Supplemental Table 1.

AMS Radiocarbon Dates for Jornada and Mimbres Region Perishables and Plasma Oxidation AMS Dates for Pictographs

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Region/Site (superscript number indicates the reference) | Accession # | Object | Dated Material | Lab Number | Measured 14C Age | δ13C | Conventional 14C Age | 2-sigma Calibrated Range |
|  |  |  |  |  |  |  |  |  |
| **El Paso County, TX** |  |  |  |  |  |  |  |  |
| Ceremonial Cave (41EP19) 3 | TARL 41EP19-46815A | Paho | *Yucca* fibers | Beta 302178 | 1940 ± 30 | -18.1 | 2050 ± 30 | 160 BC – AD 25 |
| Ceremonial Cave (41EP19) 3 | TARL 41EP19-46815B | Paho | *Yucca* fibers | Beta 302179 | 1900 ± 30 | -22.2 | 1950 ± 30 | AD 5 – 130 |
| Ceremonial Cave (41EP19) 3 | TARL 41EP19-19-1 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 302177 | 1080 ± 30 | -18.3 | 1190 ± 30 | AD 770 – 900 |
| Ceremonial Cave (41EP19) 3 | TARL 41EP19-17511 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 302176 | 1050 ± 30 | -18.1 | 1160 ± 30 | AD 775 – 980 |
| Ceremonial Cave (41EP19) 2 | CM A36.3.157 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 330544 | 1210 ± 30 | -20.9 | 1280 ± 30 | AD 660 – 775 |
| Ceremonial Cave (41EP19) 2 | CM A36.3.158 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 330545 | 1190 ± 30 | -21.2 | 1250 ± 30 | AD 675 – 875 |
| Ceremonial Cave (41EP19) 1 | PMAE 28-3-10/96698.1 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 357415 | 4240 ± 30 | -18.4 | 4350 ± 30 | 3025 – 2900 BC |
| Ceremonial Cave (41EP19) 1 | PMAE 28-3-10/96745-2 | Foreshaft | Wood (SOX) | UGAMS10870 | n/a | -23.0 | 1950 ± 25 | AD 5 – 130 |
| Ceremonial Cave (41EP19) 4 | PMAE 28-3-10/96746 | Foreshaft | *Agave* stalk | Beta 293254 | 3060 ± 30 | -8.1 | 3340 ± 30 | 1690 – 1530 BC |
| Ceremonial Cave (41EP19) 4 | TARL 46808-705 | Foreshaft | Wood | Beta 259572 | n/a | n/m | 2270 ± 40 | 400 – 205 BC |
| Ceremonial Cave (41EP19) 4 | TARL 46808-711 | Foreshaft | Wood | Beta 265842 | 2030 ± 40 | -23.6 | 2050 ± 40 | 170 BC – AD 60 |
| Ceremonial Cave (41EP19) 4 | TARL 46808-707 | Foreshaft | Sinew | Beta 259573 | n/a | n/m | 1900 ± 40 | AD 25 – 235 |
| Ceremonial Cave (41EP19) 5 | TARL 46811a | FCS | Wood (SOX) | AA 87857 | n/a | -24.6 | 2016 ± 81 | 200 BC – AD 210 |
| Ceremonial Cave (41EP19) 5 | TARL 17508 | FCS | Wood | AA 89960 | n/a | -24.7 | 2081 ± 55 | 350 BC – AD 65 |
| Ceremonial Cave (41EP19) 5 | TARL 46811b | FCS | Wood | AA 87858 | n/a | -25.2 | 2085 ± 38 | 200 – 10 BC |
| Ceremonial Cave (41EP19) 5 | TARL 46811c | FCS | Wood | AA 89961 | n/a | -24.6 | 2229 ± 56 | 400 – 150 BC |
| Ceremonial Cave (41EP19) 5 | MMA 66.9.39 / 1.30.4.3 | FCS | Wood (SOX) | AA 89974 | n/a | -24.7 | 2914 ± 55 | 1265 – 965 BC |
| Ceremonial Cave (41EP19) 5 | MMA 66.9.38 / 1.30.42.2 | FCS | Wood | AA 87848 | n/a | -24.5 | 2216 ± 37 | 385 – 175 BC |
| Ceremonial Cave (41EP19) 5 | MMA 66.9.37 / 1.30.4.1 | FCS | Wood | AA 87850 | n/a | -24.4 | 2126 ± 37 | 350 – 45 BC |
| Ceremonial Cave (41EP19) 5 | MMA 66.9.49 / 1.30.4.12 | FCS | Wood (SOX) | AA 87849 | n/a | -26.0 | 2116 ± 37 | 350 – 40 BC |
| Hueco Cave 5 (FB 6676) 1 | PMAE 28-3-10/96820 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 357413 | 1190 ± 30 | -18.3 | 1300 ± 30 | AD 660 – 775 |
