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TREE-RING DATES FROM THE NAVAJO LAND CLAIM III. THE SOUTHERN SECTOR

M. A. STOKES and T. L. SMILEY

ABSTRACT

Data derived from specimens received from the Southern Sector, Navajo Land Claim, are presented. This Sector includes East Central Arizona and West Central New Mexico. Of the 797 specimens worked, 299 yielded dates.

With this, the third in a series of four articles, we present the results of work on Navajo Land Claim specimens from the Southern Sector (see Fig. 1). Dates of specimens from the Eastern Sector are to follow in another issue. The NLC Project, started in 1951, will then be terminated. A few specimens continue to come in from time-to-time, but collecting of new specimens is essentially finished. The final results may appear in print *before* the judicial decree is handed down by the U. S. Indian Claims Commission.

Figure 1 gives the outline of the boundary of this sector, as well as the relationship to other areas (divisions) of the Navajo Land Claim. From the northernmost point near Tohatchi, New Mexico, the boundary crosses the Chuska Mountains, and then follows the divide between north and south drainages. Junction with the Little Colorado River is made just east of where the Oraibi Wash enters into the Little Colorado. The western boundary follows approximately the Canyon Diablo mainstream. In Arizona, the southern boundary is the Mogollon Rim. Eastward, this boundary swings around the southern and eastern hills bordering the San Augustin Plains in New Mexico. The continental divide marks the eastern boundary up to the vicinity of Thoreau, New Mexico on U. S. Highway 66. From that point the boundary swings north and west to the Chuska Mountains.

Within this rather large sector, three areas have been delineated as given in the code index (Table 1). These are the Alamo-Salado area, the Upper Little Colorado area, and the Middle Little Colorado area. The Upper Little Colorado is the largest of the three, embracing the entire drainages of the Puerco of the West, the Zuni River, as well as the upper reaches of the Little Colorado. The Alamo-Salado area centers on the Datil Mountains and the headwaters of the Salado River. The Middle Little Colorado includes the Leroux Wash-Pueblo Colorado Wash, Chevelon Creek and Diablo.

The results of cross-dating between specimens from the Southern Sector is a bit more difficult to present than the two previously reported sectors (Stokes and Smiley 1963; 1964). This Sector represents a dendrochronologi-

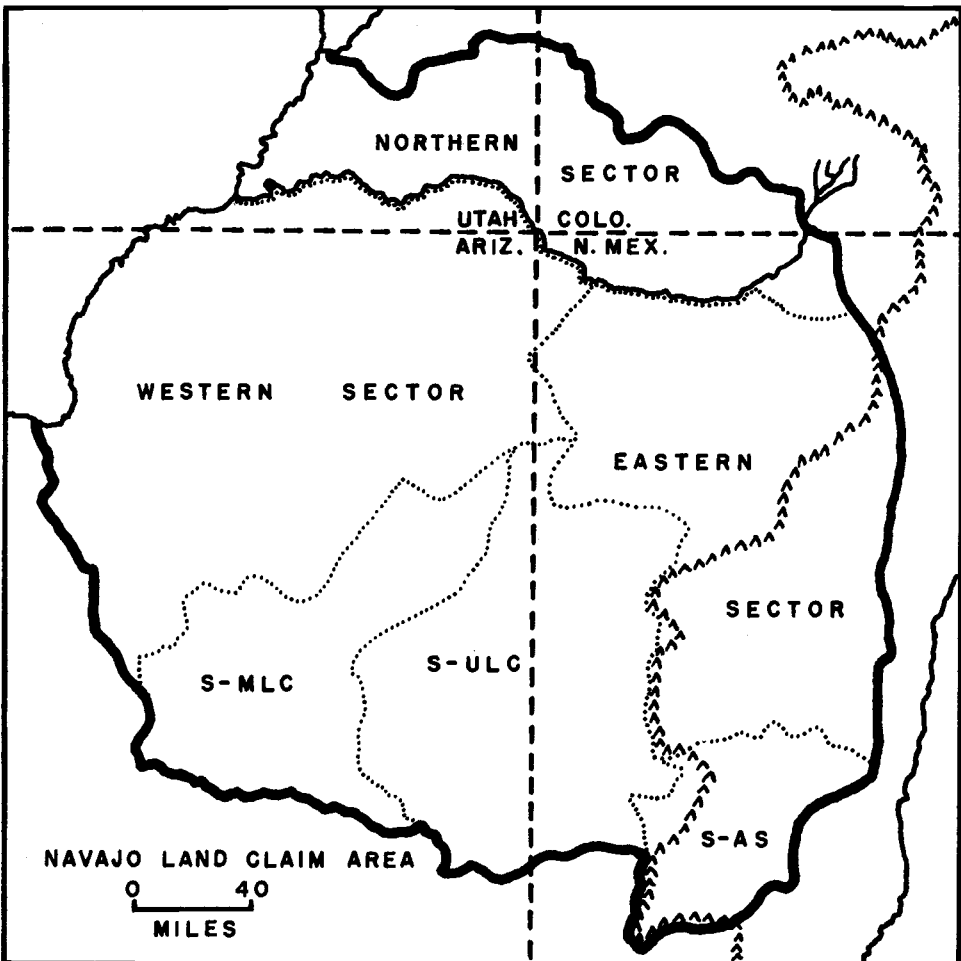


FIG. 1. Map of the Navajo Land Claim. Areas of the Southern Sector are indicated by letter designations and are defined by dotted lines. The position of the Continental Divide is indicated by the line of capital lambdas. The approximate limits of hogan collections is indicated by the heavy line.

