

TREE-RING STUDIES  
of the  
PUEBLO de ACOMA  
A Preliminary Report

SUPPLEMENT NO. 2

by

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## INTRODUCTION

Two final collection trips were made to the Pueblo de Acoma the week of May 15, 1988 and the week of July 19, 1988. The crew again consisted of the author and Jeffrey S. Dean, both from the Laboratory of Tree-Ring Research.

Once again the purpose of the trips was to complete work in Area H that had been bypassed on previous visits. This work was in fact completed during the second trip, but the May trip was diverted to work in Area A and Area B because Area H was not yet cleared of household goods. We were fortunate during the May visit to locate a number of structures, uninvolved with the Restoration Project, whose owners gave us permission to core.

A considerable amount of time on both trips was spent comparing the plans of the Restoration Project with the plans drawn by the Historic American Buildings Survey in 1934 (Nabokov 1986; see reference in the initial report). As a result, a concordance of the numbering systems was developed (Table 2) to serve as a measure of architectural change between 1934 and 1988. One unit could not be identified with any certainty and the units in Area F are less than certain. All others are, however, clearly cross referenced.

## METHODS AND RESULTS

The field methods and analysis procedures for these collections conformed

in all ways with those described previously in the initial report.

Area A. The nuclear units of the roomblock date, as expected, to A.D. 1646. Thus it seems that the entire north row (Areas A, B, and C) were roofed in the same year and that the north row is the earliest construction of the present pueblo, if only by a year.

Area B. Although only a single room was sampled, it is a nuclear room and dates to 1646. This helps to confirm the position of Area B within the context of the north row.

Area H. Four rooms in a single household were sampled. Both ground floor (Level I) rooms date to 1647. Thus this roomblock, the only one sampled in the south row, was roofed only a year later than units in the north row. All evidence points to extremely rapid construction of the pueblo beginning in 1646 and lasting no longer than six years to reach completion of all three levels. In this area, the second level was roofed in 1649-50. Unfortunately, the unit sampled here (Unit 21) has lost the third level; prior to 1934 according to the HABS plans.

TABLE 1.

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ARCHAEOLOGICAL RESEARCHEXPLANATION OF SYMBOLS

- B - bark is present
- G - beetle galleries are present on the surface of the sample
- L - a characteristic surface patination and smoothness, which develops on beams stripped of bark, is present
- c - the outermost ring is continuous around the full circumference of the sample. This symbol is used only for complete cross sections
- r - less than a full section is present, but the outermost ring is continuous around available circumference
- v - a subjective judgment that, although there is no direct evidence of the true outside on the sample, the date is within a very few years of being a cutting date
- vv - there is no way of estimating how far the last ring is from the true outside. Many rings may be lost
- +
- one or a few rings may be missing near the outside whose presence or absence cannot be determined because the series does not extend far enough to provide adequate crossdating
- ++ - a ring count is necessary beyond a certain point in the series because crossdating ceases

The symbols B, G, L, c and r indicate cutting dates in order of decreasing confidence, unless a + or ++ is also present.

The symbols L, G, and B may be used in any combination with each other or with the other symbols except v and vv. The r and c symbols are mutually exclusive, but may be used with L, G, B, + and ++. The v and vv are also mutually exclusive and may be used with the + and ++. The + and ++ are mutually exclusive but may be used in combination with all the other symbols.

SPECIES CODES

- DF = Pseudotsuga menziesii, "Douglas-fir"
- PP = Pinus ponderosa, "ponderosa pine"
- PNN = Pinus edulis, "pinyon"
- JUN = Juniperus spp., "juniper"
- FIR = Abies cf. concolor, "white fir"
- SPR = Picea cf. engelmanni, "Engelmann spruce"
- QUER = Quercus spp., "oak"
- POP = Populus spp., "cottonwood or aspen"
- Non-con = Non-coniferous species; none of above - usually unidentified shrub

