Supplemental Table 1. Palynological data from Billy Big Spring, with spore and microscopic charcoal frequencies standardized to pollen concentration. Indirect dates were estimated based on nearby chronological markers when available (Sample 6, Beta-446259), or as averages of chronological markers weighted by vertical distance (Samples 4, 7-11) (Supplemental Table 1). Samples 3 and 5 were discounted from Figure 3 because of the uncertainties associated with the aberrant radiocarbon date (see main text) and outlying pollen counts for Sample 3, and with the negligible pollen count for Sample 5.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | | Pollen (%) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Spore (%) | | | Microscopic Charcoal (%) |  |  |
| **Sample** | **Depth** | **Sediment** | **Direct Date** | **Est. Date** | Arboreal Pollen | | *Alnus* | | *Betula* | *Juniperus* | *Abies* | *Picea* | *Pinus* | *Pseudotsuga* | *Tsuga* | *Populus* | *Salix* | Amaranthaceae | Apiaceae | *Artemisia* | Low-spine Asteraceae | High-spine Asteraceae | Liguliflorae | Brassicaceae | Caryophyllaceae | *Convolvulus* | Cyperaceae | *Epehdra nevadensis*-type | *Euphorbia* | *Dalea*-type | Other Fabaceae | Lamiaceae | Onagraceae | Poaceae | *Polygala* | *Eriogonum* | *Persicaria* | *Polygonum swatchensis*-type | Other Polygonaceae | Rosaceae | *Sagittaria* | *Sphaeralcea* | *Symphoricarpos* | Indeterminate | Monolete Smooth | Trilete Undifferentiated | *Selaginella* | Pollen Counts | Estimated Pollen Concentration (.mm-3) |
| 12 | surface | alluvial | - | recent | 79.0 | | <1 | | - | - | 4.6 | <1 | 70.6 | 2.4 | - | - | - | <1 | - | 2.0 | - | <1 | <1 | - | <1 | - | 4.1 | - | - | - | - | - | - | 11.0 | - | - | <1 | - | <1 | <1 | - | - | <1 | - | - | <1 | <1 | 430 | 300 | 124.0 |
| 11 | 12 | alluvial | - | 520 | 73.0 | | <1 | | - | - | 4.6 | <1 | 61.6 | 4.1 | <1 | - | - | <1 | - | 1.3 | <1 | 2.6 | 2.0 | - | <1 | - | 6.7 | - | - | <1 | - | - | - | 12.6 | - | - | - | - | <1 | <1 | <1 | - | - | - | <1 | - | <1 | 1680 | 300 | 46.5 |
| 10 | 20 | alluvial | - | 1450 | 68.6 | | <1 | | - | 1.7 | 3.7 | <1 | 60.3 | 2.3 | - | - | - | <1 | - | 2.7 | <1 | 2.9 | <1 | <1 | <1 | - | <1 | - | - | <1 | <1 | - | - | 17.7 | <1 | <1 | - | - | - | <1 | - | - | - | - | 1.7 | - | 2.3 | 690 | 300 | 22.3 |
| 9 | 30 | alluvial | - | 3390 | 72.4 | | <1 | | - | <1 | 2.0 | - | 67.0 | 1.5 | - | - | - | <1 | - | 2.0 | 2.9 | 5.4 | <1 | <1 | - | - | 1.5 | - | - | - | - | - | - | 11.5 | - | - | - | - | - | - | - | - | - | - | <1 | 2.9 | <1 | 1830 | 200 | 3.5 |
| 8 | 44 | alluvial | - | 4900 | 69.9 | | 1.5 | | - | <1 | <1 | - | 65.4 | 2.5 | - | - | - | <1 | - | 2.5 | 1.5 | 10.5 | 2.0 | - | - | - | 1.5 | - | - | - | - | - | <1 | 9.5 | - | - | - | - | - | <1 | - | - | - | - | 9.5 | 12.4 | <1 | 3470 | 200 | 1.5 |
| 7 | 60 | lacustrine | - | 6270 | 55.6 | | <1 | | - | - | 2.7 | 1.7 | 50.3 | <1 | - | - | - | <1 | - | 4.6 | <1 | 7.9 | 3.7 | <1 | <1 | <1 | <1 | - | <1 | <1 | - | - | <1 | 20.6 | - | <1 | <1 | - | - | - | - | - | - | <1 | 5.7 | 6.0 | <1 | 3990 | 300 | 3.2 |
| 6 | 70 | aeolian/overflow | - | 7050 | 51.3 | | <1 | | - | <1 | <1 | - | 48.0 | <1 | - | - | - | <1 | - | 13.0 | 1.2 | 8.6 | 7.0 | <1 | - | - | - | <1 | - | - | - | - | - | 13.6 | - | <1 | 1.7 | - | - | <1 | - | - | - | <1 | 11.3 | 8.3 | <1 | 3420 | 300 | 2.2 |
| 5 | 80 | tephra | Mazama | - | 36.7 | | 3.4 | | - | - | - | - | 33.3 | - | - | - | - | 6.7 | - | 10.0 | - | 20.0 | 6.7 | 3.4 | - | - | - | - | - | - | - | - | - | 16.7 | - | - | - | - | - | - | - | - | - | - | 3.4 | 3.3 | - | 610 | 30 | 0.3 |
| 4 | 91 | aeolian/overflow | - | 8280 | 46.5 | | 2.0 | | - | 3.7 | <1 | <1 | 35.9 | 3.0 | - | - | <1 | 3.6 | - | 9.6 | - | 13.3 | 7.7 | <1 | <1 | - | 2.0 | - | <1 | <1 | - | - | - | 13.6 | - | <1 | <1 | <1 | - | - | - | - | - | - | 6.7 | 7.6 | - | 3440 | 301 | 1.8 |
| 3 | 101 | aeolian/overflow | PRI-5797 | - | 58.1 | | <1 | | 1.7 | 2.4 | 1.3 | <1 | 49.2 | 3.0 | - | - | - | 2.0 | - | 9.9 | 1.6 | 9.3 | 7.0 | - | <1 | - | - | - | <1 | - | <1 | - | <1 | 8.4 | - | <1 | <1 | - | - | - | - | <1 | - | - | 4.6 | 2.9 | <1 | 30 | 301 | 4.0 |
| 2 | 112 | lacustrine | PRI-5798 | - | 44.5 | | - | | 2.0 | <1 | <1 | - | 37.6 | 2.9 | - | - | - | 2.9 | - | 6.9 | 2.9 | 17.7 | 8.9 | - | - | - | - | - | <1 | - | <1 | - | 2.0 | 11.8 | - | - | - | - | - | - | - | - | - | - | 14.9 | 8.9 | - | 8230 | 101 | 0.9 |
| 1 | 122 | lacustrine | PRI-5799 | - | 47.5 | | <1 | | <1 | 2.0 | 2.0 | <1 | 41.0 | - | - | - | - | <1 | - | 8.5 | <1 | 10.4 | 7.0 | - | - | - | <1 | - | - | <1 | - | <1 | 1.5 | 20.3 | - | <1 | - | - | - | - | - | - | - | <1 | 16.4 | 17.8 | <1 | 5820 | 202 | 1.8 |