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Tree Ring Dating of Beams and Trusses in the Beall House, Wayne County Historical Society Wooster, Ohio

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General: This report describes the results of three sampling trips to the Beall House. Wayne County Historical Society. The first trip involved taking sections from two beams removed from the house (samples BEALL1, BEALL3) the next trip was coring in the basement of the house (samples BH01, BH-02, BH03, BH04, BH05, BH06) and the third (samples BH11, BH12, BH13, BH14, BH15) was coring trusses and beams in the attic. Cores and sections were processed and crossdated at the Wooster Tree Ring Lab using standard dendrochronological techniques (Stokes and Smiley, 1968). These techniques include preparing the cores surfaces, counting, measuring and crossdating ring-widths. Ring-widths were measured to the nearest 0.001 mm and crossdating was performed visually and using the computer routine COFECHA (Holmes, 1983).

Samples (Table 1) were internally crossdated with one another to construct a floating ring-width series. Two cores were undatable due to their low number of rings; they are BH13, and BH15. This floating chronology was then dated against calendar-dated, living, ring-width chronologies from the region including Johnson Woods, Sigrist Woods, and Brown's Lake Bog (ITRDB, 2005; Wooster Tree Ring Lab, unpublished data, 2005). The floating ring-width chronology spans 184 years and when adjusted for calendar dates dates from 1659-1833.

When interpreting the results from this report please note where we have denoted the presence of the outer ring on the samples in Table 1. It appears the latest cut date on the beams in the main house is 1816. We did label the plugged holes in the basement and attic so these samples can be keyed directly to the beams.

All cores and data are archived at the Wooster Tree Ring lab, which is housed in Scovel Hall in the Department of Geology at The College of Wooster.

Table 1. List of tree-ring series from the Beall House.

Sample	First Year	Late Year	Range	Comments and presence of outer ring (*)
BEALL1	1665	1826	162	North Window Room 105
BEALL3	1682	1833	152	South Window Room 105
BH01	1703	1776	74	Beam in basement
BH02	1693	1816	124	* Beam in basement
BH03	1713	1812	100	* Beam in basement
BH04	1692	1812	121	Beam in basement
BH05	1693	1813	121	Beam in basement
BH06	1659	1815	157	* Beam in basement
BH11	1673	1809	137	Truss in attic
BH12	1762	1816	55	*Truss in attic
BH14	1782	1816	35	*Truss in attic

References:

Holmes, R.L. 1983. Computer-assisted quality control in tree-ring dating and measurement. *Tree-Ring Bulletin,* **43** (1), 69-78.

Stokes, M. A., and Smiley, T. L., 1968: *An Introduction to Tree-Ring Dating*. Chicago: University of Chicago Press. 73 pp.

International Tree-Ring Data Base (ITRDB), 2005,www.ncdc.noaa.gov/paleo/paleo.html.

Appendix I. Historical dating using tree-rings. Figure shows the principle of crossdating.