**Supplemental Table 1**. Elemental concentrations and source assignments for the archaeological specimens and USGS RGM-1 obsidian standard. All measurements in parts per million (ppm).

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SAMPLE | Mn | Fe | Rb | Sr | Y | Zr | Nb | Ba | Pb | Th | Source |
| 1 | 396 | 12005 | 131 | 141 | 23 | 139 | 9 | 994 | 22 | 10 | Otumba, Estado de Mexico |
| 2 | 369 | 11732 | 127 | 142 | 21 | 144 | 12 | 985 | 19 | 5 | Otumba, Estado de Mexico |
| 3 | 432 | 12885 | 134 | 145 | 23 | 139 | 12 | 950 | 21 | 10 | Otumba, Estado de Mexico |
| 4 | 399 | 12615 | 137 | 148 | 21 | 140 | 11 | 927 | 24 | 12 | Otumba, Estado de Mexico |
| 5 | 361 | 11566 | 133 | 135 | 21 | 139 | 11 | 1015 | 22 | 17 | Otumba, Estado de Mexico |
| 6 | 507 | 14204 | 149 | 156 | 22 | 147 | 16 | 964 | 22 | 6 | Otumba, Estado de Mexico |
| 7 | 445 | 13225 | 147 | 151 | 21 | 146 | 14 | 863 | 23 | 14 | Otumba, Estado de Mexico |
| 8 | 419 | 12467 | 124 | 133 | 21 | 133 | 15 | 807 | 20 | 7 | Otumba, Estado de Mexico |
| 9 | 385 | 11748 | 128 | 140 | 22 | 145 | 13 | 954 | 20 | 17 | Otumba, Estado de Mexico |
| 10 | 401 | 11695 | 128 | 135 | 22 | 140 | 10 | 857 | 19 | 15 | Otumba, Estado de Mexico |
| 11 | 420 | 11502 | 116 | 132 | 22 | 133 | 8 | 704 | 19 | 11 | Otumba, Estado de Mexico |
| 12 | 392 | 11648 | 130 | 135 | 17 | 133 | 11 | 834 | 20 | 12 | Otumba, Estado de Mexico |
| 13 | 395 | 11955 | 125 | 138 | 21 | 135 | 14 | 928 | 21 | 16 | Otumba, Estado de Mexico |
| 14 | 426 | 12507 | 133 | 150 | 23 | 142 | 13 | 865 | 19 | 13 | Otumba, Estado de Mexico |
| 15 | 479 | 13455 | 144 | 152 | 20 | 144 | 12 | 870 | 23 | 16 | Otumba, Estado de Mexico |
| 16 | 412 | 12347 | 138 | 139 | 20 | 141 | 11 | 994 | 20 | 16 | Otumba, Estado de Mexico |
| 17 | 382 | 11826 | 123 | 140 | 23 | 143 | 11 | 947 | 19 | 16 | Otumba, Estado de Mexico |
| 18 | 378 | 11822 | 127 | 136 | 20 | 137 | 7 | 991 | 20 | 12 | Otumba, Estado de Mexico |
| 19 | 361 | 11216 | 124 | 135 | 20 | 141 | 12 | 1073 | 18 | 12 | Otumba, Estado de Mexico |
| 20 | 381 | 12067 | 130 | 145 | 22 | 140 | 13 | 958 | 21 | 12 | Otumba, Estado de Mexico |
| 21 | 436 | 12440 | 131 | 141 | 21 | 144 | 10 | 967 | 22 | 14 | Otumba, Estado de Mexico |
| 22 | 418 | 12564 | 138 | 148 | 21 | 146 | 15 | 997 | 22 | 22 | Otumba, Estado de Mexico |
| 23 | 509 | 13670 | 135 | 151 | 20 | 141 | 11 | 937 | 18 | 16 | Otumba, Estado de Mexico |
| 24 | 399 | 12548 | 132 | 147 | 21 | 138 | 10 | 956 | 22 | 11 | Otumba, Estado de Mexico |
