Compilation of Pre-1882 Tree-Ring Dates for Navajo Sites in the Little Colorado River Basin of Arizona

Prepared by Chip Colwell-Chanthaphonh, Ph.D.

for

T. J. Ferguson
Anthropological Research, LLC
Tucson, Arizona

May 1, 2009

TABLE OF CONTENTS

Methodology Used to Collect Tree-Ring Data 1

Navajo Land Claims (NLC) Tree-ring Data 1

Black Mesa Archaeological Project (BMAP) Tree-ring Data 1

Additional Sites in the Little Colorado River Basin of Arizona 2

References Cited 2

List of Tables

Table 1. Thirty Sub-Areas with Navajo Sites with Tree-ring Dates before 1882 3

Table 2. Navajo Land Claims (NLC) Tree-Ring Data 4

Table 3. Black Mesa Archaeological Project (BMAP) Tree-ring Data 20

Table 4. Additional Tree-ring Data 30

HP019464

Methodology Used to Collect Tree-Ring Data

At your request, and working under your direction, I compiled data from Navajo sites with tree-ring samples that date before 1882 in the Little Colorado River Basin of Arizona. This document describes the methodology I used in this research, and presents the tree-ring data in four tables.

Navajo Land Claims (NLC) Tree-ring Data

The Navajo Land Claims (NLC) tree-ring data were gathered from two sources: the John S. Boyden Papers in the Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University (BYU), and the Navajo Land Claim Dendrochronology Files, Laboratory of Tree Ring Research, University of Arizona (LTRR). I used the archaeological site forms and other archival documents at BYU to compile a list of all tree-ring samples dating before 1882 from NLC sites in the Little Colorado River Basin of Arizona. I then conducted research at the Laboratory of Tree-Ring Research at the University of Arizona (LTRR) to determine which NLC tree-ring specimens had been re-dated since the original analysis. During this research, I consulted Stokes and Smiley (1964, 1966).

The NLC researchers labeled sites using a system that included a prefix designating the Sector, Area, and Subarea in which the sites were located. Individual sites were then identified by appending a letter to the prefix. Table 1 lists the 30 sub-areas that included Navajo sites with tree-ring dates before 1882.

NLC tree-ring data are presented in Table 2. Table 2 includes columns for the NLC specimen number (NLC No.), the NLC site designation (Site), the original date (Original Date), provenience information (Provenience of Specimen), the revised date assigned by the LTRR (Re-Date). NLC Field Forms for the sites included in the tabulation are presented in Appendix A.

Black Mesa Archaeological Project (BMAP) Tree-ring Data

Tree-ring data from Navajo sites on Black Mesa before 1882 were compiled using the Black Mesa Archaeological Project Dendrochronology Files curated at the Laboratory of Tree Ring Research, University of Arizona. The BMAP data reported in Robinson and Towner (1993) were used to identify Navajo sites with pre-1882 dates. Following this, the files at the LTRR were examined to collect additional information about these sites. Although these files are in many ways comparable with the NLC files, two categories were not as consistently completed: information concerning which internal feature a given specimen was taken from, and what artifacts, if any, were present in the structure from which the specimens were removed.

BMAP tree-ring data are presented in Table 3. Table 3 includes columns for site number, number of samples collected at the site (Num), the earliest reported cutting date for the site (EC), the latest reported date for the site up to 1882 (Late), the specimen number assigned to the sample (Spec. No.), the species of the sample (Species), type of structure from which the sample was obtained (Site Provenience), and notes.

Additional Sites in the Little Colorado River Basin of Arizona

Tree-ring data for other sites in the Little Colorado River Basin that yielded samples with cutting or near-cutting dates before 1882 were compiled using LTRR files. These data are presented in Table 4. Table 4 contains columns for the site number or name, the project producing the tree-ring dates, the cutting date reported for the site, the type of structure from which the tree-ring sample was obtained (Site Prov.), and notes.

The projects producing tree-ring dates include Defiance Navajo Group (DNG) consisting of field work conducted by BIA Branch of Forestry during the 1985 field season. All of these samples were taken from Navajo habitation structures in the Navajo National Forest, Defiance Plateau, and Chuska Mountains. Other specimens come from various other projects in the same area, from late 1970s to mid 1980s. Other projects include Navajo Forest Products Inventory (NFPI), the 1979 and 1980 field work of the Pinyon Road Group (PRG) for the Navajo Nation cultural resource management program, the Tsegi Canyon Misc. (TCM) collection made by a road construction crew, the Dinnebito Wash Valley (DWV) archaeological project conducted for the Navajo Nation, the Arizona Public Service 500 KV Transmission Line Project conducted by the Museum of Northern Arizona (MNA) from 1971-1974, research conducted by Gwinn Vivian of the Arizona State Museum (ASM) in 1965, the McKinley Mine (MM) project in 1985, the Pittsburg-Midway Project (PMS) in 1979, and, in one instance early work at a site that was later re-recorded by the Navajo Land Claims (NLC).

References Cited

Robinson, William J., and Ronald H. Towner
1993 *A Directory of Tree-Ring Dated Native American Sites in the American Southwest.* Laboratory of Tree-Ring Research, University of Arizona, Tucson.

Stokes, Marvin A., and Terah L. Smiley
1964 Tree-ring Dates from the Navajo Land Claim, II: The Western Sector. *Tree-Ring Bulletin* 26(1-4):13-27.

1966 Tree-ring Dates from the Navajo Land Claim, III: The Southern Sector. *Tree-Ring Bulletin* 27(3-4):2-11.

HP019466

Table 1. Thirty Sub-Areas with Navajo Sites with Tree-ring Dates before 1882

NLC Designation	*Sector, Area, and Sub-Area*
S-MLC-CD	Southern Sector, Middle Little Colorado River, Canyon Diablo
S-MLC-CH	Southern Sector, Middle Little Colorado River, Chevelon Creek
S-MLC-LP	Southern Sector, Middle Little Colorado River, Leroux-Pueblo Colorado Washes
S-ULC-CZ	Southern Sector, Upper Little Colorado River, Carrizo Wash
S-ULC-EM	Southern Sector, Upper Little Colorado River, Escondito Mountain
S-ULC-UP	Southern Sector, Upper Little Colorado River, Upper Puerco of the West
S-ULC-ZR	Southern Sector, Upper Little Colorado River, Zuni River
W-LLC-B	Western Sector, Lower Little Colorado River, Bodaway
W-LLC-BC	Western Sector, Lower Little Colorado River, Burnt Corn Wash
W-LLC-C	Western Sector, Lower Little Colorado River, Coconino Plateau
W-LLC-DO	Western Sector, Lower Little Colorado River, Doyanescla Mesa
W-LLC-DZ	Western Sector, Lower Little Colorado River, Dzildajinnah (Black Mountain)
W-LLC-HT	Western Sector, Lower Little Colorado River, Hooshdodiito Mesa
W-LLC-J	Western Sector, Lower Little Colorado River, Jeehdazaii (Pitch Point)
W-LLC-LM	Western Sector, Lower Little Colorado River, Lone Mountain (Low Mountain)
W-LLC-M	Western Sector, Lower Little Colorado River, Moencopi Wash
W-LLC-MB	Western Sector, Lower Little Colorado River, Moqui Buttes
W-LLC-MD	Western Sector, Lower Little Colorado River, Middel Dinnebito
W-LLC-MJ	Western Sector, Lower Little Colorado River, Middle Jeddito
W-LLC-MO	Western Sector, Lower Little Colorado River, Middle Oraibi
W-LLC-NJ	Western Sector, Lower Little Colorado River, North Jeddito
W-LLC-OP	Western Sector, Lower Little Colorado River, Owl Point
W-LLC-P	Western Sector, Lower Little Colorado River, Pinyon
W-LLC-SF	Western Sector, Lower Little Colorado River, San Francisco Wash
W-LLC-SM	Western Sector, Lower Little Colorado River, Salinas Mesas
W-LLC-TS	Western Sector, Lower Little Colorado River, Tse Chizzi
W-LLC-UD	Western Sector, Lower Little Colorado River, Upper Dinnebito
W-LLC-UO	Western Sector, Lower Little Colorado River, Upper Oraibi
W-LLC-WE	Western Sector, Lower Little Colorado River, Wepo Wash

