**Supplemental Table 2:** Limits of detection (LoD) for pXRF analyses in this study. The LoD varies from sample to sample and is reported for each individual analysis, and is reported here as both the average LoD for all samples analysed, and the minimum LoD reported in the study, compared against the lowest reported concentration for each element. The number of analyses which fell below the LoD is listed, from a total of 118 analyses. Those elements in bold are the elements considered in more detail in this study.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| pXRF operating range | Element | Minimum reported conc. (above LoD), ppm | Number of analyses where element is **“not detected**” (i.e. cases <LoD) | Average of all 3sigma LoDs, ppm | Minimum 3sigma LoD reported, ppm |
| Main Range | Mo | 4.0 | 76 | 4.9 | 3.6 |
|  | **Zr** | **24.1** | **0** | 7.8 | 4.4 |
|  | **Sr** | **42.6** | **0** | 5.6 | 3.2 |
|  | **U** | **5.5** | **54** | 6.6 | 5.1 |
|  | **Rb** | **3.1** | **0** | 3.2 | 2.0 |
|  | **Th** | **4.1** | **8** | 5.0 | 4.0 |
|  | **Pb** | **8.9** | **4** | 7.9 | 5.5 |
|  | Au | 4.53 | 107 | 6.3 | 4.3 |
|  | Se | 0 | 118 | 4.9 | 4.1 |
|  | As | 4.6 | 65 | 7.6 | 4.3 |
|  | Hg | 8.9 | 110 | 13.1 | 8.5 |
|  | **Zn** | **24.6** | **2** | 14.0 | 9.7 |
|  | W | 37.7 | 113 | 55.2 | 36.3 |
|  | **Cu** | **16.7** | **24** | 20.3 | 15.8 |
|  | **Ni** | **23.8** | **6** | 27.0 | 22.2 |
|  | Co | 97.7 | 117 | 155 | 82.1 |
|  | **Fe** | **7373** | **0** | 403 | 222 |
|  | **Mn** | **200** | **0** | 91.7 | 63.5 |
| High Range | **Ba** | **213** | **0** | 98.9 | 59.4 |
|  | Cs | 0 | 118 | 1.1 | 0.9 |
|  | Te | 0 | 118 | 4.8 | 4.1 |
|  | Sb | 23.9 | 117 | 1.2 | 0.8 |
|  | Sn | 28.3 | 117 | 1.4 | 0.9 |
|  | *Cd* | *71039* | *0* | *97.2* | *43.6* |
|  | Ag | 0.5 | 107 | 0.4 | 0.3 |
|  | Pd | 0.7 | 17 | 0.7 | 0.6 |
|  | **Nb** | **2.9** | **1** | 2.8 | 2.4 |
|  | Bi | 7.34 | 95 | 10.1 | 6.8 |
|  | Re | 0 | 118 | 2.25 | 2.3 |
|  | Ta | 0 | 118 | 2.25 | 2.3 |
|  | Hf | 0 | 118 | 2.25 | 2.3 |
| Low Range | **Cr** | **24.8** | **14** | 20.2 | 0.3 |
|  | **V** | **28.0** | **11** | 35.4 | 0.5 |
|  | **Ti** | **1196** | **0** | 120 | 78.1 |
|  | *Sc* | *10974* | *10* | *14.8* | *5.7* |
|  | **Ca** | **1554** | **0** | 695 | 212 |
|  | **K** | **1962** | **0** | 338 | 226 |
|  | **S** | **18.6** | **10** | 42.8 | 2.9 |
| Light Range | **Al** | **16601** | **2** | 2399 | 978 |
|  | **P** | **243** | **27** | 704 | 164 |
|  | **Si** | **18210** | **0** | 2490 | 1097 |
|  | Cl | 60.5 | 37 | 71.6 | 52.9 |
|  | **Mg** | **4662** | **57** | 7252 | 4004 |