cally more complex situation. Some of the specimens that were worked on exhibited ring patterns that differed in some respects from all known chronologies; they differed from that of the Rio Grande Chronology and from those chronologies found in trees growing on the Colorado Plateau province. Differences were evident even between specimens from the same area. It was determined that these specimens had growth characteristics which fit what is to be defined, in another article, the "Continental Divide Chronology." For this reason, the task of plotting and deriving indices was more difficult, especially for the area S-ULC which is the largest and most varied area. Plots of the standardized indices for two of the three areas

are given in Figure 2. Area S-MLC is omitted since too few specimens were received and dated.

The procedure outlined in the first report of this series (Stokes and Smiley 1963) was followed in processing and dating the samples. From the three areas involved in the Southern Sector, the field parties at the Navajo Land Claim sent 839 specimens in to the Laboratory of Tree-Ring Research. Of these now on file, the Laboratory has worked 797 specimens with 299 yielding dates. The dates are listed by areas and sub-areas in Table 2. Indices are presented in Tables 3 and 4.

REFERENCES

- STOKES, M. A. and T. L. SMILEY
 1963 Tree-Ring Dates from the Navajo Land Claim. I. The Northern Sector. *Tree-Ring Bulletin*, Vol. 25, Nos. 3-4, pp. 8-18. Tucson.
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TABLE 1. Index Code for Southern Sector

AS:	Alamo Salado Area
	AC: Alamocita Creek
	AM: Allegro Mountain
	D: Datil Mountains
	GB: Gallina-Bear Mountains
	L: Ladron Mountains
MLC:	Middle Little Colorado Area
	CD: Canyon Diablo (east side)
	CH: Chevelon Creek
	LP: Lower Puerco
ULC:	Upper Little Colorado Area
	CZ: Carrizo Wash
	EM: Escondido Mountain
	UP: Upper Puerco (of the West)
	ZR: Zuni River

TABLE 2
SOUTHERN SECTOR

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
ALAMO SALADO AREA			
117	S-AS-AC-A	Hogan 1	1815± fc-1888 inc
65	S-AS-AC-B	Sheep Corral 3	1790± p-1898+
66	S-AS-AC-C	Hogan 1	1750± p-1886+ inc
67	S-AS-AC-C	Hogan 2	1740 p-1841 inc
68	S-AS-AC-C	Hogan 2	1705± p-1883+ G
1064	S-AS-AC-C	Hogan 2	1679± p-1887+ G
1065	S-AS-AC-C	Hogan 2	1675 p-1890+ G
69	S-AS-AC-C	Hogan 3	1614 p-1872+ G
1071	S-AS-AC-C	Hogan 3	1690± p-1891+ G
1072	S-AS-AC-C	Hogan 4	1688± p-1873+
1073	S-AS-AC-C	Hogan 4	1606± p-1872+
76	S-AS-AC-C	Hogan 5	1648± p-1865+
1066	S-AS-AC-C	Hogan 6	1696± p-1899+ G
1067	S-AS-AC-C	Hogan 6	1780± p-1855+
1968	S-AS-AC-C	Hogan 6	1720± p-1880+
78	S-AS-AC-C	Sheep Corral	1749± p-1875+
80	S-AS-AC-F	Hogan 1	1704 p-1798+ inc C
80-1	S-AS-AC-F	Lamb Pen 1	1802±nc-1877 inc G
81	S-AS-AC-G	Hogan 1	1802±nc-1877 inc G
1075	S-AS-AC-G	Hogan 2	1711± p-1875+ G
1076	S-AS-AC-G	Hogan 4	1808± p-1880+
84	S-AS-AC-H	Hogan 2	1695±nc-1869+ G
89	S-AS-AC-H	Hogan 2	1790± p-1874 inc
152	S-AS-AC-L	Hogan 1	1656 p-1816+
153	S-AS-AC-M	Sheep Corral 3	1788± p-1897+
154	S-AS-AC-M	Windbreak 2	1819± p-1911 inc
155	S-AS-AC-M	Windbreak 2	1815± p-1900+ G
94	S-AS-AC-Q	Hunting Corral 1	1729± p-1871+
95	S-AS-AC-Q	Hunting Corral 1	1790± p-1871+
1062	S-AS-AC-Q	Antelope Corral	1650± p-1866+ G
87	S-AS-AC-Q	No site	1850± p-1950 inc
160	S-AS-AC-R	Windbreak 1	1801± p-1890 inc
118	S-AS-AC-T	Hogan 1	1542 p-1628 inc C G
3632	S-AS-AC-W	Hogan 6	1759± p-1848 inc G
3633	S-AS-AC-W	Hogan 7	1775 p-1832 inc
3638	S-AS-AC-W	Hogan 8	1735 nc-1848+ inc G
1203	S-AS-AC-X	Windbreak 1	1820± p-1872 G
311	S-AS-AC-Y	Hogan 3	1682± p-1845+
312	S-AS-AC-Y	Hogan 3	1680 fc-1807+
313	S-AS-AC-Y	Hogan 3	1695 p-1835+
314	S-AS-AC-Y	Hogan 3	1669± p-1769+
315	S-AS-AC-Y	Hogan 6	1692± p-1865+
316	S-AS-AC-Y	Hogan 6	1685± p-1876+
317	S-AS-AC-Y	Hogan 6	1695± p-1870+
318	S-AS-AC-Y	Hogan 6	1703 fc-1858 G
287	S-AS-AC-Z	Hogan 1	1674± p-1854 inc G
288	S-AS-AC-Z	Hogan 1	1646± p-1843+ G
289	S-AS-AC-Z	Hogan 1	1653± p-1855+
290	S-AS-AC-Z	Hogan 1	1740 p-1867 inc G
292	S-AS-AC-Z	Hogan 2	1802± p-1870+ G
295	S-AS-AC-Z	Sweathouse 3	1662 p-1765 inc
300	S-AS-AC-Z	Sheep Corral 4	1705± p-1862+
1078	S-AS-AC-BB	Hogan 3	1724± p-1796 G
1079	S-AS-AC-BB	Hogan 3	1718± p-1797 G
1080	S-AS-AC-BB	Hogan 5	1644 p-1767+
1081	S-AS-AC-BB	Hogan 5	1642 p-1786+
1082	S-AS-AC-BB	Hogan 5	1655± p-1792+
1156	S-AS-AM-B	Hogan 1	1619 nc-1774+ inc
1158	S-AS-AM-B	Hogan 1	1470 fc-1622+ inc
1159	S-AS-AM-B	Hogan 1	1630± p-1800+ inc
1141	S-AS-AM-B	Hogan 4	1600 fc-1789+ inc
1143	S-AS-AM-B	Hogan 4	1501 nc-1704 inc G