HP019467

Table 2. Navajo Land Claims (NLC) Tree-Ring Data

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
1502	S-MLC-CD-F	1890+B	Sheep corral	1890++LGB comp
1503	S-MLC-CD-F	1870	Sheep corral, Side pole	1870vv
1505	S-MLC-CD-G	1869	Hogan 1, Cut stump near	1869+vv
206	S-MLC-CD-G	1842+	Hogan 1	1842++vv
329	S-MLC-CD-H	N/A	Hogan 1	1843++vv
204 (331)	S-MLC-CD-I	1854+	Hogan 2	
3135	S-MLC-CH-T	N/A	Sweathouse 1, Northeast side pole	1781++vv
3143	S-MLC-CH-X	N/A	Game corral, SW side catch pen	1842++vv
3303	S-MLC-LP-L	N/A	Hogan 4, West fork	1721vv
3650	S-MLC-LP-O	N/A	Hogan 5	1751+vv
3200	S-ULC-CZ-A	N/A	W.B. #4-5, Side pole	1510++vv
3214	S-ULC-CZ-A	1735+	Hogan 7	
3071	S-ULC-CZ-B	N/A	Hogan 1, Northwest side pole	1387vv
3106	S-ULC-CZ-C	N/A	Hogan 1, North side pole	1513++vv
3115	S-ULC-CZ-C	N/A	Hogan 1, SE side pole	1510+vv
3247	S-ULC-EM-AA	N/A	Hogan 6, North door post	1541vv
3266	S-ULC-EM-AA	1833cB	Hogan 10	
52	S-ULC-EM-C	N/A	Shelter 1, door post	1813+vv
3285	S-ULC-EM-G	N/A	Hogan 3, North side base log	1755+vv
3293	S-ULC-EM-G	1823 inc	Hogan 6	
3254	S-ULC-EM-Z	1701 inc G	Hogan 1, North side pole	1701vv
3261	S-ULC-EM-Z	1742+ inc G	Hogan 1	
3259	S-ULC-EM-Z	1764+ inc	Hogan 1	
3258	S-ULC-EM-Z	1808 inc G	Hogan 1	
3262	S-ULC-EM-Z	1815+ inc G	Hogan 1	
3265	S-ULC-EM-Z	1819+ inc G	Hogan 1	
3257	S-ULC-EM-Z	1821+ inc G	Hogan 1	
3263	S-ULC-EM-Z	1850 inc	Hogan 1	
859	S-ULC-UP-A	1864+	Hogan 1, South fork	

HP019468

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
2658	S-ULC-UP-AA	1755	Hogan 4, Front wall	
956	S-ULC-UP-B	1866G	Hogan 1, Side pole	1866+vv
958	S-ULC-UP-C	1871+G	Hogan 1, North fork	1871++v
959	S-ULC-UP-C	1872+G	Hogan 1, West fork	1872+vv
964	S-ULC-UP-E	1882+G	Hogan 3, Side pole	1882++vv
858	S-ULC-UP-I	1868G	Hogan 1, West fork	
3347a-d	S-ULC-UP-JJ	N/A	Hogan 4, West side pole	1729+vv
3344	S-ULC-UP-JJ	1788+ inc	Hogan 4	
3345	S-ULC-UP-JJ	1794 inc G	Hogan 4	
3348	S-ULC-UP-JJ	1802 inc G	Hogan 4	
3323	S-ULC-UP-LL	N/A	Hogan 6, West side pole	1615vv
3304	S-ULC-UP-LL	1761 inc G	Hogan 1	
3306	S-ULC-UP-LL	1758 inc G	Hogan 1	
3310	S-ULC-UP-LL	1745+ inc G	Hogan 2	
3311	S-ULC-UP-LL	1752+ inc G	Hogan 2	
3309	S-ULC-UP-LL	1760 inc G	Hogan 2	
3308	S-ULC-UP-LL	1763 inc G	Hogan 2	
3313	S-ULC-UP-LL	1763 inc G	Hogan 3	
3318	S-ULC-UP-LL	1761 inc G	Hogan 5	
3319	S-ULC-UP-LL	1759cG	Hogan 5	
3320	S-ULC-UP-LL	1760 inc G	Hogan 5	
3321	S-ULC-UP-LL	1763cG	Hogan 5	
3322	S-ULC-UP-LL	1764cG	Hogan 5	
3329	S-ULC-UP-LL	1759 inc G	Hogan 11	
3330	S-ULC-UP-LL	1755 inc G	Hogan 12	
3343	S-ULC-UP-MM	N/A	Hogan 3, North side pole	1657+vv
3334	S-ULC-UP-MM	1762 inc G	Hogan 1	
3337	S-ULC-UP-MM	1758 inc G	Hogan 1	
3338	S-ULC-UP-MM	1721 inc G	Hogan 1	
3340	S-ULC-UP-MM	1760 inc G	Hogan 1	
1985	S-ULC-UP-P	1798G	Game corral, Catch pen	1798++vv

HP019469

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
1990	S-ULC-UP-Q	1705+	Game corral, Catch pen	1705++vv
1989	S-ULC-UP-Q	1797+	Game corral, Catch pen	1797++vv
2008	S-ULC-UP-R	1777G	Game corral, Catch pen	1769++vv
2002	S-ULC-UP-R	1745+	Game corral, Catch pen	1745++vv
1996	S-ULC-UP-R	1758+	Game corral, Catch pen	1758++vv
2000	S-ULC-UP-R	1802+	Game corral, Catch pen	1802++vv
2017	S-ULC-UP-T	1856G	Hogan 2, Side pole	1856v comp
2015	S-ULC-UP-T	1856G	Hogan 2, Side pole	1856vv
2010	S-ULC-UP-T	1846+G	Hogan 1	1846++vv
2011	S-ULC-UP-T	1755+	Hogan 1	1755vv
2014	S-ULC-UP-T	1804+	Hogan 2, Side pole	1804+vv
2022	S-ULC-UP-U	1857G	Hogan 2, Side pole	1857v ind
2020	S-ULC-UP-U	1848G	Hogan 1, North side pole	1848++vv
2023	S-ULC-UP-U	1832+G	Hogan 2, North fork	1832++vv
2019	S-ULC-UP-U	1851+	Hogan 1, South side pole	1851vv
3215	S-ULC-ZR-AA	N/A	W.B. #2, West side pole	1794+vv
3	S-ULC-ZR-B	1837	Sheep corral 2	1842++vv
4	S-ULC-ZR-C	N/A	Corral	1881+vv
2996	S-ULC-ZR-DD	1793 inc G	Hogan 2, Roof pole	1793+vv
2993A	S-ULC-ZR-DD	1800+ inc	Hogan 2	
2994	S-ULC-ZR-DD	1857 inc G	Hogan 2	
2999	S-ULC-ZR-DD	1812 + inc G	Hogan 3	
3000	S-ULC-ZR-DD	1857 + inc G	Hogan 3	
10	S-ULC-ZR-E	1861C	Hogan 1, Pole	1861v inc
9	S-ULC-ZR-E	1861G	Hogan 1, Fork	1861G inc
12	S-ULC-ZR-E	1861	Hogan 2, Pole	1861G inc
19	S-ULC-ZR-E	N/A	Hogan 9, West side pole	1861LGB inc
20	S-ULC-ZR-E	N/A	Hogan 9, Northwest side pole	1861+LB inc
11	S-ULC-ZR-E	1826+C	Hogan 2, West fork	1838++vv
18	S-ULC-ZR-E	1850	Hogan 5, Roof beam	1845++vv
22	S-ULC-ZR-E	1859	Hogan 6, North fork	1860vv

HP019470

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
3037	S-ULC-ZR-E	N/A	Hogan 1, West door pole	1861+v inc
3061	S-ULC-ZR-E	N/A	Hogan 4, South side pole	1841++vv
3043	S-ULC-ZR-E	1849+ inc G	Hogan 2	
3042	S-ULC-ZR-E	1851+ inc G	Hogan 2	
3041	S-ULC-ZR-E	1861+ inc G	Hogan 2	
3011	S-ULC-ZR-EE	N/A	Hogan 1, East side pole	1801+vv
3010	S-ULC-ZR-EE	1812 inc G	Hogan 1	
3012	S-ULC-ZR-EE	1818 inc G	Hogan 1	
284	S-ULC-ZR-F	1840+	Hogan 4, Ridge pole	1840++v
33	S-ULC-ZR-G	1761	Lamb pen	1761vv
29	S-ULC-ZR-G	1892+	Hogan 1, Side beam	
1964	S-ULC-ZR-P	1720+	Game corral, East side of catch pen	1595vv
1979	S-ULC-ZR-S	1877	Sheep corral 4	1877+vv
3007	S-ULC-ZR-W	N/A	Hogan 2, West side pole	1543++vv
247	W-LLC-B-C	N/A	Corral I	
250	W-LLC-B-C	N/A	Hogan I	
251	W-LLC-B-C	N/A	Hogan I	
578	W-LLC-BC-B	1868G	Hogan 4	1868v inc
577	W-LLC-BC-B	1869	Sheep corral 5	1868v ind
576	W-LLC-BC-B	1868	Hogan 3	
580	W-LLC-BC-C	1868G	Hogan 1	1868v ind
581	W-LLC-BC-C	1868G	Hogan 2	1868vv
582	W-LLC-BC-C	1848+	Sheep corral	1858+vv
588	W-LLC-BC-F	N/A	Hogan 3	1690vv
591	W-LLC-BC-G	N/A	Hogan 3	1684++vv
894	W-LLC-BC-I	1803+	Hogan 1, Roof beam	1803++vv
895	W-LLC-BC-J	1869B	Hogan 1, Side pole	1869LB inc
896	W-LLC-BC-J	1869G	Shelter 2, Side pole	1869LGB
897	W-LLC-BC-K	1870G	Chindi Hogan 1, North fork	1870v inc
898	W-LLC-BC-K	1842+	Chindi Hogan 1, South fork	1842++vv
899	W-LLC-BC-L	1853	Hogan 1, Side pole	1853vv

