

Appendix IV. Trace element ICP-MS analyses of selected sanidines and glasses

| Area | Yellowstone | | | | Thomas Range | | | Long Valley | | | Taylor Creek | | | Jemez Mtn | |
|-----------------|-----------------|--------------------|-----------|---------------|--------------|-----------|----------|-------------|----------|------------|--------------|-------|-------|-----------|------------------------|
| Unit | Nez Perce Creek | Upper Basin member | Dry Creek | Mount Jackson | Topaz Mtn | Topaz Mtn | Spor Mtn | Glass Creek | Deer Mtn | Punch Bowl | Boiler Peak | TC | TC | BM 8407 | Las Conchas Campground |
| | Qpcn | Qpu | Qpcd | Qmj | | | | Cp | | Qmrm | SMC | BLP | DGC | Qvvf | Qvvf |
| # of Sample | 98821 | 98822 | 98823 | 98825 | 98701 | 98702 | 98703 | 98711 | 98713 | 98717 | 98911 | 98912 | 98913 | 93908B | 98901 |
| Sanidine | | | | | | | | | | | | | | | |
| Rb | 78.4 | 149.0 | 101.0 | 213.0 | 444.0 | 540.0 | 837.0 | 122.0 | 126.0 | 140.0 | 223.0 | 347.0 | 238.0 | 174.0 | 188.0 |
| Sr | 78.3 | 324.0 | 167.0 | 8.5 | 59.0 | 29.5 | 3.0 | 666.0 | 516.0 | 56.0 | 15.8 | 7.7 | 10.9 | 89.1 | 91.8 |
| Ba | 2640.0 | 10000.0 | 5360.0 | 182.0 | 160.0 | 67.5 | 3.5 | 6990.0 | 4890.0 | 391.0 | 89.5 | 43.5 | 53.5 | 703.0 | 758.0 |
| Y | 0.5 | 1.5 | 1.0 | 1.0 | 1.5 | 1.0 | 6.0 | <0.5 | <0.5 | 0.5 | 17.0 | 2.5 | 1.5 | 0.5 | 0.5 |
| Zr | 6.0 | 11.5 | 5.5 | 18.0 | 19.0 | 24.0 | 13.5 | 3.0 | 2.5 | 7.0 | 18.5 | 12.5 | 9.0 | 1.5 | 9.5 |
| Nb | 1.0 | 3.0 | 1.0 | 5.0 | 3.0 | 7.0 | 9.0 | 3.0 | 1.0 | 1.0 | 5.0 | 3.0 | 3.0 | 1.0 | 2.0 |
| Th | <1.0 | <1.0 | <1.0 | 2.0 | 2.0 | 3.0 | 4.0 | <1.0 | <1.0 | <1.0 | 3.0 | 1.0 | 1.0 | <1.0 | <1.0 |
| Cs | <0.1 | 0.2 | <0.1 | 0.4 | 1.5 | 1.9 | 2.4 | 0.3 | 0.1 | 0.5 | 0.4 | 0.7 | 0.3 | 0.2 | 0.2 |
| Hf | <1.0 | <1.0 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| Ta | <0.5 | 1.0 | <0.5 | 0.5 | 0.5 | 0.5 | 1.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | 1.0 |
| U | <0.5 | <0.5 | <0.5 | 1.0 | 1.0 | 1.0 | 2.0 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Co | <0.5 | <0.5 | <0.5 | 0.5 | 0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.5 |
| W | 6.0 | 2.0 | 3.0 | 4.0 | 3.0 | 6.0 | 63.0 | 3.0 | 1.0 | 1.0 | 4.0 | 10.0 | 62.0 | 28.0 | 70.0 |
| La | 9.5 | 11.5 | 12.0 | 5.5 | 6.0 | 3.0 | 9.0 | 0.5 | 1.0 | <0.5 | 5.5 | 3.5 | 3.5 | 0.5 | 2.0 |
| Ce | 10.5 | 11.0 | 13.5 | 6.0 | 5.0 | 5.0 | 12.5 | 1.0 | 1.0 | 0.5 | 18.5 | 10.5 | 8.5 | 1.5 | 2.5 |