TABLE 2. (Continued)

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
1140	S-AS-AM-B	Windbreak 3	1450± p-1691+ inc
97	S-AS-D-B	Windbreak 1	1640 p-1846+ inc C
99	S-AS-D-C	Hogan 1	1611± p-1785+
106	S-AS-D-D	Hogan 2	1682 nc-1853+ G
107	S-AS-D-D	Hogan 2	1727± p-1837 inc G
108	S-AS-D-D	Hogan 2	1705± p-1881+ G
110	S-AS-D-D	Windbreak 1	1720 nc-1835+ inc
111	S-AS-D-D	Windbreak 1	1719 p-1833 inc
112	S-AS-D-D	Windbreak 3	1717 p-1819+ G
113	S-AS-D-D	Windbreak 3	1671± p-1847+
114	S-AS-D-D	Windbreak 3	1723 p-1817 inc
1126	S-AS-D-E	Hogan 1	1670± p-1876+
1094	S-AS-GB-E	Hogan 1	1642 p-1848+ G
1096	S-AS-GB-E	Hogan 1	1704± p-1827+ G
1097	S-AS-GB-E	Windbreak 2	1665 p-1816+ B
1098	S-AS-GB-E	Windbreak 2	1697 p-1868+
1099	S-AS-GB-E	Windbreak 3	1655 p-1824+ G
1101	S-AS-GB-E	Windbreak 3	1647± p-1847+
143	S-AS-GB-G	Hogan 1	1860 fc-1922 G
1102	S-AS-GB-M	Hogan 1	1725± p-1867 B
1105	S-AS-GB-M	Hogan 1	1706 p-1876+ G
1106	S-AS-GB-M	Hogan 1	1766± p-1892+ G
1112	S-AS-GB-O	Windbreak 2	1696± p-1879+ B
1113	S-AS-GB-O	Corral 3	1669 fc-1846+ G
1116	S-AS-GB-O	Windbreak 5	1680± p-1874+ G
1117	S-AS-GB-P	Windbreak 2	1690 nc-1821+
1207	S-AS-GB-S	Hogan 1	1702± p-1855+ G
1209	S-AS-GB-S	Hogan 1	1687± p-1838+ G
1210	S-AS-GB-S	Hogan 1	1705± p-1842+ G
1211	S-AS-GB-S	Rack 2	1699± p-1791+
1214	S-AS-GB-S	Windbreak 4	1711± p-1861+ G
1216	S-AS-GB-S	Windbreak 4	1670± p-1852+ G
1219	S-AS-GB-T	Hogan 1	1695 p-1824+ G
1220	S-AS-GB-T	Hogan 1	1664 p-1833+ G
1221	S-AS-GB-T	Hogan 1	1778 p-1880+ G
1222	S-AS-GB-T	Hogan 1	1682 p-1855+ G
1223	S-AS-GB-T	Hogan 1	1720 p-1892+ inc G
3608	S-AS-GB-Y	Loom 7	1740 nc-1850+ B
3614	S-AS-GB-AA	Hogan 1	1704 p-1837+
3642	S-AS-GB-DD	Hogan 1	1682± p-1869+ G
1174	S-AS-L-C	Windbreak 1	1839± p-1924+ G
1175	S-AS-L-C	Windbreak 1	1858± p-1925 inc G
1170	S-AS-L-C	Corral 2	1789± p-1926 c G
1171	S-AS-L-C	Corral 2	1818± p-1911 inc G
1172	S-AS-L-C	Corral 2	1963 p-1921 inc G
1145	S-AS-L-J	Corral 1	1683 p-1836+
1147	S-AS-L-J	Corral 1	1692 p-1780+ G
1149	S-AS-L-J	Corral 1	1693 p-1820+ G
1150	S-AS-L-J	Corral 1	1656 p-1829+