HP019471

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
900	W-LLC-BC-L	1787+	Hogan 1, North fork	1787++vv
2213	W-LLC-BC-P	1765+G	House 3, Roof pole, Room 1	1765++vv
2212	W-LLC-BC-P	1798+	House 3, Side pole, Room 1	1798++vv
2211	W-LLC-BC-P	N/A	Hogan 1	1743++vv
2214	W-LLC-BC-Q	1850+	Hogan 1, South door post	1850++vv
2216	W-LLC-BC-S	1824+G	Hogan 1, Side pole	1824+vv
2225	W-LLC-BC-T	1844G	Hogan 1, South door post	1844vv
2226	W-LLC-BC-T	1819+G	Hogan 1, Side pole	1819++vv
2227	W-LLC-BC-T	1838+G	Hogan 1, Side pole	1838++vv
2228	W-LLC-BC-T	1841+G	Hogan 1, North main fork	1841++vv
2230	W-LLC-BC-X	1808+	Hogan 2, Side pole	1808++vv
2231	W-LLC-BC-X	1846+	Hogan 2, Side pole	1846++vv
254	W-LLC-B-N	N/A	Hogan	
255	W-LLC-B-N	N/A	Hogan	
1817	W-LLC-C-A	1833+	Hogan 2, Side pole	1833++vv
352	W-LLC-C-B	1793+G	Hogan 1, Fork	1793++vv
354	W-LLC-C-B	1803+G	Hogan 2, Fork	1803++vv
350 (229)	W-LLC-C-B	1793G	Hogan 1, Side beam	
351 (230)	W-LLC-C-B	1797G	Hogan 1, Side beam	
349 (228)	W-LLC-C-B	1786+B	Hogan 1, Fork	
353 (231)	W-LLC-C-B	1787+G	Hogan 2, Door	
3385	W-LLC-C-B	1709+ inc G	Hogan 1	
3379	W-LLC-C-B	1772+inc G	Hogan 2	
3378	W-LLC-C-B	1787+inc G	Hogan 2	
3383	W-LLC-C-B	1790+inc G	Hogan 2	
3381	W-LLC-C-B	1794+G	Hogan 2	
1821	W-LLC-C-C	1788+	Hogan 1 & 2, Common wall between	
355	W-LLC-C-C	1825+	Hogan 1, Side beam	
356	W-LLC-C-C	1833+	Hogan 1, Side beam	
804	W-LLC-C-CC	1828+G	Hogan 10, North fork	1828++vv
806	W-LLC-C-CC	1795	Hogan 1, South fork	1835++vv

HP019472

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
361	W-LLC-C-D	N/A	Hogan 2, Side beam	1763++vv
362 (233)	W-LLC-C-D	1782+G	Hogan 2, Side beam	
361 (232)	W-LLC-C-D	1763+	Hogan 2, Side beam	
364 (235)	W-LLC-C-D	1789+	Hogan 4, Fork	
3428	W-LLC-C-D	1745+ inc	Hogan 1	
3424	W-LLC-C-D	1758+ inc	Hogan 1	
3429	W-LLC-C-D	1790+c	Hogan 1	
3423	W-LLC-C-D	1794+	Hogan 1	
3422	W-LLC-C-D	1798+	Hogan 1	
3432	W-LLC-C-D	1812+ inc	Hogan 1	
3412	W-LLC-C-D	1751+ inc G	Hogan 5	
3410	W-LLC-C-D	1766+ inc	Hogan 5	
3413	W-LLC-C-D	1773+ inc	Hogan 5	
3414	W-LLC-C-D	1828+ inc G	Hogan 5	
3418	W-LLC-C-D	1789+ inc	Windbreak	
365	W-LLC-C-E	1769+G	Hogan 1, North fork	1796++vv
366	W-LLC-C-E	1839	Hogan 1, Lamb pen (?)	1839vv
3401	W-LLC-C-E	1820 inc G	Hogan 1	
3402	W-LLC-C-E	1798 inc G	Hogan 1	
3403	W-LLC-C-E	1809+ inc G	Hogan 1	
3404	W-LLC-C-E	1837+ inc G	Hogan 1	
3405	W-LLC-C-E	1792+ inc G	Hogan 1	
3406	W-LLC-C-E	1826+ inc G	Hogan 1	
376	W-LLC-C-F	1779+G	Corral 2, Stringer	1779++vv
371	W-LLC-C-F	1765	Hogan 2, Door	1765vv
370	W-LLC-C-F	1759+	Hogan 2, Door	1759++vv
375	W-LLC-C-F	1809+	Sheep corral 1	1809++vv
374 (236)	W-LLC-C-F	1807+	Sheep corral 1	
713	W-LLC-C-G	1788+G	Hogan 1	1788++vv
2362	W-LLC-C-H	N/A	Hogan 2	1640+vv
2364	W-LLC-C-H	1735+G	Hogan 7, Side pole	

HP019473

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
214	W-LLC-C-I	1832+	Corral 8	1833vv
215	W-LLC-C-K	N/A	Hogan 1	
216	W-LLC-C-K	N/A	Hogan 1	
3450	W-LLC-C-MM	1744+ inc	Hogan 4, West side pole	1744++vv
3433	W-LLC-C-MM	1746+ inc G	Hogan 1	
3435	W-LLC-C-MM	1771+ inc G	Hogan 1	
3436	W-LLC-C-MM	1824+ inc G	Hogan 1	
3454	W-LLC-C-MM	1788+G	Hogan 5	
3453	W-LLC-C-MM	1792+inc	Hogan 5	
3455	W-LLC-C-MM	1788+ inc G	Hogan 5	
3468	W-LLC-C-OO	1711+ inc G	Hogan 1, Roof pole	1711+vv
3466	W-LLC-C-OO	1713+ inc	Hogan 1	
3464	W-LLC-C-OO	1726+ inc	Hogan 1	
3461	W-LLC-C-OO	1729+ inc	Hogan 1	
3470	W-LLC-C-OO	1742+ inc G	Hogan 1	
3456	W-LLC-C-OO	1751+ inc G	Hogan 1	
3463	W-LLC-C-OO	1757+ inc	Hogan 1	
3459	W-LLC-C-OO	1757+ inc G	Hogan 1	
3457	W-LLC-C-OO	1786+ inc G	Hogan 1	
3469	W-LLC-C-OO	1809+ inc G	Hogan 1	
3462	W-LLC-C-OO	1814+ inc	Hogan 1	
3467	W-LLC-C-OO	1822+ inc G	Hogan 1	
3471	W-LLC-C-OO	1825cG	Hogan 1	
3499	W-LLC-C-OO	1795 inc G	Hogan 2	
3485	W-LLC-C-OO	1776+ inc G	Hogan 3	
3486	W-LLC-C-OO	1778+ inc G	Hogan 3	
3477	W-LLC-C-OO	1796+ inc G	Hogan 3	
3478	W-LLC-C-OO	1805 inc G	Hogan 3	
3472	W-LLC-C-OO	1829+ inc G	Hogan 3	
3476	W-LLC-C-OO	1830+ inc	Hogan 3	
3494	W-LLC-C-OO	1728+ inc G	Hogan 4	

HP019474

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
3489	W-LLC-C-OO	1756 inc G	Hogan 4	
3488	W-LLC-C-OO	1764 inc G	Hogan 4	
3490	W-LLC-C-OO	1770 inc G	Hogan 4	
3495	W-LLC-C-OO	1776+ inc G	Hogan 4	
3493	W-LLC-C-OO	1781 inc	Hogan 4	
3487	W-LLC-C-OO	1782 inc G	Hogan 4	
3465	W-LLC-C-OO	1711+ inc G	Hogan 1	
3492	W-LLC-C-OO	1786 inc G	Hogan 4	
2383	W-LLC-C-PP	1746+	Windbreak 1	1746++vv
391	W-LLC-C-R	1865G	Hogan 1, West fork	1865LGB comp
392	W-LLC-C-R	1869G	Hogan 2, South wall stringer	1882++vv
382 (239)	W-LLC-C-T	1823+G	Hogan 2	1823++vv
395	W-LLC-C-Z	1858+	Hogan 1, Side beam	1858++vv
679	W-LLC-DO-D	1874+G	Hogan 1	
681	W-LLC-DO-E	1854+	Hogan 1	1854+vv
682	W-LLC-DO-F	1858+G	Hogan 1	1858+vv
699	W-LLC-DO-F	1798+	Sheep corral	1798++vv
684	W-LLC-DO-G	1772	Hogan 2	1772vv
683	W-LLC-DO-G	1788	Hogan 1	1788++vv
686	W-LLC-DO-H	1844+	Sweathouse 1	1844+vv
687	W-LLC-DO-I	1868	Hogan 1	N/A
667	W-LLC-DO-L	1808+	Sweathouse 5	1808++vv
671	W-LLC-DO-P	1874	Hogan 4	1874v inc
672	W-LLC-DO-P	1869	Sheep corral 2	1869vv
904A	W-LLC-DO-Q	1858	Hogan 2, Door post	
909	W-LLC-DO-V	1869G	Hogan 1, South fork	1869vv
912	W-LLC-DO-V	1875G	Hogan 2, Base pole	1875vv
661	W-LLC-DO-V	1878G	Hogan 3	
914	W-LLC-DO-Z	1871+G	Hogan 3, North side pole	1871+vv
913	W-LLC-DO-Z	1873+G	Hogan 3, North fork	1873+vv
916	W-LLC-DO-Z	1803+	Hogan 7, North fork	1803+vv

