

### APPENDIX 3

#### Average results of the electron microprobe analyses of garnet

| Sample          | $T$<br>[°C] | $P$<br>[MPa] | Duration<br>(days) | $n$ | SiO <sub>2</sub> | TiO <sub>2</sub> | Al <sub>2</sub> O <sub>3</sub> | Cr <sub>2</sub> O <sub>3</sub> | Y <sub>2</sub> O <sub>3</sub> | MgO         | CaO         | MnO         | FeO         | NiO         | Na <sub>2</sub> O | K <sub>2</sub> O | Total |
|-----------------|-------------|--------------|--------------------|-----|------------------|------------------|--------------------------------|--------------------------------|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------------|------------------|-------|
| Starting garnet |             |              |                    | 17  | 39.31            | 0.02             | 21.69                          | 0.02                           | <0.02                         | 10.72       | 3.91        | 0.53        | 22.43       | 0.01        | <0.01             | <0.01            | 98.64 |
|                 |             |              |                    |     | <i>0.29</i>      | <i>0.01</i>      | <i>0.15</i>                    | <i>0.02</i>                    |                               | <i>0.15</i> | <i>0.18</i> | <i>0.04</i> | <i>0.43</i> | <i>0.02</i> |                   |                  |       |
| X12C-04         | 250         | 200          | 40                 | 11  | 39.85            | 0.02             | 22.02                          | <0.01                          | <0.02                         | 10.49       | 4.37        | 0.59        | 22.05       | <0.01       | <0.01             | <0.01            | 99.39 |
|                 |             |              |                    |     | <i>0.22</i>      | <i>0.01</i>      | <i>0.10</i>                    |                                |                               | <i>0.38</i> | <i>0.28</i> | <i>0.07</i> | <i>0.31</i> |             |                   |                  |       |
| X12C-05         | 350         | 200          | 40                 | 14  | 39.57            | 0.02             | 21.82                          | <0.01                          | <0.02                         | 10.78       | 3.90        | 0.53        | 22.24       | <0.01       | <0.01             | <0.01            | 98.87 |
|                 |             |              |                    |     | <i>0.27</i>      | <i>0.01</i>      | <i>0.17</i>                    |                                |                               | <i>0.05</i> | <i>0.20</i> | <i>0.03</i> | <i>0.32</i> |             |                   |                  |       |
| X12C-15         | 350         | 400          | 20                 | 16  | 39.61            | 0.02             | 21.90                          | 0.02                           | <0.02                         | 10.70       | 3.86        | 0.56        | 22.89       | 0.01        | 0.02              | <0.01            | 99.58 |
|                 |             |              |                    |     | <i>0.38</i>      | <i>0.02</i>      | <i>0.12</i>                    | <i>0.02</i>                    |                               | <i>0.19</i> | <i>0.21</i> | <i>0.06</i> | <i>0.46</i> | <i>0.02</i> | <i>0.02</i>       |                  |       |
| X12N-04         | 250         | 200          | 40                 | 10  | 39.94            | 0.02             | 21.99                          | 0.01                           | <0.02                         | 10.56       | 3.84        | 0.58        | 22.52       | <0.01       | <0.01             | <0.01            | 99.47 |
|                 |             |              |                    |     | <i>0.17</i>      | <i>0.02</i>      | <i>0.17</i>                    | <i>0.02</i>                    |                               | <i>0.13</i> | <i>0.33</i> | <i>0.04</i> | <i>0.51</i> |             |                   |                  |       |
| X12N-05         | 350         | 200          | 40                 | 16  | 39.71            | 0.02             | 21.97                          | 0.02                           | <0.02                         | 10.80       | 4.04        | 0.52        | 22.08       | <0.01       | <0.01             | <0.01            | 99.17 |
|                 |             |              |                    |     | <i>0.29</i>      | <i>0.01</i>      | <i>0.20</i>                    | <i>0.03</i>                    |                               | <i>0.09</i> | <i>0.07</i> | <i>0.03</i> | <i>0.24</i> |             |                   |                  |       |
| X12N-15         | 350         | 400          | 20                 | 13  | 39.81            | 0.03             | 22.00                          | 0.01                           | <0.02                         | 10.60       | 3.90        | 0.57        | 22.93       | <0.01       | 0.05              | <0.01            | 99.90 |
|                 |             |              |                    |     | <i>0.26</i>      | <i>0.02</i>      | <i>0.15</i>                    | <i>0.02</i>                    |                               | <i>0.35</i> | <i>0.33</i> | <i>0.08</i> | <i>0.80</i> |             | <i>0.02</i>       |                  |       |

All values are given in wt.%, italic – standard deviation