**Table A5:** Chemical comparison of original pebbles with crusts and glass coatings: concentrations determined by semiquantitative XRF analyses (TiO2 to K2O in wt. %, Rb to Zn in ppm; values not filled were below detection limit). Samples without locality specified are from Crater No. 4.

**a)** analyses with the Delta Premium instrument

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **material analyzed** | **TiO2** | **FeO t.** | **MnO** | **CaO** | **K2O** |  | **Rb** | **Sr** | **Cu** | **Zn** |
| **123**  **(Kalt.)** | interior (orthogneiss) |  | 1.54 |  | 0.01 | 2.74 |  | 338 | 26 |  | 9 |
| green glass |  | 1.45 |  | 0.47 | 4.60 |  | 394 | 24 | 88 | 33 |
| **124 (Kalt.)** | interior (relatively dark (meta)sedimentary rock) | 0.58 | 6.82 |  | 0.34 | 0.41 |  | 69 | 69 |  | 135 |
| interior close to surface | 0.90 | 9.02 | 0.095 | 0.92 |  |  | 115 | 83 |  | 123 |
| violet surface coating | 0.59 | 8.69 | 0.065 | 2.59 |  |  | 111 | 75 | 87 | 108 |
| yellow surface coating | 0.64 | 8.32 | 0.072 | 8.73 | 0.47 |  | 109 | 159 | 39 | 153 |
| **405** | interior (limestone) |  | 0.54 |  | 38.06 |  |  | 10 | 559 |  | 11 |
| bright weathering? crust |  | 0.71 |  | 32.47 |  |  | 17 | 537 |  | 21 |
| bright decarbonization? crust |  | 0.29 |  | 49.66 |  |  |  | 680 |  | 6 |
| **409** | interior (calcareous sandstone) |  | 1.16 |  | 24.88 |  |  | 3 | 434 |  | 7 |
|  | 1.07 |  | 27.28 |  |  | 3 | 566 |  | 6 |
| former surface just below glass |  | 3.37 | 0.060 | 6.38 |  |  | 135 | 333 | 25 | 71 |
| glass coating |  | 1.81 |  | 4.08 | 9.26 |  | 270 | 1009 | 132 | 134 |
|  | 1.80 |  | 4.19 | 9.31 |  | 284 | 670 | 136 | 139 |
| **413** | interior (calc. sandstone) |  | 0.13 |  | 18.71 |  |  |  | 107 |  | 44 |
| porous surface | 0.22 | 1.51 |  | 1.16 |  |  | 16 | 25 |  | 82 |
| **419** | basic rock?  interior close to surface | 0.38 | 4.36 |  | 1.86 | 0.26 |  | 94 | 64 |  | 46 |
| thin surface glass | 0.17 | 4.00 | 0.009 | 1.72 | 4.70 |  | 243 | 67 | 273 | 118 |
| **420** | interior (granitic rock) |  | 1.58 |  | 0.82 | 2.15 |  | 109 | 78 |  | 18 |
| thin colorless glass coating |  | 1.73 |  | 2.48 | 4.38 |  | 157 | 80 | 11 | 51 |
| **422** | interior (quartz-albite rock: albitized trondhjemite?, perhaps mylonitized) |  | 2.75 |  |  |  |  | 9 | 202 |  | 37 |
| 0.13 | 3.61 |  |  |  |  | 8 | 212 |  | 44 |
| 0.13 | 3.62 |  |  |  |  | 9 | 221 |  | 46 |
| glass |  | 3.87 |  | 3.91 | 12.85 |  | 225 | 204 | 126 | 26 |
| Gravel pit – unaffected gabbro-amphibolite (Vanta analyzer) | | 1.13 | 9.53 | 0.117 | 16.85 |  |  |  | 178 | 102 | 93 |

**b)** analyses with the Mini-X tube

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **material analyzed** | **TiO2** | **FeO t.** | **MnO** | **CaO** | **K2O** |  | **Rb** | **Sr** | **Cu** | **Zn** |
| **419** | interior (basic rock) | 0.47 | 3.09 | 0.04 | 3.36 | 2.77 |  | n.a. | 170 | 70 | 120 |
| 0.60 | 3.73 | 0.03 | 2.24 | 3.25 |  | n.a. | 180 | 70 | 150 |
| surface | 0.70 | 3.99 | 0.06 | 5.32 | 7.35 |  | n.a. | 180 | 280 | 240 |
| **420** | interior (orthogneiss) | 0.13 | 1.80 | 0.07 | 3.22 | 5.18 |  | n.a. | 230 | 50 | 90 |
| 0.08 | 0.64 | 0.02 | 1.54 | 5.66 |  | n.a. | 180 | 30 | 50 |
| thin glass coating | 0.52 | 3.22 | 0.46 | 9.09 | 6.50 |  | n.a. | 470 | 170 | 370 |
| thin glass coating | 0.35 | 2.44 | 0.27 | 7.14 | 6.99 |  | n.a. | 210 | 120 | 220 |
| **421** | interior (quartzite) | 0.33 | 0.77 | 0.05 | 0.31 | 0.14 |  | n.a. | 80 | 20 | 40 |
| 0.23 | 0.50 | 0.05 | 0.24 | 0.12 |  | n.a. | 70 | 20 | 40 |
| surface melt / glass | 0.40 | 5.66 | 0.36 | 9.93 | 2.53 |  | n.a. | 210 | 180 | 140 |
| 1.33 | 3.86 | 0.21 | 8.81 | 1.93 |  | n.a. | 240 | 160 | 110 |
| **4/1/-3 a** | interior (calcareous sandstone) | 0.45 | 4.1 | 0.27 | 10.08 | 3.99 |  | 266 | 1253 |  |  |
| greenish non-transparent glass | 0.16 | 1.9 | 0.11 | 10.2 | 13.1 |  | 805 | 761 | 176 | 698 |
| **16131** | dark melt (glass, manually purified) | 1.66 | 5.77 | 0.09 | 0.54 | 2.10 |  | 198 | 151 | 19 | 33 |
| **16132** | interior (quartzite) | 0.84 | 0.97 | 0.02 | 0.73 | 3.96 |  | 206 | 161 | 16 |  |
| transparent glass coating | 0.77 | 2.10 | 0.12 | 3.75 | 16.72 |  | 1283 | 227 | 440 |  |
| dark basic melt (slightly oxidized - violet surface) | 2.00 | 25.00 | 0.41 | 17.00 | 1.66 |  | 430 | 600 | 184 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| **5/1/0 b (Crater No. 5)** | interior | 0.54 | 4.80 | 0.10 | 6.25 | 1.21 |  | 119 | 93 | 26 | 57 |
| surface – dark melt | 0.97 | 13.30 | 0.34 | 13.60 | 2.75 |  | 704 | 829 | 10 | 228 |
| violet melt surface | 0.87 | 9.30 | 0.30 | 10.30 | 4.76 |  | 713 | 812 |  |  |