HP019475

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
915	W-LLC-DO-Z	1874+	Hogan 1, Roof beam	1874+vv
573	W-LLC-DZ-B	1843+	Sheep corral 3	1843++vv
599	W-LLC-DZ-D	1875G	Hogan 2	1875v
600	W-LLC-DZ-D	1874G	Hogan 3	1874vv
598	W-LLC-DZ-D	1805+	Hogan 1	1805+vv
596	W-LLC-DZ-G	1805+	Sweathouse 1	1805+vv
935	W-LLC-DZ-K	1808	Hogan 4, Side pole	1808vv
939	W-LLC-DZ-L	1872+G	Corral 2, Fence pole	1872+vv
940	W-LLC-DZ-L	1893+G	Corral 4, Fence pole	1893++vv
944	W-LLC-DZ-M	1858G	Sweathouse 6, pole	1858vv
942	W-LLC-DZ-M	1852	Hogan 2, Roof beam	1852++vv
941	W-LLC-DZ-M	1856	Hogan 1, Roof beam	1856vv
943	W-LLC-DZ-M	1807+	Hogan 2, Roof beam	1807+vv
945	W-LLC-DZ-N	1701+	Hogan 1, Side pole	1701++vv
925	W-LLC-HT-C	1869G	Hogan 2, North fork	
936	W-LLC-HT-C	1869G	Hogan 5, Side pole	
926	W-LLC-HT-C	1870G	Hogan 3, South side fork	
690	W-LLC-HT-C	1870G	Hogan 1 (Yazzie's Hogan 6)	
924	W-LLC-HT-C	1872G	Hogan 1, side pole	
689	W-LLC-HT-C	1865+G	Hogan 6 (Yazzie's Hogan 4)	
691	W-LLC-HT-C	1841	Hogan 3 (Yazzie's Hogan 2)	
927	W-LLC-HT-C	1866	Hogan 6, Side pole	
688	W-LLC-HT-C	1870	Hogan 4 (Yazzie's Hogan 1)	
693	W-LLC-HT-D	1817	Hogan 4	
698	W-LLC-HT-D	1797+	Hogan 3	
1725	W-LLC-J-B	1795+	Hogan 1	
1726	W-LLC-J-B	1828+	Hogan 2	
1731	W-LLC-J-C	1724+	Hogan 2	
1733	W-LLC-J-C	1854+	Hogan 3	
1738	W-LLC-J-E	1808+	Sheep corral 3	
877	W-LLC-J-H	1798+	Hogan 3	

HP019476

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
876	W-LLC-J-H	1840+	Hogan 1	
879	W-LLC-J-I	1816+G	Hogan 1, Side pole	
880	W-LLC-J-J	1723G	Hogan 1, Side pole	
882	W-LLC-J-K	1778+G	Hogan 1, Side pole	
1723	W-LLC-LM-G	1773+	Hogan 2	
887	W-LLC-LM-M	1807G	Hogan 1, East fork	
886	W-LLC-LM-M	1858	Hogan 1, North fork	
2427	W-LLC-M-B24	1878G	Hogan 1, South main fork	
2662	W-LLC-M-B24	1878G	Hogan 1, South side pole	
2663	W-LLC-M-B24	1878G	Hogan 1, West side pole	
2237	W-LLC-MB-G	1819G	Antelope corral-catch pen, wing	
2236	W-LLC-MB-G	1849G	Antelope corral-catch pen, wing	
2238	W-LLC-MB-G	1840+G	Antelope corral-catch pen, wing	
2822	W-LLC-MB-NN	1817G	Hogan 1, Roof pole	
2829	W-LLC-MB-PP	1875G	Hogan 1, South side pole	
2836	W-LLC-MB-PP	1875G	Hogan 3, NW base log	
2844	W-LLC-MB-QQ	1777+	Hogan 4, NE base log	
2612	W-LLC-M-D10	1804+G	Hogan 1, South side pole	
2611	W-LLC-M-D10	1817+G	Hogan 1, North side pole	
2610	W-LLC-M-D10	1811+	Hogan 1, North side pole	
2628	W-LLC-M-D13	1846G	Hogan 2, East side pole	
2627	W-LLC-M-D13	1853G	Hogan 2, West side main fork	
2632	W-LLC-M-D13	1871G	Hogan 1, West side pole	
2630	W-LLC-M-D13	1804+G	Hogan 3, West side pole	
2624	W-LLC-M-D13	1838+G	Hogan 1, North side pole	
2626	W-LLC-M-D13	1871	Hogan 2, North side pole	
2629	W-LLC-M-D13	1809+	Hogan 3, South side pole	
2623	W-LLC-M-D13	1823+	Hogan 1, NE side of entry	
2592	W-LLC-M-D7	1860G	Hogan 1, North fork	
2643	W-LLC-MD-JJJ	1760+	Windbreak 4, East side pole	
2653	W-LLC-MD-KKK	1795	Hogan 5, Roof pole	

HP019477

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
2647	W-LLC-MD-KKK	1811	Corral 2, South side pole	
2656	W-LLC-MD-KKK	1740+	Corral 6, North side fence pole	
2652	W-LLC-MD-KKK	1770+	Hogan 4, Roof pole	
2645	W-LLC-MD-KKK	1782+	Hogan 1, West chink block	
2650	W-LLC-MD-KKK	1790+	Hogan 4, Roof pole	
2199	W-LLC-M-E	1875G	Hogan 1, South main pole	
2200	W-LLC-M-E	1805	Hogan 1, South door post	
2911	W-LLC-M-E8	1859G	Hogan 1, North side pole	
2910	W-LLC-M-E8	1859G	Hogan 1, Side pole south of door post	
2904	W-LLC-M-E8	1860G	Hogan 1, South fork	
2908	W-LLC-M-E8	1860G	Hogan 1, West side pole	
2909	W-LLC-M-E8	1852+G	Hogan 1, West side pole	
2906	W-LLC-M-E8	1857+G	Hogan 1, NW fork	
2907	W-LLC-M-E8	1857+G	Hogan 1, South side pole	
2905	W-LLC-M-E8	1859	Hogan 1, West side pole	
2922	W-LLC-M-E9	1860G	Hogan 6, North door post	
2913	W-LLC-M-E9	1759+	Hogan 1, South side pole	
2915	W-LLC-M-E9	1780+	Hogan 1, West side pole	
2919	W-LLC-M-E9	1789+	Hogan 4, North side pole	
2751	W-LLC-MJ-A3	1856G	Hogan 3, North fork	
2749	W-LLC-MJ-A3	1856G	Hogan 3, South fork	
2771A	W-LLC-MJ-A7	1873incG	Hogan 1, North side pole	
2770A	W-LLC-MJ-A7	1877inc	Hogan 1, North side pole	
2250	W-LLC-MJ-DD	1772G	Antelope corral-catch pen, wing	
2253	W-LLC-MJ-DD	1795+G	Antelope corral-catch pen, wing	
2252	W-LLC-MJ-DD	1798+G	Antelope corral-catch pen, wing	
2254	W-LLC-MJ-DD	1806+G	Antelope corral-catch pen, wing	
972	W-LLC-MJ-G	1864+G	Hogan 1	
970	W-LLC-MJ-G	1878+G	Hogan 1	
973A	W-LLC-MJ-H	1876+G	Sweathouse pole	
2279	W-LLC-MJ-HH	1809G	Antelope corral-catch pen, wing	