MIDDLE LITTLE COLORADO

1502	S-MLC-CD-F	Sheep Corral	1778± p-1890+ B
1503	S-MLC-CD-F	Sheep Corral	1750 fc-1870 inc
1505	S-MLC-CD-G	Hogan 1	1672± p-1869 inc
206	S-MLC-CD-G	Hogan 1	1741 p-1842+
1506	S-MLC-CH-H	Windbreak 1	1820± p-1928 G
1507	S-MLC-CH-H	Windbreak 1	1852 p-1927 inc G
3648	S-MLC-LP-O	Hogan 3	1662 p-1762 G
3649	S-MLC-LP-O	Hogan 5	1632 p-1757+ G
3650	S-MLC-LP-O	Hogan 5	1648 p-1751+ G
3652	S-MLC-LP-O	Hogan 5	1696 p-1762 inc
3653	S-MLC-LP-O	Hogan 7	1660 p-1758+
3654	S-MLC-LP-O	Hogan 8	1653± p-1750+
3655	S-MLC-LP-O	Fortification 9	1644± p-1764 inc G
3657	S-MLC-LP-O	Fortification 9	1654± p-1764 inc G

TABLE 2. (Continued)

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
UPPER LITTLE COLORADO AREA			
31	S-ULC-CZ-A	Hogan 2	1360 nc-1535+ c
31	S-ULC-CZ-A	Hogan 2	1396 nc-1581+ inc
3110	S-ULC-CZ-A	Hogan 2	1433 p-1687+ inc
3120	S-ULC-CZ-A	Hogan 2	1340± p-1641+ inc
3192	S-ULC-CZ-A	Hogan 2	1311 p-1601+ inc
3193	S-ULC-CZ-A	Hogan 2	1391 p-1647+
3195	S-ULC-CZ-A	Hogan 2	1322 p-1718+ inc
3214	S-ULC-CZ-A	Hogan 7	1593 fc-1735+
3186	S-ULC-CZ-A	Windbreak 1	1585 fc-1771+ inc
3187	S-ULC-CZ-A	Windbreak 1	1425 p-1588+
3188	S-ULC-CZ-A	Windbreak 1	1430 fc-1664+
3189	S-ULC-CZ-A	Windbreak 1	1426± p-1699+ inc
3190	S-ULC-CZ-A	Windbreak 1	1316 nc-1484+
3200	S-ULC-CZ-A	Windbreak 4	1354± p-1510 inc
3202	S-ULC-CZ-A	Windbreak 5	1740 fc-1830 inc
3204	S-ULC-CZ-A	Windbreak 5	1669± p-1834+
3205	S-ULC-CZ-A	Windbreak 5	1390 p-1634+
3206	S-ULC-CZ-A	Windbreak 5	1695 fc-1813+
3208	S-ULC-CZ-A	Windbreak 5	1584± p-1732+
3209	S-ULC-CZ-A	Windbreak 5	1368± p-1578+ inc
3071	S-ULC-CZ-B	Hogan 1	1320 p-1387 inc
3073	S-ULC-CZ-B	Hogan 1	1317± p-1394+
3074	S-ULC-CZ-B	Hogan 1	1367 p-1521+
3075	S-ULC-CZ-B	Hogan 1	1301 p-1558 inc
3086	S-ULC-CZ-B	Hogan 2	1298 nc-1393 inc