Table 2. Concordance of Room Numbering

Acoma Restoration Project	HABS Survey
Area A, Unit 7	Unknown
Area A, Unit 11	Block 1, Unit 5
Area A, Unit 16	Block 1, Unit 6
Area A, Unit 22	Block 1, Unit 8
Area B, Unit 14	Block 2, Unit 6
Area C, Unit 6	Block 3, Unit 9
Area C, Unit 8	Block 3, Unit 10
Area C, Unit 11	Block 3, Unit 11
Area C, Unit 13	Block 3, Unit 11
Area C, Unit 16	Block 3, Unit 12
Area C, Unit 19	Block 3, Unit 13
Area E, Unit 28	Block 5, Unit 8?
Area F, Unit 3	Block 6, Unit 2?
Area F, Unit 19	Block 6, Unit 6?
Area H, Unit 3	Block 7, Unit 1
Area H, Unit 7	Block 7, Unit 2
Area H, Unit 21	Block 7, Unit 7
Area H, Unit 28	Block 7, Unit 9
Area H, Unit 30	Block 7, Unit 10
Area H, Unit 38	Block 7, Unit 13

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ACOMA TREE-RING PROJECT REPORT

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Owner: Unknown

Location: Area A, Unit 7, Level I

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-263	PNN	Viga	1647vv
2	ATP-264	PNN	Viga	1647v

Comments:

This unit lies at the extreme western end of Area A and only a short east-west wall segment remains. The wall contains two weathered beam stubs and one empty beam socket. Cores were taken from the underside of the exposed beams in hopes of obtaining cutting dates. The dates suggest true cutting dates but it is impossible to be sure given the surface characteristics of the stubs.

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ACOMA TREE-RING PROJECT REPORT

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Owner: Unknown

Location: Area A, Unit 11, Level I

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-265	PNN	Viga	1646B
2	ATP-266	PNN	Viga	1646B
3	ATP-267	PNN	Viga	1646B
4	ATP-268	PNN	Viga	1638vv
5	ATP-269	PNN	Viga	1646B

Comments:

These beams were cored from the (now) exterior. Originally more rooms lay to the north, but these have totally collapsed. The sixth beam (the normal number per room) is only an empty beam socket.

Fortunately, most of the beams still carried traces of bark. These bark cutting dates make it clear that these rooms are part of the earliest construction of the north row (Areas A, B, and C).

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Owner: Unknown

Location: Area A, Unit 16, Level I

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-270	PNN	Viga	1646B
2	ATP-271	PNN	Viga	1632+vv
3	ATP-272	PNN	Viga	1646B
4	ATP-273	PNN	Viga	1608vv
5	ATP-274	PP	Viga	1646B
6	ATP-275	PNN	Viga	1580++vv

Comments:

This room lies directly east of Unit 11 and shares a continuous east-west trending north wall. As with Unit 11, the beams were cored from the (now) exterior, standing in the remains of collapsed rooms.

Bark cutting dates confirm this room, with its neighbor Unit 11, as a part of the earliest construction of the north row of room blocks.



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Owner: Unknown

Location: Area A, Unit 22, Level I

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-284	PP	Viga	1642vv
2	ATP-285	PNN	Viga	1646v
3	ATP-286	PNN	Viga	1597vv
4	ATP-287	PNN	Viga	1608vv
5	ATP-288	PNN	Viga	1647B

Comments:

As with the other units in Area A, this room was cored from the exterior. However, the evidence suggests that this was the original north wall of the roomblock as there is no sign of collapsed rooms and the beams extend farther than they would if another room had existed to the north.

The beams were badly weathered, again suggesting that they have been exposed since the mid-1600s. As a consequence, only a single cutting date was obtained.

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Owner: Wally Siow

Location: Area B, Unit 14, Level I, north room

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-278	PNN	Viga	1646B
2	ATP-279	PNN	Viga	1646B
3	ATP-280	PP	Viga	1646B
4	ATP-281	PNN	Viga	1629vv
5	ATP-282	PNN	Viga	1608vv
6		Not sampled		
7	ATP-283	PNN	Viga	1646B

Comments:

Four bark cutting dates from this room clearly place it and, by extension, most of Area B in the earliest construction of the north row which was the initial construction of the present pueblo.

