Raw data and spatial distribution of detectable Nd in E. camaldulensis leaves downstream Racecourse Creek with accompanying boxplot and summary statistics.
Figure 4.13: Nd concentrations within *E. camaldulensis* leaves flanking different landform settings along Racecourse Creek. G (granodiorite), DP1 (depositional 1), M (metasediment) and DP2 (depositional 2). Green region denotes ‘values below the mean’ and the dashed line indicates the 90th percentile.

| Element (ppm) | Parameters | Total data set | Granodiorite (C) (n=38) | Upper catchment depositional (CHpd and Apd) (C) (n=16) | Metasediment (C) (n=25) | Lower catchment depositional (CHpd, Aap, ISps and Apd) (C) (n=19) | Data set comparison |
|---------------|------------|----------------|-------------------------|---------------------------------|------------------------|---------------------------------------------------------------|
| Nd            | Concentration range (Mean) | 0.08-0.20 (0.09) | 0.08-0.18 (0.08) | 0.05-0.11 (0.07) | 0.05-0.15 (0.11) | 0.08-0.20 (0.13) |
|               | 25th - 75th percentile | 0.05-0.12 | 0.07-0.10 | 0.045-0.10 | 0.09-0.12 | 0.012-0.13 |
|               | 95% confidence level | 0.006 | 0.006 | 0.1 | 0.01 | 0.01 |
|               | >90th percentile (outliers), # of samples | 0.20 (1) | No outliers’ | No outliers’ | 0.13-0.15 (6) | 0.15-0.20 (5) |
| *E. camaldulensis* position with the greatest concentration | southern margin of the granodiorite flanked by CHpd2 & CHpd5 | northern margin of the granodiorite flanked by CHpd2 & CHpd5 | northern margin & down stream of intersecting Aed unit | southern margin & down stream of intersecting Aed unit | central & adjacent to flanking ISps1 & ISps2 |

Table 4.20: Variation of Nd concentrations within *E. camaldulensis* s (river red gums), flanking different landform settings along Racecourse Creek. Initial values concentration range, 25th - 75th percentile concentration range, 95% confidence level, >90th percentile (outliers) C= composite sample.

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E. camaldulensis (leaves) Biogeochemistry
Racecourse Creek Tibooburra W/NSW - (P)

Figure 1.4: Raw data and spatial distribution of detectable P in E. camaldulensis (leaves) down Racecourse Creek with accompanying boxplot. Histogram shows cumulative frequency plot and summary statistics.
Figure 4.15: P concentrations within *E. camaldulensis* leaves flanking different landform settings along Racecourse Creek, G (granodiorite), DP1 (depositional 1), M (metasediment) and DP2 (depositional 2). Green region denotes ‘values below the mean’ and the dashed line indicates the 90th percentile.

<table>
<thead>
<tr>
<th>Element (ppm)</th>
<th>Parameters</th>
<th>Total data set (C)</th>
<th>Setting</th>
<th>Data set comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Concentration range (Mean)</td>
<td>854-3166 (1193)</td>
<td>Granodiorite (SSer) (C) n=38</td>
<td>854-1368 (1114)</td>
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<tr>
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<td>25th - 75th percentile</td>
<td>920-1452</td>
<td>Upper catchment depositional (CHpd and Apd) (C) n=16</td>
<td>105-1374 (1006)</td>
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<tr>
<td></td>
<td>95% confidence level</td>
<td>1123-1612</td>
<td>Metasediment (SSer) (C) n=25</td>
<td>905-1006</td>
</tr>
<tr>
<td></td>
<td>99th percentile (outliers), # of samples</td>
<td>3166 (1)</td>
<td>Lower catchment depositional (CHpd, Aap, ISps and Apd) (C) n=19</td>
<td>1342-1574 (4)</td>
</tr>
<tr>
<td></td>
<td>E. camaldulensis position with the greatest concentration.</td>
<td>northern part of Racecourse Ck</td>
<td>Adjacent to granodiorite &amp; at a point were Racecourse Ck is quite narrow at the interface between the granodiorite and northern margin of the upper catchment depositional</td>
<td>southern margin, flanked by ISps1 &amp; CHpd6 down stream of intersecting Aed unit</td>
</tr>
</tbody>
</table>

Table 4.21: Variation of P concentrations within *E. camaldulensis* s (river red gums), flanking different land-form settings along Racecourse Creek. Initial values concentration range, 25th - 75th percentile concentration range, 95% confidence level, >90th percentile (outliers) C= composite sample.
E. camaldulensis (leaves) Biogeochemistry
Racecourse Creek Tibooburra W/NSW - (S)
Figure 4.17: S concentrations within *E. camaldulensis* leaves flanking different landform settings along Racecourse Creek, G (granodiorite), DP1 (depositional 1), M (metasediment) and DP2 (depositional 2). Green region denotes ‘values below the mean’ and the dashed line indicates the 90th percentile.

Table 4.22: Variation of S concentrations within *E. camaldulensis* s (river red gums), flanking different land-form settings along Racecourse Creek. Initial values concentration range, 25th - 75th percentile concentration range, 95% confidence level, >90th percentile (outliers) C= composite sample.