HP019478

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
2286	W-LLC-MJ-HH	1811G	Antelope corral-catch pen, wing	
2292	W-LLC-MJ-HH	1804+	Antelope corral-catch pen, wing	
2273	W-LLC-MJ-II	1817G	Game corral 1, catch pen	
2274	W-LLC-MJ-II	1826G	Game corral 1, catch pen	
2268	W-LLC-MJ-II	1822+G	Game corral 1, catch pen	
2272	W-LLC-MJ-II	1810+	Game corral 1, catch pen	
2418	W-LLC-MJ-III	1797G	Yei Hogan 7, Side pole	
2681	W-LLC-MJ-QQQ	1807G	Hogan 3, South side log	
2675	W-LLC-MJ-QQQ	1802+	Hogan 1, South base log	
2667	W-LLC-MJ-QQQ	1811+	Hogan 1, North side pole	
2696	W-LLC-MJ-SSS	1879G	Hogan 3, South main fork	
2707	W-LLC-MJ-SSS	1806+G	Hogan 4, Rear west wall	
2693	W-LLC-MJ-SSS	1720	Hogan 3, North side pole	
2706	W-LLC-MJ-SSS	1793	Hogan 4, SE base log	
2700	W-LLC-MJ-SSS	1797+	Hogan 4, Roof timber on floor	
2694	W-LLC-MJ-SSS	1854+	Hogan 3, NE side pole	
2697	W-LLC-MJ-SSS	1867+	Hogan 3, West main fork	
2698	W-LLC-MJ-SSS	1868+	Hogan 3, West side pole	
2699	W-LLC-MJ-SSS	1882+	Hogan 3, West main fork	
2718	W-LLC-MJ-WWW	1858G	Windbreak 2, North side pole	
2728	W-LLC-MJ-XXX	1873+G	Hogan 1, South main fork	
2730	W-LLC-MJ-XXX	1877+G	Hogan 2, North side pole	
2731	W-LLC-MJ-ZZZ	1861+	Hogan 1, SE side pole	
2871	W-LLC-MO-L	1835G	Hogan 4, South side pole	
655	W-LLC-NJ-AA	1855	Hogan 1	
1710	W-LLC-NJ-B	1703	Sheep corral 2	
657	W-LLC-NJ-BB	1816	Hogan 1	
1713	W-LLC-NJ-D	1730+	Hogan 2	
1714	W-LLC-NJ-D	1776+	Hogan 2	
872	W-LLC-NJ-DD	1868G	Hogan 3	
871	W-LLC-NJ-EE	1800+	Sheep corral	

HP019479

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
865	W-LLC-NJ-F	1860+G	Sheep corral	
864	W-LLC-NJ-F	1858	Hogan 1, South fork	
863	W-LLC-NJ-F	1795+	Hogan 1, North fork	
875	W-LLC-NJ-FF	1857G	Hogan 3	
874	W-LLC-NJ-FF	1867G	Hogan 1, North fork	
868	W-LLC-NJ-H	1860+G	Hogan 3, Side pole	
1783	W-LLC-NJ-K	1757+	Hogan 1	
1788	W-LLC-NJ-N	1843+G	Hogan 4	
1785	W-LLC-NJ-N	1858	Hogan 1	
638	W-LLC-NJ-P	1814G	Hogan 2	
641	W-LLC-NJ-P	1748+	Hogan 7	
642	W-LLC-NJ-P	1802+	Sheep corral 2	
651	W-LLC-NJ-W	1784+	Sweathouse 1	
1706	W-LLC-OP-P	1804	Hogan 1	
1728	W-LLC-OP-T	1711	Hogan 2	
1729	W-LLC-OP-U	1860G	Hogan 1	
1718	W-LLC-P-F	1710	Game corral	
1717	W-LLC-P-I	1754+	Game corral	
1744	W-LLC-P-N	1804+	Hogan 1	
1747	W-LLC-P-N	1807+	Hogan 4	
904a	W-LLC-P-R	N/A	Hogan 2	1858vv
904	W-LLC-P-R	1817+G	Hogan 3	N/A
335	W-LLC-SF-K	1875+	Hogan 2, Fork	1825++vv
334	W-LLC-SF-K	1826+	Hogan 1, Fork	
341	W-LLC-SF-L	1870G	Hogan 1, Stringer	
342	W-LLC-SF-L	1813+G	Hogan 2, Stringer	
204	W-LLC-SF-O	1854+	Hogan 2	1867vv
705	W-LLC-SM-A	1760+	Sheep corral 4	
603	W-LLC-SM-B	1738+	Hogan 1	
607	W-LLC-SM-D	1732+	Hogan 3	
606	W-LLC-SM-D	1773+	Hogan 1	

HP019480

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
614	W-LLC-SM-E	1711+	Hogan 1	
615	W-LLC-SM-E	1756+	Hogan 2	
619	W-LLC-SM-G	1879G	Hogan 2	
623	W-LLC-SM-I	1817	Sheep corral 2	
622	W-LLC-SM-I	1759+	Hogan 1	
632	W-LLC-SM-N	1722+	Sweathouse 3	
633	W-LLC-SM-N	1756+	Hogan 1, Side pole	
1759	W-LLC-SM-P	1821+	Hogan 2	
1762	W-LLC-SM-Q	1784+	Sweathouse 1	
1765	W-LLC-SM-T	1752+	Sheep corral 2	
1764	W-LLC-SM-T	1813+	Hogan 1	
1770	W-LLC-SM-U	1826+	Hogan 4	
1774	W-LLC-SM-V	1781+G	Hogan 4	
1772	W-LLC-SM-V	1761+	Hogan 1	
1773	W-LLC-SM-V	1782+	Hogan 3	
1775	W-LLC-SM-W	1800+	Hogan 1	
1780	W-LLC-SM-X	1860+G	Hogan 3	
1781	W-LLC-SM-X	1766	Hogan 4	
1715	W-LLC-TS-B	1817	Hogan 1	
1741	W-LLC-TS-D	1858G	Hogan 3	
1740	W-LLC-TS-D	1853	Hogan 1	
1734	W-LLC-TS-E	1666	Hogan 1	
1735	W-LLC-TS-F	1759+	Hogan 1	
883	W-LLC-TS-H	1856G	Hogan 1, North fork	
884	W-LLC-TS-H	1856G	Hogan 1, West fork	
885	W-LLC-TS-H	1743+	Hogan 2	
2188	W-LLC-UD-A	1843+G	Hogan 1, Side pole	
2191	W-LLC-UD-B	1849+G	Hogan 1, Side pole	
2198	W-LLC-UD-D	1834+G	Hogan 1, Side pole	
2209	W-LLC-UD-G	1866+G	Hogan 3, North door post	
2208	W-LLC-UD-G	1877+G	Hogan 2, South door post	

HP019481

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
2218	W-LLC-UD-H	1850+G	Hogan 1, Side pole	
2217	W-LLC-UD-H	1856+G	Hogan 1, South door post	
2221	W-LLC-UD-I	1856+G	Hogan 4, Roof pole	
2317	W-LLC-UD-W	1842+	Hogan 1, Side pole	
2316	W-LLC-UD-X	1839+	Hogan 2, Side plug (chink)	
2318	W-LLC-UD-Y	1780+	Hogan 1, Side pole	
2322	W-LLC-UD-Z	1869+G	Hogan 6, Side pole	
2320	W-LLC-UD-Z	1887+	Hogan 1, Wall chink	
861A	W-LLC-UO-A	1879+	Hogan 1	
2327	W-LLC-UO-BB	1815+G	Hogan 1, Side pole	
863A1	W-LLC-UO-C	1833+G	Hogan 1	
863A	W-LLC-UO-C	1835+G	Hogan 1, West fork	
864A	W-LLC-UO-C	1854+G	Hogan 1, North fork	
2328	W-LLC-UO-DD	1790+G	Fort. Crag, Room 1, Roof beam	
2331	W-LLC-UO-DD	1873+	Hogan 3, Side pole	
411	W-LLC-UO-E	1744+	Hogan 2	
416	W-LLC-UO-F	1779+	Hogan 2	
951	W-LLC-UO-F	1792+	Hogan 2, West base pole	
2388	W-LLC-UO-FF	1857+G	Hogan 1, Side pole	
2387	W-LLC-UO-FF	1857	Hogan 1, Side pole	
423	W-LLC-UO-H	1809	Hogan 2	
2393	W-LLC-UO-KK	1850GB	Hogan 1, Side pole	
2394	W-LLC-UO-LL	1882G	Hogan 6, Side pole	
2396	W-LLC-UO-LL	1743+	Hogan 7, Lintel	
947	W-LLC-UO-O	1817+G	Hogan 1, North side fork	
946	W-LLC-UO-O	1728	Hogan 1, North fork	
N/A	W-LLC-UO-P	1792+	Hogan 3, Base pole, W side	
2400	W-LLC-UO-PP	1866	Lean-to 1, Side pole	
952	W-LLC-UO-Q	1795	Hogan 3, Side pole	
953	W-LLC-UO-R	1622+G	Hogan 1, Roof beam	
955	W-LLC-UO-R	1672+	Sweathouse, Side pole	

HP0019482

NLC No.	*Site*	*Original Date*	*Provenience of Specimen*	*Re-Date*
954	W-LLC-UO-R	1804+	Hogan 1, Roof beam	
400	W-LLC-UO-T	1816	Structure 1	
2407	W-LLC-UO-TT	1877	Hogan 3, Side pole	
408	W-LLC-UO-V	1808+	Hogan 5	
404	W-LLC-UO-V	1809+	Hogan 1	
2224	W-LLC-UO-X	1743+	Hogan 3, South door post	
2265	W-LLC-WE-H	1867+	Sweathouse 5, Side pole	
2293	W-LLC-WE-O	1850+	House 1, Roof viga	

