

THE ARCHAEOLOGICAL INTERPRETATION OF TREE-RING
SPECIMENS FOR DATING SOUTHWESTERN
CERAMIC STYLES

by

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Errata for Dissertation---David A. Breternitz, 1963

- p. 5, last word: Delete last word--"of"
- p. 81, 5th line from bottom: Change "are" to "is"
- p. 90, line 4: Change semi-colon to comma.
- p. 95, line 5: Change semi-colon to comma.
- p. 110, line 6: Should be "referring"
- p. 120, line 10: Should be "adequate"
- p. 136, 53s, line 4: Change semi-colon to comma.
- p. 144, next to last line: "dwell- ing" incorrectly hyphenated
- p. 157, 67a, line 4: Change semi-colon to comma.
- p. 186: Underline "Site 111"
- p. 192, lines 4 and 6: Change "dates" to "date"
- p. 211, 86k, line 2: Change "room" to "rooms"
- p. 221, next to last line: Change "occurs" to "occur"
- p. 234, 93a, line 1: Change "Surface" to "surface"
- p. 253, line 5: Change "Types" to "type"
- p. 269, Line 4: Change "Galdwin" to "Gladwin"
- p. 367, last line: Change "Kalgeto" to "Klageto"
- p. 369, line 2: Change "Tree-Ring" to "tree-ring"
- p. 388, line 8: Hyphenate "on-white"
- p. 400, Reserve Smudged, Occurrence by site: Word "Indigenous--" left out.
- p. 401, line 7: Change "represent" to "represents"
- p. 401, 6th line from bottom: Change "or" to "of"
- p. 410, 5th line from bottom: "assoc- iation" incorrectly hyphenated
- p. 432, 2nd line from bottom: Delete the semi-colon
- p. 438, Wallace Polychrome, line 4: Delete parentheses around (MS)

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- p. 439, line 9: Need space between "1100" and "to"
- p. 453, second word: Change "pottery" to "ceramic"
- p. 454, line 10: Change "Archaeological" to "archaeological"
- p. 454, 3rd line from bottom: Change "occurrence" to "occurrences"
- p. 456, 2nd paragraph, line 5: Change "feel" to "think"
- p. 468: Change "LA:473" to "LA:472"
- p. 474, Baldwin 1939: Change "no." to "No."
- p. 476, Breternitz 1960a: Delete "No."
- p. 496: "Roberts, Frank H. H., Jr." is listed twice.

PREFACE

This paper is primarily the result of materials gathered during reorganization of archaeological tree-ring records and specimens currently housed at the Laboratory of Tree-Ring Research, University of Arizona, Tucson. The project was conceived by Bryant Bannister to correlate the dendrochronological records and specimens of the Laboratory of Tree-Ring Research, the Laboratory of Anthropology, the Museum of Northern Arizona, and Gila Pueblo, in order that the Laboratory of Tree-Ring Research might facilitate its services; the use of the material for archaeological interpretation in the present form is an unexpected and welcome adjunct to the primary purpose.

Frequent references in the text to follow indicate an indebtedness to many individuals and institutions who have aided and abetted my efforts. Many others have given unselfishly of their time, talents, and information. I am indebted to everyone who became involved in the various facets of this dissertation.

Writing has been done under the supervision of a dissertation committee consisting of Emil W. Haury, Raymond H. Thompson, and Edward P. Dozier, all of the Department of Anthropology, University of Arizona.

The initial processing of materials was done while serving as a Graduate Research Assistant in the Laboratory of Tree-Ring Research, under the supervision of Bryant Bannister. William G. McGinnies, Director of the Laboratory, assisted at all stages of the work, provided me with study and working space, and offered timely encouragement, all of which are sincerely appreciated.

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ABSTRACT

The interpretation of approximately 5715 dated tree-ring specimens from about 342 archaeological sites in the American Southwest is the basis for "dating" the pottery types found in association. The time involved spans the period from the introduction of fired ceramics to the Spanish Entrada, approximately A.D. 1550.

The provenience and site situation information for both the dated tree-ring specimens and the associated pottery is tabulated for each site and site-area which has tree-ring dates, except when these data are accessible in the literature.

Criteria for establishing the validity of the association and provenience of the tree-ring specimens and the pottery are formulated. The interpretation and evaluation of the validity of these dates and associations is the basis for "dating" the various pottery types. The occurrence of pottery in "Indigenous" and "Trade" situations is presented separately; the pottery types in these categories are dated separately, in so far as possible, and then evaluated in terms of total distribution and context. Approximately 325 pottery types, varieties, and ceramic categories are dated on the basis of archaeological

associations with tree-ring specimens. The data presented do not change the gross time placements of previous workers, but they do (1) refine some pottery dates, (2) reject others, and (3) give differing validity to additional ceramic dates.