| 25 | 493 | 14000 | 150 | 158 | 23 | 146 | 16 | 841 | 23 | 22 | Otumba, Estado de Mexico |
| 26 | 411 | 11922 | 130 | 141 | 24 | 144 | 14 | 1061 | 21 | 14 | Otumba, Estado de Mexico |
| 27 | 414 | 12903 | 139 | 150 | 23 | 149 | 16 | 980 | 19 | 13 | Otumba, Estado de Mexico |
| 28 | 442 | 12815 | 135 | 148 | 19 | 146 | 11 | 965 | 21 | 12 | Otumba, Estado de Mexico |
| 29 | 439 | 12446 | 130 | 144 | 18 | 139 | 11 | 1055 | 20 | 10 | Otumba, Estado de Mexico |
| 30 | 421 | 13008 | 139 | 150 | 20 | 141 | 11 | 1000 | 22 | 13 | Otumba, Estado de Mexico |
| 31 | 514 | 14372 | 145 | 161 | 24 | 150 | 15 | 844 | 23 | 22 | Otumba, Estado de Mexico |
| 32 | 463 | 13090 | 137 | 148 | 26 | 150 | 13 | 1106 | 23 | 14 | Otumba, Estado de Mexico |
| 33 | 486 | 12363 | 132 | 174 | 23 | 141 | 11 | 955 | 22 | 12 | Otumba, Estado de Mexico |
| 34 | 427 | 12298 | 128 | 146 | 21 | 140 | 9 | 1060 | 19 | 13 | Otumba, Estado de Mexico |
| 35 | 458 | 13090 | 140 | 152 | 21 | 146 | 11 | 933 | 25 | 13 | Otumba, Estado de Mexico |
| 36 | 533 | 13962 | 153 | 146 | 22 | 133 | 12 | 776 | 28 | 20 | Otumba, Estado de Mexico |
| 37 | 389 | 12478 | 132 | 148 | 22 | 137 | 14 | 881 | 22 | 11 | Otumba, Estado de Mexico |
| 38 | 450 | 13586 | 144 | 147 | 25 | 146 | 11 | 810 | 22 | 14 | Otumba, Estado de Mexico |
| 40 | 431 | 13276 | 145 | 155 | 19 | 145 | 15 | 942 | 24 | 13 | Otumba, Estado de Mexico |
| 41 | 350 | 10755 | 119 | 133 | 18 | 135 | 9 | 1096 | 18 | 16 | Otumba, Estado de Mexico |
|  | 335 | nm | 122 | 155 | 20 | 143 | 15 | 761\* | nm | 10 | Otumba-Glascock source, mean of 37 (2011) |
|  | nm | nm | 121 | 127 | 23 | 146 | 13 | 779 | 21 | 10 | Otumba-Nelson & Tingey (1998) |
|  | nm | nm | 123 | 127 | 23 | 148 | 13 | 791 | 21 | 11 | Otumba-Nelson & Tingey (1998) |
|  | nm | nm | 124 | 127 | 23 | 161 | 13 | 811 | 20 | 11 | Otumba-Nelson & Tingey (1998) |
|  | nm | nm | 156 | 170 | 20 | 123 | 10 | 802 | 38 | 11 | Jalapa-Nelson & Tingey (1998) |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | \* NAA measurement, all others EDXRF | nm=not measured |  |  |  |  |  |

References Cited

Nelson, Fred. W., and David G. Tingey

1997 X-ray Fluorescence Analysis of Obsidians in Western North America, Mexico, and Guatemala: Database for Source Identification. Manuscript on file, Geoarchaeological XRF Laboratory, University of California, Berkeley.

Shackley, M. Steven

2011 An Introduction to X-Ray Fluorescence (XRF) Analysis in Archaeology. In *X-Ray Fluorescence Spectrometry (XRF) in Geoarchaeology*, edited by M. Steven Shackley, pp. 7–44. Springer, New York.