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ACOMA TREE-RING PROJECT REPORT

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Owner: Unknown

Location: Area E, Unit 28, Levels I and II

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
	ATP-277	PP	Viga	1647v Level I
	ATP-276	PNN	Viga	1650vv Level II

Comment:

The north wall of Area E has been entirely encased by a new adobe wall which effectively conceals most of the original. However, a few nonfunctional doorways in the new wall allow difficult access to an occasional viga. Two such were cored as they were the only available samples from this roomblock. The dates serve to confirm the time placement of the middle row as slightly later than the north row.

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Owner: Joe Chino

Location: Area H, Unit 21, Level I, south room

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-289	PP	Viga	1647B
2	ATP-290	PP	Viga	1647B
3	ATP-291	PP	Viga	1647B
4	ATP-292	PNN	Viga	1647B
5	ATP-293	PNN	Viga	1612++B
6	ATP-294	PNN	Viga	1601++B
7	ATP-295	PP	Viga	1647B
8	ATP-296	PNN	Viga	1647LB

Comments:

The four rooms comprising Unit 21 have as authentic a feel of original construction as any in the pueblo. Although the third level is now gone, the remaining levels appear unaltered since they were built in the mid-1600s.

Six bark cutting dates from this room confirm that Area H and the south row of roomblocks were begun only a year later than the north row.

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ACOMA TREE-RING PROJECT REPORT

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Owner: Joe Chino

Location: Area H, Unit 21, Level I, north room

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-297	PNN	Viga	1647B
2	ATP-298	PNN	Viga	1647B
3	ATP-299	PNN	Viga	1647L
4	ATP-300	PNN	Viga	1621++LB
5	ATP-301	PNN	Viga	1647LB
6	ATP-302	PNN	Viga	1616++B
7	ATP-303	PNN	Viga	1647B
8	ATP-304	PNN	Viga	1647LB
9	ATP-305	PP	Brace	- No date -

Comments:

This room is nearly a twin to its neighbor to the south and the dates are identical. This unit is part of the nucleus of Area H, begun in 1647.

The ceiling of the room has been recently braced with pine uprights which did not date.

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Owner: Joe Chino

Location: Area H, Unit 21, Level II, south room

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-306	PNN	Viga	1649B
2	ATP-307	PNN	Viga	1649B
3	ATP-308	PP	Viga	1649B
4	ATP-309	PNN	Viga	1634++B
5	ATP-310	PNN	Viga	1649B
6	ATP-311	PNN	Viga	1636++vv
	ATP-312	PP	Lintel	1462vv

Comments:

The second level of this nuclear unit was constructed in 1649, just two years later than the ground floor.

The south door, evidently originally an interior door judging from its width, contained a stone-ax cut lintel. The date of 1462 is close to a cutting date based on field observation; thus this is the first direct case of wood reuse in the pueblo.

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Owner: Joe Chino

Location: Area H, Unit 21, Level II, north room

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-313	PNN	Viga	1649LGB
2	ATP-314	PP	Viga	1649B
3	ATP-315	PNN	Viga	1650LB
4	ATP-316	PNN	Viga	1639vv
5	ATP-317	PP	Viga	1649GB
6	ATP-318	PP	Viga	1649LB
	ATP-319	PNN	Rack	- No date -
	ATP-320	PNN	Lintel	- No date -

Comments:

It appears that this room, although mostly constructed in 1649 as was its neighbor to the south, was completed a year later in 1650.

Neither of the miscellaneous samples could be dated due to too few rings.

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ACOMA TREE-RING PROJECT REPORT

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Owner: Joe Chino

Location: Area H, Unit 21, Level I

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<u>Beam</u>	<u>Catalog No.</u>	<u>Species</u>	<u>Use</u>	<u>Date/Symbol (Table 1)</u>
1	ATP-321	PNN	Viga	1465vv
2	ATP-322	PNN	Viga	1647v

Comments:

These two residual beams are intruding into Unit 21, Level I, south room, but belong to a first level room that has been completely replaced by the modern construction of Unit 22.

It is tempting to view ATP-321 as a reused beam, but the beam end is so weathered that it is impossible to determine if it is stone-ax cut.