HP019483

Table 3. Black Mesa Archaeological Project (BMAP) Tree-ring Data

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
ARIZONA D:11:282	2		1852	6254	1852+rB	PNN	STR 2, S-G corral, ax cut branch	Terminal ring incomplete; no clustering; only other structure a windbreak
ARIZONA D:11:1021	2		1759	4510	1759+vv	PNN	STR 1, Lamb pen	No clustering
ARIZONA D:11:1024	2	1836	1836	3864	1836G	PNN	STR 1, Sweat lodge, Vertical wall	Cluster w/ 1836G, 2nd sample same structure; no hogan or other structures
ARIZONA D:11:1132	3		1879	7493	1879++vv	PNN	STR 1, Windbreak, horiz wall cribbed	No clustering; all samples noncutting dates
ARIZONA D:11:1224	2		1879	6647	1879++vv	PNN	STR 1, Sweatlodge, Loose log	No clustering; all samples noncutting dates
ARIZONA D:11:1300	2		1828	6656	1828vv	PNN	STR 1, Ram pen	No clustering
ARIZONA D:11:17	1		1747	162	1747++vv	PNN	N/A	
ARIZONA D:11:205	8	1870	1871	7009	1870G	PNN	STR 3, Forked stick hogan, Post	No clustering for STR 3, but STR 1 (Forked Stick hogan): 1871+G, 1871+G
ARIZONA D:11:241	4	1857	1920	3483	1857G	PNN	Cribbed burial hogan, Horizontal wall	No clustering
ARIZONA D:11:242	4	1850	1850	3520	1850G	PNN	STR 1, Hogan, Forked support post	No clustering
ARIZONA D:11:269	2		1791	6239	1791++G	PNN	Conical windbreak structure, vertical wall	
ARIZONA D:11:281	13	1878	1897	1018	1878G	PNN	STR 7, Cribbed hogan	No clustering
ARIZONA D:11:285	2		1799	6258	1799vv	PNN	STR 1, Cribbed hogan	
ARIZONA D:11:305	22	1844	1859	4430	1844G	PNN	STR 3, Horse or cattle corral	No clustering at 1844; some clustering at 1939 and 1959

HP019484

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
ARIZONA D:11:313	33	1852	1885	4370	1852G	PNN	STR 2, Hogan, vertial wall	No clustering
ARIZONA D:11:317	20	1856	1930	2578	1856G	PNN	Cribbed log hogan, Fourth level	No clustering
ARIZONA D:11:351	142	1850	1973	853	1850G	PNN	STR 19, Horse corral	No clustering at 1850; very strong clustering 1935-1937
ARIZONA D:11:361	11	1713	1941	3680	1713G	PNN	STR 3, Hogan	No clustering
ARIZONA D:11:364	11	1856	1875	4259	1856G	PNN	STR 1, Hogan, Vertical wall	No clustering (although: 1875G (STR 2, corral), 1870G (STR 1), 1871+G (STR 2))
ARIZONA D:11:365	3	1838	1838	6279	1838rG	PNN	STR 1, Hogan, Forked support post	One other from STR 1 is 1838G
ARIZONA D:11:370	4	1838	1838	6283	1838G	PNN	STR 2, Hogan, Forked support post	4 samples in all: no clustering
ARIZONA D:11:371	5	1870	1880	6285	1870G	PNN	STR 3, Forked stick hogan, vert wall	Some weak clustering, STR 3, 2nd date 1871+G
ARIZONA D:11:378	14		1802	4444	1802vv	PNN	STR 4, S-G Corral	14 samples in all: all noncutting
ARIZONA D:11:382	17	1811	1947	4504	1811G	PNN	STR 1, Sweat lodge, Vertical wall	No clustering
ARIZONA D:11:388	25	1868	1909	3554	1868G	PNN	STR 2, Wood storage, Forked log	No clustering at 1868; clustering at 1905
ARIZONA D:11:4004	2		1789	2785	1789++vv	PNN	STR 2, Corral	No clustering; no hogan
ARIZONA D:11:4039	2	1878	1878	5224	1878G	PNN	STR 1, feature unclear	No clustering; all samples noncutting dates
ARIZONA D:11:4041	3		1843	5454	1843+vv	PNN	STR 1, Hogan	No clustering
ARIZONA D:11:4053	1		1746	5722	1746vv	PNN	STR 1, Hogan?	
ARIZONA D:11:4057	12	1816	1832	5612	1816G	PNN	STR 3, Hogan	No clustering
ARIZONA D:11:4059	1		1787	4929	1787vv	PNN	STR 3, Hogan?	All other samples, no

HP019485

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
								dates discernable
ARIZONA D:11:4061	2		1780	4933	1780++vv	PNN	STR 1, Windbreak	No clustering; no hogan
ARIZONA D:11:408	1		1776	PBM-6814	1776+	PNN	Conical Shelter	
ARIZONA D:11:4093	3	1858	1877	5123	1858G	PNN	STR 1,	No clustering; other solid date 1875G
ARIZONA D:11:4106	6		1868	5401	1868++G	PNN	STR 3	No clustering; all noncutting dates
ARIZONA D:11:4128	1		1713	5234	1713+vv	PNN	STR 1	No clustering; no other dates discernable
ARIZONA D:11:4129	6	1809	1896	4977	1809G	PNN	STR 1, Hogan	No clustering; all other dates are later: 1888G and 1896+LGB
ARIZONA D:11:4196	2		1781	5751	1781vv	PNN	STR 2, Cr Hogan	No clustering; other date 1775vv
ARIZONA D:11:4197	2	1859	1859	5262	1859G	PNN	STR 2, Hogan	No clustering; other date 1858++vv
ARIZONA D:11:4199	13	1870	1882	5212	1870G	JUN	STR 1, Corral	Weak clustering in STR 1: 1871+G, 1873+G; but other features don't exhibit clustering; 2 hogans present though neither w/ clear dates
ARIZONA D:11:4200	15	1870	1911	5520	1870G	JUN	STR 5, Corral	No clustering, but corral includes later dates: 1874+G, 1874+G
ARIZONA D:11:422	3	1846	1846	6318	1846G	PNN	STR 1, Hogan, Forked support post	Same structure, possible weak clustering w/ one sample at 1845+G
ARIZONA D:11:423	5		1877	2731	1877+vv	PNN	STR 1, Cribbed hogan, Horiz wall	No clustering; all samples noncutting dates
ARIZONA D:11:4257	1		1765	3918	1765+vv	JUN	STR 2, Hogan?	No clustering
ARIZONA D:11:4268	1		1698	3938	1698vv	PNN	STR 1	

HP019486

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
ARIZONA D:11:4269	9	1833	1833	4388	1833G	PNN	STR 2, Lamb pen	No clustering; no hogan
ARIZONA D:11:4271	7		1871	3942	1871+G	PNN	STR 1, Hogan	3 samples of STR 1 all weakly cluster: 1871+G, 1872+G; Also STR 2 (feature unclear): 1871+G, 1871+G, 1871+G
ARIZONA D:11:4297	3	1858	1858	5448	1858G	PNN	STR 2, corral?	No clustering
ARIZONA D:11:4321	1		1871	4983	1871+G	PNN	STR 1, Cribbed hogan?	Only sample w/ date
ARIZONA D:11:4325	1	1869	1869	4930	1869G	PNN	STR 2, feature unclear	Only sample
ARIZONA D:11:4329	9	1869	1946	5736	1869G	PNN	STR 1, feature unclear, hogan?	No clustering; fea also includes a sample of 1946+rLG; and STR 2 (feature unclear) also has a cluster at 1946
ARIZONA D:11:4340	8		1710	4212	1710vv	PNN	STR 4, Hogan	No clustering; all noncutting dates
ARIZONA D:11:4343	5		1749	4182	1749++vv	PNN	STR 1	No clustering; all noncutting dates
ARIZONA D:11:4344	2		1685	3955	1685+G	PNN	STR 1, Windbreak?	No clustering; simple structure, no hogan
ARIZONA D:11:4350	4		1818	3971	1818+vv	PNN	STR 1, Hogan?	No clustering; all noncutting dates
ARIZONA D:11:436	1		1690	2788	1690+vv	PNN	STR 1, Windbreak?	
ARIZONA D:11:451	22	1870	1971	6907	1870G	PNN	STR 2, Sheep-Goat corral, Horiz wall	No clustering; Corral dates go to: 1920G, 1940LGB, 1971+LGB
ARIZONA D:11:455	11	1868	1930	6347	1868rB	PNN	STR 1, Cribbed hogan	No clustering at 1868; some clustering at 1893
ARIZONA D:11:495	2	1875	1875	7155	1875G	PNN	STR 1, Cribbed hogan, Horiz wall	No clustering; all other samples noncutting dates
ARIZONA D:11:507	1		1816	PBM-7189	1816vv	PNN	STR 2, Sweat lodge	
ARIZONA D:11:555	34	1877	1959	1075	1877G	PNN	STR 1, Forked stick	Some weak clustering in