| Pr | 0.6 | 0.7 | 0.9 | 0.3 | 0.3 | 0.1 | 1.0 | <0.1 | <0.1 | <0.1 | 0.8 | 0.2 | 0.3 | <0.1 | 0.1 |
| Nd | 1.5 | 1.5 | 2.5 | 1.0 | <0.5 | <0.5 | 3.0 | <0.5 | <0.5 | <0.5 | 3.0 | 0.5 | 0.5 | <0.5 | <0.5 |
| Sm | 0.1 | 0.2 | 0.4 | 0.1 | <0.1 | <0.1 | 0.7 | <0.1 | <0.1 | <0.1 | 0.9 | 0.2 | 0.2 | <0.1 | 0.1 |
| Eu | 4.4 | 5.0 | 4.6 | 0.7 | 0.7 | 0.4 | <0.1 | 1.2 | 1.0 | 0.8 | 0.8 | 0.6 | 0.6 | 0.5 | 0.6 |
| Gd | 0.3 | 0.2 | 0.3 | 0.1 | <0.1 | 0.1 | 0.7 | <0.1 | <0.1 | <0.1 | 1.3 | 0.3 | 0.3 | <0.1 | 0.1 |
| Tb | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 |
| Dy | 0.1 | 0.3 | <0.1 | 0.1 | <0.1 | <0.1 | 0.8 | <0.1 | <0.1 | <0.1 | 2.2 | 0.3 | 0.3 | <0.1 | 0.1 |
| Ho | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.6 | <0.1 | <0.1 | <0.1 | <0.1 |
| Er | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.5 | <0.1 | <0.1 | <0.1 | 1.6 | 0.1 | 0.2 | <0.1 | <0.1 |
| Tm | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 |
| Yb | 0.1 | 0.3 | <0.1 | 0.1 | 0.1 | 0.2 | 0.7 | <0.1 | <0.1 | <0.1 | 2.1 | 0.3 | 0.1 | 0.1 | 0.1 |
| Lu | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 |

Appendix IV. Trace element ICP-MS analyses of selected sanidines and glasses (continued)

| Area | Yellowstone | | | | Thomas Range | | | Long Valley | | | Taylor Creek | | | Jemez Mtn | |
|--------------|-----------------|--------------------|-----------|---------------|--------------|-----------|----------|-------------|----------|------------|--------------|-------|-------|-----------|------------------------|
| Unit | Nez Perce Creek | Upper Basin member | Dry Creek | Mount Jackson | Topaz Mtn | Topaz Mtn | Spor Mtn | Glass Creek | Deer Mtn | Punch Bowl | Boiler Peak | TC | TC | BM 8407 | Las Conchas Campground |
| | Qpcn | Qpu | Qpcd | Qmj | | | | Cp | | Qmrm | SMC | BLP | DGC | Qvvf | Qvvf |
| # of Sample | 98821 | 98822 | 98823 | 98825 | 98701 | 98702 | 98703 | 98711 | 98713 | 98717 | 98911 | 98912 | 98913 | 93908B | 98901 |
| Glass | | | | | | | | | | | | | | | |
| Rb | 234.0 | 222.0 | 232.0 | 354.0 | 413.0 | 464.0 | 2170.0 | 161.0 | 159.0 | 213.0 | 454.0 | 459.0 | 475.0 | | 297.0 |
| Sr | 4.2 | 35.2 | 7.9 | 1.1 | 15.1 | 15.8 | 11.2 | 148.0 | 172.0 | 3.9 | 4.1 | 2.7 | 2.9 | | 9.8 |
| Ba | 110.5 | 534.0 | 151.0 | 9.5 | 27.0 | 19.0 | <0.5 | 344.0 | 374.0 | 5.5 | 11.0 | 16.5 | 12.0 | | 48.0 |