3088	S-ULC-CZ-B	Hogan 2	1365 p-1478+ inc
3076	S-ULC-CZ-B	Hogan 4	1384 nc-1553+ inc
3077	S-ULC-CZ-B	Hogan 4	1352 p-1424+ inc
3078	S-ULC-CZ-B	Hogan 4	1301 p-1451+
3080	S-ULC-CZ-B	Hogan 4	1295 nc-1448+
3081	S-ULC-CZ-B	Hogan 4	1235± p-1421+
3082	S-ULC-CZ-B	Hogan 4	1385 fc-1504+
3083	S-ULC-CZ-B	Hogan 4	1295 nc-1464+ inc
3084	S-ULC-CZ-B	Hogan 4	1360 nc-1462+ inc
3085	S-ULC-CZ-B	Hogan 4	1338 nc-1474 inc
3089	S-ULC-CZ-B	Shelter 3	1360 p-1535+
3105	S-ULC-CZ-C	Hogan 1	1528± p-1764+ inc
3107	S-ULC-CZ-C	Hogan 1	1460 nc-1653+ inc G
3109	S-ULC-CZ-C	Hogan 1	1399± p-1655 inc
3114	S-ULC-CZ-C	Hogan 1	1429 p-1542+ inc
3115	S-ULC-CZ-C	Hogan 1	1420 fc-1510+ inc
3094	S-ULC-CZ-C	Windbreak 4	1360 nc-1587+ inc
3097	S-ULC-CZ-C	Windbreak 4	1601 p-1726+ inc G
3098	S-ULC-CZ-C	Windbreak 4	1424 p-1675+ inc
3093	S-ULC-CZ-C	Lean-to 3	1315 p-1447+
3215	S-ULC-CZ-AA	Windbreak 2	1655± p-1794 inc
1485	S-ULC-EM-G	Hogan 2	1608± p-1786+
1487	S-ULC-EM-G	Hogan 4	1650 nc-1815+ B
1488	S-ULC-EM-G	Hogan 4	1618 nc-1761+
3293	S-ULC-EM-G	Hogan 6	1680 nc-1823 inc
1495	S-ULC-EM-I	Windbreak 1	1815± p-1905 inc
2030	S-ULC-EM-K	Hogan 1	1708 p-1890+ inc G
2031	S-ULC-EM-K	Hogan 2	1747± p-1926+ B
2032	S-ULC-EM-K	Hogan 2	1765 p-1935 inc
3254	S-ULC-EM-Z	Hogan 1	1630 fc-1701 inc G
3257	S-ULC-EM-Z	Hogan 1	1619 p-1821+ inc G
3258	S-ULC-EM-Z	Hogan 1	1670 nc-1808 inc G
3259	S-ULC-EM-Z	Hogan 1	1696 p-1764+ inc
3261	S-ULC-EM-Z	Hogan 1	1679 p-1742+ inc G
3262	S-ULC-EM-Z	Hogan 1	1653± p-1815+ inc G
3263	S-ULC-EM-Z	Hogan 1	1643 p-1850 inc
3264	S-ULC-EM-Z	Hogan 1	1694 p-1820+ inc G
3265	S-ULC-EM-Z	Hogan 1	1654± p-1819+ inc G
3218	S-ULC-EM-AA	Hogan 1	1469 p-1721+ inc
3219	S-ULC-EM-AA	Hogan 1	1400± p-1590+ inc

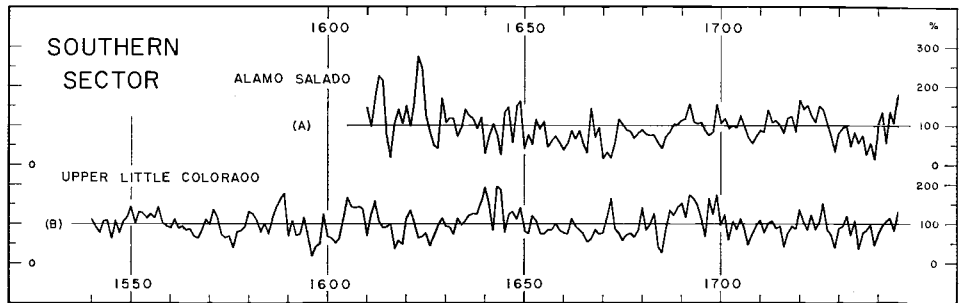


FIG. 2. Standardized indices for the Southern Sector.

TABLE 2. (Continued)