HP019487

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
							hogan, Vert wall	STR 1: 1872+GB, 1876vv, 1876+G, 1879GB, 1880G; no other features cluster except STR 7 (ramada): 1958+r, 1958+rB
ARIZONA D:11:558	29	1840	1840	PBM-6496	1839vv	PNN	STR 16, Corral	
ARIZONA D:11:587	6		1782	PBM-7337	1782+vv	PNN	STR 1	
ARIZONA D:11:599	16	1846	1917	PBM-6556	1846RLB	PNN	STR 8, Corral	No clustering
ARIZONA D:11:6	2		1877	297	1877v	PNN	STR 1, Cribbed hogan	No clustering; all samples noncutting dates
ARIZONA D:11:608	11		1808	PBM-7378	1808++vv	PNN	STR 2, Corral	
ARIZONA D:11:609	7		1859	PBM-7391	1859++B	PNN	STR 1, Corral	
ARIZONA D:11:647	5	1869	1931	6609	1869G	PNN	STR 1, Windbreak, Horiz wall stacked	Other cutting dates for STR 1: 1931rLGB, 1931+LGB; no hogan
ARIZONA D:11:656	4	1881	1881	6614	1881G	PNN	STR 1, Windbreak, Horiz wall stacked	No clustering; no hogan; cutting dates suggest later occupation: STR 8 (windbreak) 1890rLG, 1889rLGB
ARIZONA D:11:663	18	1870	1967	3302	1870G	PNN	STR 1, Windbreak, Horiz wall stacked	Cluster of 9 samples, all cutting dates, all date to 1967, so 1870 is the odd one out
ARIZONA D:11:669	9		1878	7458	1878vv	PNN	STR 1, Cribbed hogan, Horiz wall	No clustering; all samples noncutting dates
ARIZONA D:11:67	3		1876	247	1876vv	PNN	F-S Hogan	No clustering; all samples noncutting dates
ARIZONA D:11:688	1		1770	1129	1770++rG	PNN	HS#1	Wood fragment; terminal ring included
ARIZONA D:11:692	1		1726	1365	1726vv	PNN	HS#1 BW	Wood fragment
ARIZONA D:11:878	1	1865	1865	2254a,b	1865rB	JUN	STR 1, Windbreak	No clustering; no hogan,

HP0194488

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
								other structure a lamb pen
ARIZONA D:11:922	10		1837	2498	1837vv	PNN	STR 1, Hogan	No clustering; all samples noncutting
ARIZONA D:12:213	7	1775	1891	1291	1775G	PNN	HTC#1, unclear structure	No clustering, except two associated structures: 1890G, 1890G, 1891G, 1891rG, 1891rG
ARIZONA D:12:214	14	1869	1888	4079	1869rG	PNN	STR 2, Corral	Some weak clustering, STR 2, 2nd date: 1871+G; STR 6 (lamb pen): 1888rG, 1888G
ARIZONA D:12:215	12	1793	1862	4242	1793G	PNN	STR 5, Forked stick hogan	STR 5 strong cluster w/ later date only: 1856G, 1857LG, 1857GB, 1862LGB
ARIZONA D:12:224	2		1636	7712	1636vv	PNN	STR 1, Windbreak/lamb pen	No clustering; no hogan
ARIZONA D:12:233	5		1865	7563	1865+rLB	JUN	STR 3, Windbreak	No clustering; no hogan; all other dates noncutting
ARIZONA D:12:234	25	1870	1923	944	1870r	PNN	STR 10, Corral	No clustering
ARIZONA D:12:241	3		1879	7714	1879vv	PNN	STR 1, Forked stick hogan	Other two dates from STR 1: 1874vv, 1877++vv
ARIZONA D:12:255	1		1658	7675	1658++vv	PNN	STR 1, Tent shade	No hogan
ARIZONA D:12:263	3	1849	1949	2267	1849G	PNN	STR 1, Windbreak	No hogan; 2nd date clusters to 1849rG
ARIZONA D:7:1107	2		1850	2484	1850++B	PNN	STR 1, Windbreak wall	No clustering; no Hogan
ARIZONA D:7:228	30	1768	1962	2961	1768G	PNN	Cattle corral, Wall segment	No clustering; most dates 1940s and 1950s
ARIZONA D:7:229	18	1862	1949	4416	1862G	PNN	STR 6, Corral	No clustering; most dates 1890s and 1940s

HP0194489

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
ARIZONA D:7:276	6	1719	1777	3607	1719G	PNN	STR 1, Lamb pen	No clustering; no Hogan
ARIZONA D:7:279	26	1876	1966	3688	1876G	JUN	STR 9, Sweatlodge, Forked support	No clustering at 1876; Nearly all other samples date to 1900s, some clustering at 1923
ARIZONA D:7:281	19	1868	1899	3721	1868G	PNN	STR 1, S-G Corral	Weak cluster of corral, other dates: 1869G, 1872G, 1876+G, 1878+G, 1879+G; Cribbed hogan (STR 2) present though no clustering and latest date is 1899++vv
ARIZONA D:7:283	3		1835	3205	1835++vv	PNN	STR 6, S-G Corral, interlocked wall	No clustering
ARIZONA D:7:313	5	1817	1817	3733	1817G	PNN	STR 5, not a hogan but unclear	No clustering
ARIZONA D:7:4002	2		1784	2763	1784vv	PNN	Windbreak, winter wind break	No clustering; no Hogan
ARIZONA D:7:4004	1		1873	2762	1873+v	PNN	STR 1, Corral	Only sample; no hogan
ARIZONA D:7:4005	2		1670	2760	1670++vv	PNN	STR 1, Cribbed wall hogan	No clustering; all samples noncutting dates
ARIZONA D:7:4007	1		1866	3209	1886vv	PNN	STR 1, Sweatlodge, vert wall	Only date; no hogan; note wrong date in blue book
ARIZONA D:7:4008	7		1880	3210	1880+cB	PNN	STR 3, Sweatlodge?	No clustering; all other samples noncutting dates
ARIZONA D:7:4016	2		1783	3212	1783vv	PNN	STR 1, Windbreak element	No clustering; no Hogan
ARIZONA D:7:4038	3	1839	1893	3061	1839G	PNN	STR 1, Windbreak, horizontal wall stacked	No clustering; no Hogan
ARIZONA D:7:4040	8	1868	1974	5244	1868G	PNN	STR 1, Forked support hogan, forked support	Some weak clustering of STR 1 w/ 2nd date of

HP019490

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
							hogan, vert wall	2nd date of 1840G; STR 1, forked hogan dates w/ 1840G, 1840G, 1840rG
ARIZONA D:7:4089	40	1835	1948	4145	1835G	PNN	STR 1, Lean-to windbreak	No clustering; assoc. cribbed hogan dates to 1898
ARIZONA D:7:4117	2	1878	1896	5470	1878G	JUN	STR 1, S-G Corral, Horiz wall stacked	No clustering, no hogan
ARIZONA D:7:4120	2		1776	5480	1766+vv	PNN	STR 1, Conical lean-to, vert wall	No clustering; no hogan
ARIZONA D:7:4121	1		1804	5482	1804+vv	PNN	STR 1, S-G Corral	No hogan
ARIZONA D:7:4123	1		1770	5049	1770+vv	PNN	STR 1, Conical lean-to	No hogan
ARIZONA D:7:4153	8		1789	4192	1789+vv	PNN	STR 3, Cribbed hogan, horiz wall	No clustering; all samples noncutting dates
ARIZONA D:7:4158	6		1811	4273	1811+vv	PNN	STR 5, Windbreak, vert wall	No clustering; all samples noncutting dates
ARIZONA D:7:4163	5	1726	1926	3845	1726G	PNN	STR 2, Windbreak horizontal wall stacked	No clustering; no hogan
ARIZONA D:7:4166	8	1691	1890	4430	1691G	PNN	STR 1, Sweatlodge, vert wall	No clustering; all other samples noncutting dates except one for STR 3 (cribbed hogan) at 1890G
ARIZONA D:7:453	1		1864	2789	1864++v	PNN	STR 1, Fence or corral wall	Only date; no hogan
ARIZONA D:7:455	4	1815	1815	3637	1815G	PNN	STR 1, S-G Corral	No clustering; no Hogan
ARIZONA D:7:456	2	1812	1833	3778	1812G	PNN	STR 1, Windbreak vertical wall	No clustering; no Hogan
ARIZONA D:7:503	2		1725	3782	1725+vv	PNN	Horse corral, horizontal wall cribbed	No clustering; no Hogan
ARIZONA D:7:504	4	1775	1865	3789	1775G	PNN	Lamb pen, horizontal wall stacked	No clustering; no Hogan
ARIZONA D:7:534	8	1782	1812	3812	1782G	PNN	Feature 1, Rock cairn	No clustering; no Hogan