| Y | 79.5 | 30.5 | 69.0 | 64.0 | 38.5 | 41.5 | 67.5 | 14.5 | 16.0 | 27.0 | 88.5 | 21.0 | 29.0 | | 68.5 |
| Zr | 265.0 | 175.5 | 211.0 | 142.5 | 130.0 | 118.5 | 79.0 | 117.0 | 154.0 | 99.5 | 165.5 | 159.0 | 134.0 | | 93.5 |
| Nb | 55.0 | 5.2 | 49.0 | 67.0 | 70.0 | 63.0 | 158.0 | 15.0 | 17.0 | 21.0 | 45.0 | 51.0 | 46.0 | | 74.0 |
| Th | 23.0 | 14.0 | 24.0 | 22.0 | 55.0 | 58.0 | 39.0 | 12.0 | 13.0 | 17.0 | 32.0 | 33.0 | 26.0 | | 32.0 |
| Cs | 3.7 | 2.6 | 4.0 | 3.1 | 7.6 | 7.9 | 71.6 | 3.9 | 3.9 | 5.3 | 4.9 | 4.1 | 6.2 | | 8.7 |
| Hf | 10.0 | 7.0 | 8.0 | 8.0 | 6.0 | 6.0 | 7.0 | 4.0 | 5.0 | 4.0 | 9.0 | 9.0 | 8.0 | | 5.0 |
| Ta | 5.0 | 4.0 | 4.5 | 7.5 | 7.0 | 6.5 | 59.0 | 2.0 | 3.0 | 2.5 | 6.0 | 6.5 | 5.5 | | 9.0 |
| U | 6.5 | 5.5 | 6.5 | 8.5 | 11.5 | 16.5 | 16.0 | 5.0 | 5.0 | 6.5 | 8.0 | 6.0 | 6.0 | | 11.5 |
| Co | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | 1.0 | 0.5 | <0.5 | 30.5 | 0.5 | 0.5 | | <0.5 |
| W | 5.0 | 1.0 | 3.0 | 4.0 | 5.0 | 5.0 | 38.0 | 3.0 | 2.0 | 2.0 | 256.0 | 8.0 | 5.0 | | 18.0 |
| La | 91.5 | 38.0 | 83.5 | 33.5 | 48.0 | 42.0 | 34.5 | 24.0 | 30.0 | 16.0 | 48.5 | 13.5 | 13.0 | | 26.5 |
| Ce | 181.0 | 56.0 | 164.5 | 64.5 | 93.5 | 84.0 | 113.0 | 48.5 | 44.5 | 38.5 | 100.0 | 74.0 | 67.5 | | 62.5 |
| Pr | 19.3 | 5.2 | 16.7 | 7.2 | 8.5 | 8.0 | 11.1 | 4.7 | 4.4 | 4.2 | 12.2 | 2.6 | 2.0 | | 6.8 |
| Nd | 70.5 | 17.5 | 58.0 | 25.0 | 24.0 | 23.0 | 36.5 | 15.5 | 14.5 | 16.0 | 43.5 | 8.5 | 6.0 | | 25.0 |
| Sm | 13.3 | 4.0 | 11.5 | 7.1 | 4.1 | 3.7 | 9.3 | 2.7 | 2.9 | 3.7 | 10.3 | 2.1 | 1.8 | | 6.4 |
| Eu | 0.7 | 0.9 | 0.7 | 0.1 | 0.2 | 0.1 | <0.1 | 0.5 | 0.5 | 0.1 | 0.2 | 0.1 | 0.1 | | 0.1 |
| Gd | 14.7 | 4.1 | 12.0 | 8.0 | 4.1 | 4.0 | 8.9 | 2.3 | 2.4 | 4.3 | 10.3 | 2.2 | 2.4 | | 7.4 |
| Tb | 2.3 | 0.8 | 1.9 | 1.4 | 0.8 | 0.7 | 1.6 | 0.4 | 0.4 | 0.7 | 2.0 | 0.5 | 0.6 | | 1.5 |
| Dy | 12.7 | 4.4 | 11.0 | 9.2 | 4.4 | 4.4 | 10.1 | 2.0 | 2.3 | 4.2 | 13.4 | 3.2 | 4.2 | | 9.8 |
| Ho | 2.5 | 0.9 | 2.4 | 2.1 | 1.1 | 1.1 | 2.0 | 0.4 | 0.5 | 0.8 | 3.0 | 0.7 | 1.0 | | 2.0 |
| Er | 7.6 | 3.0 | 6.6 | 6.3 | 3.7 | 3.9 | 6.8 | 1.3 | 1.5 | 2.5 | 9.4 | 2.5 | 3.6 | | 6.5 |
| Tm | 1.1 | 0.5 | 1.0 | 1.0 | 0.7 | 0.7 | 1.3 | 0.2 | 0.3 | 0.4 | 1.6 | 0.5 | 0.6 | | 1.2 |
| Yb | 6.3 | 3.2 | 6.3 | 6.4 | 0.1 | 5.9 | 10.9 | 1.7 | 1.7 | 2.4 | 11.1 | 3.2 | 4.6 | | 7.4 |
| Lu | 1.1 | 0.5 | 0.9 | 0.9 | 0.9 | 0.9 | 1.7 | 0.2 | 0.3 | 0.4 | 1.6 | 0.5 | 0.7 | | 1.1 |