| Hueco Cave 7 (FB6678) 1 | PMAE 28-3-10/96849 | GE Tablita | *Yucca* or *Dasylirion* stalk | Beta 357414 | 1190 ± 30 | -18.9 | 1290 ± 30 | AD 660 – 775 |
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| **Doña Ana County, NM** |  |  |  |  |  |  |  |  |
| Chavez Cave (LA 5520) 1 | PMAE 28-3-10/ 96567.2 | Foreshaft | Wood (SOX) | UGAMS10868 | n/a | -22.0 | 1810 ± 30 | AD 130 – 335 |
|  |  |  |  |  |  |  |  |  |
| **Lincoln County, NM** |  |  |  |  |  |  |  |  |
| Feather Cave? (LA 37551) 1 | MIAC 43604/11 | GE Effigy | *Yucca* or *Dasylirion* stalk | Beta 349947 | 1260 ± 30 | -23.9 | 1280 ± 30 | AD 660 – 775 |
|  |  |  |  |  |  |  |  |  |
| **Grant County, NM** |  |  |  |  |  |  |  |  |
| Steamboat Cave (LA 73054) 1 | PMAE 28-3-10/97167.1 | GE Tablita | *Yucca* or *Dasylirion* stalk | Beta 357412 | 960 ± 30 | -21.1 | 1020 ± 30 | AD 980 – 1130 |
| Doolittle Cave (LA 71696 ) 1 | PMAE 26-7-10/95457 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 357416 | 1020 ± 30 | -21.4 | 1080 ± 30 | AD 890 – 1025 |
| Mule Creek Cave (LA 71914) 1 | PMAE 29-20-10/97377 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 357417 | 360 ± 30 | -21.9 | 410 ± 30 | AD 1430 – 1625 |
| Mule Creek Cave (LA 71914) 1 | PMAE 29-20-10/97379.1 | Tablita | *Yucca* or *Dasylirion* stalk | Beta 357418 | 860 ± 30 | -20.1 | 940 ± 30 | AD 1030 – 1170 |
|  |  |  |  |  |  |  |  |  |
| **Hidalgo County, NM** |  |  |  |  |  |  |  |  |
| U-Bar Cave (LA 5689) 1 | MIAC 26554/11 | GE Effigy | *Yucca* or *Dasylirion* stalk | Beta 349946 | 720 ± 30 | -20.2 | 800 ± 30 | AD 1210 – 1280 |
|  |  |  |  |  |  |  |  |  |
| **AMS date on GE pictograph** |  |  |  |  |  |  |  |  |
| Hueco Tanks (41EP2) 6 | Panel 20, Element C-1 | Pictograph | Black paint | CAMS 25866 | n/a | n/a | 1250 ± 80 | AD 650 – 900 |
| Hueco Tanks (41EP2) 7 | Panel 20, Element C-2 | Pictograph | Black paint | CAMS 92186 | n/a | n/a | 1200 ± 80 | AD 670 – 990 |
| Hueco Tanks (41EP2) 6 | Panel 20, Element G-5 | Pictograph | Black paint | CAMS 29314 | n/a | n/a | 1180 ± 80 | AD 670 – 995 |
| Painted Walls (LA72165) 8 | Panel 9, Element 1 | Pictograph | Green paint | CAMS 190053 | n/a | n/a | 1100 ± 120 | AD 670 – 1170 |

Key: PMAE – Peabody Museum of Archaeology and Ethnology, Harvard University, Cambridge

TARL – Texas Archeological Research Laboratory, University of Texas at Austin

MIAC – Museum of Indian Arts and Culture, Museum of New Mexico, Santa Fe

CM – Centennial Museum, University of Texas at El Paso, El Paso

MMA – Maxwell Museum of Anthropology, University of New Mexico, Albuquerque

FCS – flat curved stick GE – Goggle-eye imagery SOX – solvent extraction pretreatment in addition to acid-alkali-acid pretreatment

n/a 13C isotope measured internally in the mass accelerator

n/m sample was too small to obtain a separate IRMS delta 13C measurement; isotope was measured internally in the mass accelerator

Dendrochronological calibrations were made using OxCal ver 4.4.1 and INTCAL20 calibration dataset (Reimer et al. 2020). Age ranges are rounded to the nearest 5 year interval as recommended by Stuiver and Polach (1977:362)

References for published dates:

1 published here

2 Loendorf et al. 2013

3 Miller et al. 2012

4 Dial and Creel 2001

5 Geib 2016

6 Hyman et al. 1999

7 Rowe 2005

8 Steelman 2023

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