Figure 14: SEM mineral identifications in CaO, Na\(_2\)CO\(_3\) and bauxite residue

<table>
<thead>
<tr>
<th>Spectrum</th>
<th>In stats.</th>
<th>O</th>
<th>Na</th>
<th>Al</th>
<th>Si</th>
<th>Ca</th>
<th>Ti</th>
<th>Fe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectrum 1</td>
<td>Yes</td>
<td>35.21</td>
<td>4.32</td>
<td>12.88</td>
<td>47.59</td>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectrum 2</td>
<td>Yes</td>
<td>41.58</td>
<td>8.66</td>
<td>5.16</td>
<td>10.76</td>
<td>33.84</td>
<td>100.00</td>
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<td></td>
</tr>
<tr>
<td>Spectrum 3</td>
<td>Yes</td>
<td>50.99</td>
<td>4.65</td>
<td>17.83</td>
<td>26.53</td>
<td>100.00</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Spectrum 4</td>
<td>Yes</td>
<td>51.44</td>
<td>21.84</td>
<td>26.72</td>
<td></td>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectrum 5</td>
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<td>50.38</td>
<td>23.38</td>
<td>26.24</td>
<td></td>
<td>100.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectrum 6</td>
<td>Yes</td>
<td>41.88</td>
<td>11.63</td>
<td>7.15</td>
<td>4.41</td>
<td>6.16</td>
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<td>100.00</td>
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<tr>
<td>Spectrum 7</td>
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<td>42.25</td>
<td>9.51</td>
<td>5.41</td>
<td>4.59</td>
<td>10.69</td>
<td>5.31</td>
<td>22.25</td>
<td>100.00</td>
</tr>
<tr>
<td>Spectrum 8</td>
<td>Yes</td>
<td>39.90</td>
<td>6.66</td>
<td>7.03</td>
<td>8.43</td>
<td>23.31</td>
<td>14.67</td>
<td>100.00</td>
<td></td>
</tr>
</tbody>
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Max. 51.44 23.38 26.72 8.43 23.31 26.53 47.59
Min. 35.21 4.32 5.16 4.41 6.16 4.50 14.67

All results in weight%
<table>
<thead>
<tr>
<th>Spectrum</th>
<th>In stats.</th>
<th>O</th>
<th>Al</th>
<th>Si</th>
<th>Ca</th>
<th>Fe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectrum 1</td>
<td>Yes</td>
<td>51.01</td>
<td>5.84</td>
<td>7.73</td>
<td>35.42</td>
<td>100.00</td>
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<tr>
<td>Spectrum 2</td>
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<td>6.77</td>
<td>14.44</td>
<td>78.80</td>
<td>100.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectrum 3</td>
<td>Yes</td>
<td>40.50</td>
<td>2.33</td>
<td>2.68</td>
<td>9.71</td>
<td>44.78</td>
<td>100.00</td>
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<td>Spectrum 4</td>
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<td>46.53</td>
<td>4.95</td>
<td>6.16</td>
<td>4.27</td>
<td>38.09</td>
<td>100.00</td>
</tr>
<tr>
<td>Spectrum 5</td>
<td>Yes</td>
<td>49.96</td>
<td>4.20</td>
<td>5.12</td>
<td>3.83</td>
<td>36.89</td>
<td>100.00</td>
</tr>
<tr>
<td>Spectrum 6</td>
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<td>27.40</td>
<td>6.81</td>
<td>65.78</td>
<td>100.00</td>
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</tr>
</tbody>
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Max.  
- 51.01 4.95 6.16 14.44 78.80 100.00

Min.  
- 6.77 2.33 2.68 3.83 38.09 100.00

All results in weight%
Figure 17: SEM mineral identifications in MgO, Na₂CO₃ and bauxite residue

<table>
<thead>
<tr>
<th>Spectrum</th>
<th>In stats.</th>
<th>O</th>
<th>Na</th>
<th>Mg</th>
<th>Al</th>
<th>Si</th>
<th>Ca</th>
<th>Ti</th>
<th>Fe</th>
<th>Total</th>
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<td>9.71</td>
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<tr>
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<tr>
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<td>33.92</td>
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<td>7.38</td>
<td>5.28</td>
<td>4.16</td>
<td>3.03</td>
<td>5.77</td>
<td>3.42</td>
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<td>25.72</td>
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<td>2.18</td>
<td>11.45</td>
<td>45.73</td>
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Max.          | 48.52 | 9.97 | 56.79 | 7.02 | 3.03 | 12.51 | 3.42 | 87.49 |
Min.          | 25.72 | 4.81 | 2.59 | 2.37 | 2.18 | 5.33 | 3.42 | 22.44 |

All results in weight%
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<th>Element</th>
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<td>9.52</td>
</tr>
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<td>Totals</td>
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<table>
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<th>Element</th>
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<th>Atomic%</th>
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<td>Mg K</td>
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<td>Fe K</td>
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<td>Element</td>
<td>Weight%</td>
<td>Atomic%</td>
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<tr>
<td>O K</td>
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<td>Mg K</td>
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<td>Al K</td>
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<td>Ti K</td>
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<td>Fe K</td>
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Figure 20: SEM mineral identifications in BaO, Na$_2$CO$_3$ and bauxite residue

<table>
<thead>
<tr>
<th>Element</th>
<th>Weight%</th>
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<td>O K</td>
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<td>Weight%</td>
<td>Atomic%</td>
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<td>O K</td>
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<td>Al K</td>
<td>3.97</td>
<td>6.02</td>
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</tr>
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<td>-----------</td>
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<td>36.89</td>
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<td>29.68</td>
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<tr>
<td>Max.</td>
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<td>36.89</td>
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<tr>
<td>Min.</td>
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<td>29.68</td>
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</tbody>
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