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
3220	S-ULC-EM-AA	Hogan 1	1452± p-1713+ inc
3226	S-ULC-EM-AA	Hogan 3	1451± p-1758+ inc
3246	S-ULC-EM-AA	Hogan 6	1365± p-1569+ inc
3247	S-ULC-EM-AA	Hogan 6	1333± p-1541+ inc
3266	S-ULC-EM-AA	Hogan 10	1745 p-1833 c B
3271	S-ULC-EM-AA	Hogan 11	1709 p-1812 inc
3296	S-ULC-EM-GG	Windbreak 2	1810 fc-1914 inc G
956	S-ULC-UP-B	Hogan 1	1656± p-1866+ inc G
958	S-ULC-UP-C	Hogan 1	1707± p-1871+ inc G
959	S-ULC-UP-C	Hogan 1	1661 p-1872+ G
960	S-ULC-UP-C	Corral	1893 p-1923+ G
961	S-ULC-UP-C	Corral	1845 p-1918 c G
964	S-ULC-UP-E	Hogan 3	1714± p-1882+ G
965	S-ULC-UP-E	Hogan 3	1738 p-1886 G
858	S-ULC-UP-I	Hogan 1	1703 p-1868 inc G
859	S-ULC-UP-I	Hogan 1	1715± p-1864+
1956	S-ULC-UP-N	Ceremonial Hogan	1784 p-1898 inc G
1957	S-ULC-UP-N	Ceremonial Hogan	1792 p-1901+ G
1980	S-ULC-UP-N	Ceremonial Hogan	1710 p-1889+
1981	S-ULC-UP-N	Ceremonial Hogan	1701± p-1890+ inc
1982	S-ULC-UP-N	Ceremonial Hogan	1723 p-1897+
1985	S-ULC-UP-P	Game Corral	1543± fc-1798 G
1989	S-ULC-UP-Q	Game Corral	1616± p-1797+
1990	S-ULC-UP-Q	Game Corral	1533± p-1705+
1994	S-ULC-UP-Q	Game Corral	1866 p-1923 inc G
1996-7	S-ULC-UP-R	Game Corral	1540± fc-1758+
2000	S-ULC-UP-R	Game Corral	1649±nc-1802+
2002	S-ULC-UP-R	Game Corral	1599± p-1745+ inc
2008	S-ULC-UP-R	Game Corral	1623± p-1777 G
2010	S-ULC-UP-T	Hogan 1	1534± p-1846+ G
2011	S-ULC-UP-T	Hogan 1	1691 p-1755+ inc
2014	S-ULC-UP-T	Hogan 2	1678± p-1804+
2015	S-ULC-UP-T	Hogan 2	1788± p-1856 inc G
2017	S-ULC-UP-T	Hogan 2	1777 p-1856 inc G
2019	S-ULC-UP-U	Hogan 1	1715± p-1851+
2020	S-ULC-UP-U	Hogan 1	1687 p-1848 inc G
2022	S-ULC-UP-U	Hogan 2	1728± p-1857 inc G
2023	S-ULC-UP-U	Hogan 2	1619± p-1832+ G
2658	S-ULC-UP-AA	Hogan 4	1619 p-1755 inc
3344	S-ULC-UP-JJ	Hogan 4	1707 p-1788+ inc
3345	S-ULC-UP-JJ	Hogan 4	1680 p-1794 inc G
3348	S-ULC-UP-JJ	Hogan 4	1700 p-1802 inc G
3304	S-ULC-UP-LL	Hogan 1	1677 p-1761 inc G
3306	S-ULC-UP-LL	Hogan 1	1679 p-1758 inc G
3308	S-ULC-UP-LL	Hogan 2	1594± p-1763 inc G
3309	S-ULC-UP-LL	Hogan 2	1641 p-1760 inc G
3310	S-ULC-UP-LL	Hogan 2	1607± p-1745+ inc G
3311	S-ULC-UP-LL	Hogan 2	1665 p-1752+ inc G
3313	S-ULC-UP-LL	Hogan 3	1705± p-1763 inc G
3318	S-ULC-UP-LL	Hogan 5	1680 fc-1761 inc G
3319	S-ULC-UP-LL	Hogan 5	1685 fc-1759 c G
3320	S-ULC-UP-LL	Hogan 5	1654 p-1760 inc G

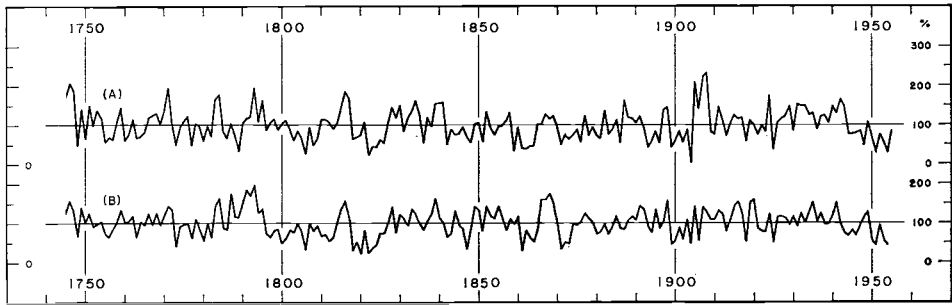


FIG. 2. (Continued)

TABLE 2. (Continued)