HP019491

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
								1869G; STR 3 is cribbed hogan w/ dates of 1886rG and 1886G
ARIZONA D:7:4041	5		1813	3001	1813+vv	PNN	STR 2, S-G Corral, interlocked wall	No clustering
ARIZONA D:7:4044	14	1859	1867	5689	1859G	PNN	STR 8, unknown type (wood scattering)	Some weak clustering w/ 2nd date of 1859G; no other clustering; no Hogan
ARIZONA D:7:4045	17	1877	1891	5432	1877+rLGB	JUN	STR 4, S-G Corral, Dead tree	No clustering; no hogan; cutting dates suggest later occupation: STR 8 (windbreak) 1890rLG, 1889rLGB
ARIZONA D:7:4046	15	1868	1897	5303	1868G	PNN	STR 2, Windbreak horizontal wall stacked	No clustering w/ windbreak, although 2 dates from forked hogan are 1866+G and 1869
ARIZONA D:7:4047	8	1882	1973	5360	1882G	PNN	STR 1, Windbreak, vert wall	No clustering, no hogan, associated cattle corral (STR 5): 1972G, 1973G, 1973v, 1973GB
ARIZONA D:7:4050	24	1814	1945	3092	1814G	PNN	STR 2, Cribbed hogan, entry post	No clustering; nearly all other dates from site are 1900s, including STR 1, cribbed hogan: 1938G, 1938G, and 1938G
ARIZONA D:7:4057	1	1856	1856	4578	1856G	JUN	STR 5, lamb pen, horiz wall stacked	No clustering; no hogan; associated circular brush structure dates to 1950/1 w/ cluster of 6 dates
ARIZONA D:7:4088	10	1839	1840	3835	1839G	PNN	STR 3, Forked stick	Some weak clustering w/

HP019492

Site Number	*Num*	*EC*	*Late*	*Spec. No.*	*Date*	*Species*	*Site Provenience*	*Notes*
ARIZONA D:7:544	1		1871	3817	1871+rGB	JUN	STR 1, Sweatlodge, Forked post	Cluster w/ one other date in STR 1: 1871+r
ARIZONA D:7:722	18		1840	2514	1840v	PNN	STR 1, Forked pole hogan, forked pole 3	No clustering, all samples noncutting
ARZIONA D:11:315	11	1862	1876	3451	1862GB	PNN	STR 1, Hogan, Forked support post	No clustering at 1862; some clustering at 1869 and 1875

HP019493

Table 4. Additional Tree-ring Data

Site No. or Name	*Project*	*Cutting Date*	*Site Prov.*	*Notes*
AZ-J-53-1 (NNCRMP)	DWV	1709vv	Game corral	No clustering; only date
AZ-J-53-2	DWV	1821+LG	Game corral	No clustering
AZ-P-7-25	DNG	1814+vv	Cribbed Hogan	No clustering; only date
AZ-P-7-42	DNG	1859G	Hogan, door pst	No clustering; only date
BIA-C49	DNG	1869rB	Forked pole hog	No clustering; only date
BIA-C63	DNG	1882vv	Forked pole hog	No clustering (other date: 1843++vv)
Kinnazinde	NLC	1760r	Pueblito	Strong clustering: 1755v, 1759v, 1758v, 1759rB, 1751v, 1759c, 1759r, 1759c, 1760r, 1759v, 1759r, and 1703v, 1756vv (from general surface)
LA12810	PMS	1750++vv	Sweathouse	No clustering; only date
LA12818	PMS	1819++vv	Sweathouse	No clustering; only date
LA61964				Cannot locate original analysis
NA11142	MNA	1843++rB	Sweathouse	No clustering
NA14016	PRG	1796vv	STR 1	No clustering
NA8607	TCM	1816vv	Possible hearth	No clustering
Nazlini Canyon	ASM	1762r	Pueblito	Strong clustering: 1759v, 1761r; but also 1749vv; and note that not clear if all samples from same structure or same site, which is described as a "Navajo period masonry fort."
NF-100	DNG	1875rG	Hogan	No clustering (only date from hogan; nearby hogan one date: 1891++G)
NF-102	DNG	1874LGB	Hogan	Weak clustering (only date from hogan; associated windbreak: 1874rG)
NF-106	DNG	1878G	Hogan	No clustering (other date from same feature: 1612vv)
NF-108	DNG	1735+vv	Unknown	No clustering; only date
NF-115	DNG	1879LGB	Hogan	Strong clustering (two other dates from same structure: 1877LGB, 1879LGB)
NF-11-57 (NAV FP)	DNG	1866vv	Unknown	No clustering; only date
NF-11-60	DNG	1870G	Unknown	No clustering; only date
NF-11-65	DNG	1869G	Unknown	No clustering (one other date: 1869vv)

HP0194494

Site No. or Name	*Project*	*Cutting Date*	*Site Prov.*	*Notes*
NF-125	DNG	1830++G	Hogan	No clustering (one other date: 1812++L)
NF-131	DNG	1871G	Hogan	Weak clustering? (two other dates from same structure: 1862vv, 1873vv; from other hogan at site: 1865vv, 1874G)
NF-133	DNG	1867rG	Hogan	No clustering (one other date: 1832++G)
NF-135	DNG	1842+G	Windbreak	No clustering; only date
NF-139	DNG	1821+B	Hogan	No clustering; only date
NF-141	DNG	1856G	Hogan	No clustering (only date from hogan; nearby hogan one date: 1724++vv)
NF-143	DNG	1875rGB	Hogan	No clustering (other date from same feature: 1864+vv; other dates from site: 1748++vv, 1855G, 1796++vv)
NF-145	DNG	1826vv	Hogan	No clustering; only date
NF-61	DNG	1876GB	Windbreak	Weak clustering (one other date from same structure: 1875+GB; one date from associated hogan: 1867vv)
NF-73	DNG	1871G	Hogan	No clustering (other dates from same hogan: 1866+vv, 1869vv, 1889G)
NF-98	DNG	1869G	"Tree Sh."	Weak clustering (three other dates from same feature: 1869v, 1869++B, 1878vv)
NFPI-10-008	DNG	1862+vv	Hogan	No clustering; only date
NFPI-10-011	DNG	1709vv	Lean-to	No clustering (one other date: 1578vv)
NFPI-12 (NAV FP)	DNG	1882		Cannot locate original analysis
NFPI-16-19	DNG	1856G	Forked pole hog	Weak clustering (other dates from same structure (A): 1781++vv, 1798++vv, 1857vv, 1841++G; other dates from second structure (B): 1847+vv, 1855v, 1856G; based on map and files, A = forked stick hogan and B = forked stick hogan)
NFPI-16-22	DNG	1876rLB	Forked pole hog	Weak clustering (other date from same structure (B): 1876rG; from second structure (A): 1873vv, 1874+vv, 1876G); from map, site consists of three hogans, two corrals, and a lean-to; A = forked stick hogan and B = forked stick hogan.
NFPI-16-24	DNG	1766vv	Unknown	No clustering; only date
NFPI-24-37	DNG	1870+vv		No clustering
NFPI-24-38	DNG	1864++vv		No clustering

HP0019495

Site No. or Name	*Project*	*Cutting Date*	*Site Prov.*	*Notes*
NFPI-24-59	DNG	1879vv		No clustering (one other date: 1878vv)
NFPI-61-003	DNG	1869rG	Hogan	No clustering; only date
NFPI-9-14	DNG	1866+vv		No clustering (one other date: 1864++vv)
NFPI-9-48	DNG	1879G		No clustering (one other date: 1745++vv)
Pinedale Area	unknown	1854++r	Unknown	No clustering
Site NL-114	MM	1852+vv	Unknown	No clustering; only date
Site NL-138	MM	1791++vv	Unknown	No clustering; only date
Site NL-143	MM	1869vv	Unknown	No clustering; only date
Site NL-203	MM	1870v	Unknown	No clustering; only date
Site NL-239	MM	1856+vv	Unknown	No clustering; only date
Site NL-284	MM	1872v	Unknown	No clustering (other dates: 1870vv, 1862+vv)
Site NL-299		1840		Cannot locate original analysis
Site NL-35	MM	1869v	Unknown	No clustering (other date:1856++G)
Site PM 12	PMS	1854v	Hogan	No clustering; only date
Site PM 124	PMS	1820++vv	Hogan	No clustering; only date
Site PM 125	PMS	1855vv	Hogan	No clustering; only date
Site PM 131	PMS	1817v	Pen (Navajo)	No clustering; only date
Site PM 225	PMS	1878vv	Hogan	No clustering (other dates: 1868+vv, 1706vv)
Site PM 26	PMS	1855v	Hogan	No clustering; only date
Site PM 268	PMS	1870+v	Corral	No clustering; only date
Site PM 28	PMS	1874v	Hogan	No clustering; only date
Site PM 30	PMS	1868vv	Hogan	No clustering; only date
Site PM 39	PMS	1867vv	Hogan	No clustering (other date 1706++vv)
Site PM 40	PMS	1868++vv	Hogan	No clustering; only date
Site PM 80	PMS	1881rG	Hogan	Strong cluster (two other dates from same hogan: 1881G, 1881G)
Small Klagetoh	unknown	1743vv	Pueblito	No clustering
U-2		1849		Cannot locate original analysis

HP0019496