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
3321	S-ULC-UP-LL	Hogan 5	1682 p-1763 c G
3322	S-ULC-UP-LL	Hogan 5	1690 p-1764 c G
3329	S-ULC-UP-LL	Hogan 11	1604 p-1759 inc G
3330	S-ULC-UP-LL	Hogan 12	1634 nc-1755 inc G
3334	S-ULC-UP-MM	Hogan 1	1612 p-1762 inc G
3337	S-ULC-UP-MM	Hogan 1	1676 p-1758 inc G
3338	S-ULC-UP-MM	Hogan 1	1677 p-1721 inc G
3340	S-ULC-UP-MM	Hogan 1	1680 fc-1760 inc G
3	S-ULC-ZR-B	Sheep Corral 2	1699 p-1837 C
8	S-ULC-ZR-D	Hogan 1	1651 p-1925 inc
1789	S-ULC-ZR-D	Hogan 3	1815 p-1904 c G
1790	S-ULC-ZR-D	Hogan 3	1818± p-1893 G
1791	S-ULC-ZR-D	Hogan 4	1839 p-1895 inc G
9	S-ULC-ZR-E	Hogan 1	1790 p-1861 inc G
10	S-ULC-ZR-E	Hogan 1	1796 p-1861 inc G
11	S-ULC-ZR-E	Hogan 2	1721 p-1826+
12	S-ULC-ZR-E	Hogan 2	1720± p-1861 inc
3041	S-ULC-ZR-E	Hogan 2	1729 nc-1861+ inc G
3042	S-ULC-ZR-E	Hogan 2	1700 nc-1851+ inc G
3043	S-ULC-ZR-E	Hogan 2	1700 nc-1849+ inc G
3047	S-ULC-ZR-E	Hogan 3	1720 nc-1861+ inc G
3053	S-ULC-ZR-E	Hogan 3	1690 p-1839 G
3054	S-ULC-ZR-E	Hogan 4	1720 nc-1861+ G
3055	S-ULC-ZR-E	Hogan 4	1700 nc-1860+ inc
3057	S-ULC-ZR-E	Hogan 4	1709± p-1858 inc
18	S-ULC-ZR-E	Hogan 5	1681 p-1850 inc
3059	S-ULC-ZR-E	Hogan 7	1707 nc-1863 inc G
3060	S-ULC-ZR-E	Hogan 7	1708 p-1844+ inc G
3062	S-ULC-ZR-E	Hogan 7	1701 p-1856+ inc G
22	S-ULC-ZR-E	Hogan 8	1718 p-1859 inc
3063	S-ULC-ZR-E	Hogan 9	1729± p-1860 inc G
3064	S-ULC-ZR-E	Hogan 9	1620 p-1852+
3065	S-ULC-ZR-E	Hogan 9	1770 nc-1861 inc G
3066	S-ULC-ZR-E	Hogan 9	1733 p-1861 inc G
280	S-ULC-ZR-F	Hogan 1	1740± p-1908 G
281	S-ULC-ZR-F	Hogan 1	1757 p-1908 G
282	S-ULC-ZR-F	Hogan 3	1760± p-1909 c G
284	S-ULC-ZR-F	Hogan 4	1690 p-1840+
29	S-ULC-ZR-G	Hogan 1	1781 p-1892+ inc
33	S-ULC-ZR-G	Lamb Pen	1633 fc-1761+ inc
36	S-ULC-ZR-H	Hogan 1	1750± p-1909 G
37	S-ULC-ZR-H	Hogan 4	1787± p-1907 inc G
1964	S-ULC-ZR-P	Game Corral	1484± fc-1720+
1979	S-ULC-ZR-S	Sheep Corral 4	1726 p-1877 inc
3001	S-ULC-ZR-W	Hogan 1	1568± p-1781 inc
3005	S-ULC-ZR-W	Hogan 2	1590 fc-1673+ inc
3006	S-ULC-ZR-W	Hogan 2	1778± p-1876 inc G
3007	S-ULC-ZR-W	Hogan 2	1356 p-1543+
3216	S-ULC-ZR-Z	Hogan 1	1638 nc-1791+ inc
3217	S-ULC-ZR-Z	Hogan 1	1648 nc-1774+ inc
2993A	S-ULC-ZR-DD	Hogan 2	1721 p-1800+ inc

TABLE 2. (Continued)

NLC	Group	Specimen	Tree-Ring Laboratory Date, A.D.
2994	S—ULC—ZR—DD	Hogan 2	1713 fc—1857 inc G
2996	S—ULC—ZR—DD	Hogan 2	1709 p—1793 inc G
2999	S—ULC—ZR—DD	Hogan 3	1504± p—1812+ inc G
3000	S—ULC—ZR—DD	Hogan 3	1549± p—1857+ inc G
3010	S—ULC—ZR—EE	Hogan 1	1716 p—1812 inc G
3012	S—ULC—ZR—EE	Hogan 1	1700 p—1818 inc G

TABLE 3. Southern Alamo Salado Indices

A.D.	0	1	2	3	4	5	6	7	8	9
1610.....	145	98	170	228	213	75	20	105	141	104
1620.....	150	99	156	277	244	128	84	50	42	170
1630.....	108	120	119	71	93	141	127	118	91	121
1640.....	29	70	104	77	26	133	147	57	150	162
1650.....	40	78	52	117	90	111	43	61	73	57
1660.....	38	52	89	68	89	56	30	142	70	95
1670.....	18	33	19	57	117	102	89	88	69	81
1680.....	90	79	76	78	58	41	72	85	103	103
1690.....	112	118	156	111	106	109	88	76	82	154
1700.....	106	118	92	100	95	127	99	69	54	73
1710.....	89	83	140	109	113	101	81	120	124	84
1720.....	164	141	152	127	109	150	140	104	76	33
1730.....	80	95	100	48	83	55	75	27	57	16
1740.....	105	133	57	135	106	172	207	187	49	141
1750.....	66	150	99	138	119	57	69	62	109	145
1760.....	60	76	115	68	70	81	120	125	131	104
1770.....	137	198	103	49	93	110	123	49	103	99
1780.....	60	98	71	166	179	88	66	103	74	36
1790.....	102	117	120	194	108	163	88	105	116	88
1800.....	102	111	90	61	86	66	29	95	49	67
1810.....	114	115	107	90	107	146	185	168	64	69
1820.....	74	108	22	46	43	63	53	107	145	119
1830.....	150	84	118	136	162	126	54	120	95	153
1840.....	155	158	51	88	75	77	96	70	54	102
1850.....	106	57	134	92	74	95	98	110	131	34
1860.....	95	42	39	47	47	101	101	128	116	124
1870.....	98	50	74	66	74	89	56	124	72	95
1880.....	73	64	138	76	88	114	54	162	121	118
1890.....	106	124	93	41	58	82	54	139	147	41
1900.....	60	84	56	88	04	208	142	222	232	82
1910.....	75	145	112	71	101	126	114	119	58	111
1920.....	100	73	98	83	176	38	106	116	121	148
1930.....	85	152	147	147	123	130	88	120	123	104
1940.....	148	128	166	146	74	77	78	85	48	108
1950.....	66	30	73	55	29	84

TABLE 4. Southern-Upper Little Colorado Indices

A.D.	0	1	2	3	4	5	6	7	8	9
1540.....	113	93	78	108	110	65	109	77	107	118
1550.....	144	100	131	129	114	125	116	144	102	95
1560.....	90	112	90	94	86	88	69	64	84	112
1570.....	99	137	115	73	67	70	40	81	83	92
1580.....	131	126	110	80	101	76	111	141	162	178
1590.....	70	109	71	75	117	69	20	43	50	125
1600.....	69	64	51	65	115	168	145	141	146	139
1610.....	71	123	159	109	90	93	101	38	58	49
1620.....	115	136	105	67	69	77	46	69	96	117
1630.....	95	92	76	116	98	108	121	128	126	156
1640.....	193	152	84	196	187	80	124	131	112	141
1650.....	83	76	121	108	74	76	86	86	102	84
1660.....	78	76	114	95	83	76	54	62	87	74
1670.....	78	117	166	90	79	59	72	78	68	86
1680.....	142	86	100	128	42	28	89	136	122	142

TABLE 4. (Continued)

A.D.	0	1	2	3	4	5	6	7	8	9
1690.....	154	118	173	166	149	114	69	165	126	174
1700.....	99	125	61	108	86	114	88	48	76	96
1710.....	110	79	101	108	90	94	42	77	95	87
1720.....	135	107	86	122	85	107	152	85	70	40
1730.....	89	94	119	71	108	37	78	83	99	46
1740.....	74	95	107	116	82	126	157	131	68	141
1750.....	100	124	92	99	107	75	63	84	102	133
1760.....	102	104	119	65	106	95	125	96	127	95
1770.....	119	143	134	42	92	98	99	62	111	85
1780.....	57	101	63	145	164	89	84	175	118	115
1790.....	150	186	170	196	127	136	75	63	81	85
1800.....	50	62	84	76	100	77	32	100	81	95
1810.....	69	72	54	65	102	137	155	111	32	52
1820.....	23	82	24	38	45	74	74	101	141	77
1830.....	125	114	95	138	123	100	83	109	127	165
1840.....	119	102	65	76	132	97	85	34	89	143
1850.....	132	80	142	119	111	144	114	81	111	99
1860.....	119	30	82	63	52	90	161	160	176	152
1870.....	102	34	51	49	101	95	104	125	112	102
1880.....	72	78	98	71	90	119	87	84	108	118
1890.....	108	145	135	93	76	137	86	106	160	45
1900.....	56	89	59	110	48	145	53	142	132	110
1910.....	110	134	124	78	110	144	156	124	52	153
1920.....	161	86	80	78	123	50	114	117	112	94
1930.....	116	92	123	100	128	152	102	125	98	98
1940.....	120	156	101	76	68	82	69	94	116	128
1950.....	56	43	94	59	43

Explanation of symbols used with dates: p—pith ring; nc—indicates that the pith was gone from the specimen and that the inside dated ring is “near center”; fc—used when the pith is gone from the specimen and the inside dated ring is determined to be quite far out from the pith; ±—center portion is difficult to date and this symbol indicates a ring count only; +—indicates that either the outermost rings are very small and a ring count only could be made to the outside, or that the outermost dated ring is one just preceding what is usually a small, micro or absent ring which may be missing from the specimen; inc—indicated that the outside ring of a specimen is incomplete in growth; c—outermost ring is complete in growth; C—outermost ring is continuous around the circumference of the specimen, implying that the date is close to the cutting date; G—beetle galleries present; B—bark present on the specimen.