The concept of "pottery type" is used as the analytical unit for dating Southwestern ceramics. The concept of "Ceramic Style" represents synthesis at a higher level of abstraction and does not lend itself to dating based on tree-ring material.

A progressive increase in the amount and range of traded pottery is noted through time. The increase in the distribution of various pottery types after about A.D. 1250 is also accompanied by an increase in attempts to make local copies of certain pottery types obtained by trade.

Decorated pottery types which occur as trade products tend to persist in later archaeological contexts and this situation is discussed as the "Lasting Phenomenon of Traded Ceramics."

Southwestern pottery is distributed in prehistoric times on the basis of hand-to-hand or person-to-person contact and although the amount of trade and the spatial dispersal increase in time, particularly after 1250, this trade never reaches the same degree of institutionalization that is seen in Mesoamerica. An associated feature is an emphasis on the trading of small, decorated vessels, as opposed to large, utility or undecorated, ceramic containers.

CHAPTER I

INTRODUCTION

Dendrochronology, the science of tree-ring dating, provides Southwestern Archaeology with a chronological technique that is both unique and absolute. It is small wonder that archaeological applications and interpretations of tree-ring dates have developed and been most intensively used for the "dating" of various aspects of prehistory in the Southwestern United States. The absoluteness of a tree-ring date applies only to the tree-ring specimen itself, but through the interpretation of archaeological context and association we are able to use tree-ring specimens to "date" certain prehistoric events and to state with some degree of validity that certain archaeological manifestations, whether they be sites, cultural stages, or pottery types, occur within a certain bracket or period of time.

The problem to be dealt with---or more correctly, the body of material to be treated---concerns the dating of prehistoric Southwestern ceramics through the interpretation of dated tree-ring specimens which are found in an archaeological context. Emphasis will be on the dating

of particular "pottery types," both within the area where they were originally made and in those areas where they appear as exotic, trade items. This interest in prehistoric Southwestern trade items is clearly stated by Colton (1960: 88, 91):

Commerce has always been an activity among the Indians of the Southwest, past and present. The finding of foreign objects by an archaeologist is among the most exciting incidents of his work. The archaeologist cannot help but speculate on where the objects came from and how they got there.

As you cast your eye over the Southwest, it becomes evident that pottery, particularly attractive small bowls and small jars, furnished an important medium of exchange.

For the purposes of establishing regional chronologies and determining cultural (archaeological) similarities and relationships it is more important to know WHEN the items of material culture--the pottery in this case---are made and traded than it is to know WHO is responsible for the actual hand-to-hand transfer of the objects themselves. The ceramic remains do not tell us about the social-cultural factors involved in this commercial or personal exchange; this can only be inferred through ethnological comparisons and from analysis of the total archaeological picture of a prehistoric culture, whether this is known from the excavation of a single site or as shown from a variety of sites.

Given the availability of archaeological tree-ring dates in Southwestern prehistory, the problem remaining is the correlation of the available tree-ring dates with the associated pottery. Pottery is used because it is the material culture item that has proved to be the most widespread and useful for archaeological interpretation in the Southwest. "Pottery type," or rather the concept of "pottery type"---a group of pottery vessels which are alike in every important characteristic, including techniques of manufacture, methods of decoration, and kinds of decoration---is the best analytical tool available for the dating of Southwestern ceramics. The standard published archaeological report, unpublished manuscripts, and laboratory analysis records, customarily present and quantify the ceramics recovered during excavation in terms of pottery types. Analysis is frequently carried down to the level of the "variety" (Wheat, Gifford, and Wasley 1958; as modified by Phillips 1958), but we can combine the varieties of any given pottery type and make reference to the parent type.

The concept of "style of design" will be shown to lack the preciseness necessary for accurate over-all dating using the interpretive tool of associated tree-ring specimens. "Style of design is a device for lumping pottery types on the basis of design" (Wasley 1959: 289).

Consequently, a higher level of abstraction and analysis is involved; one that is not as specific as the concept of pottery type.

Pottery types are considered to be potentially datable if they occur in association with dated tree-ring specimens. Dating becomes more valid when this association can be shown to be (1) repetitive, during the same time period and in a variety of archaeological sites and (2) to be in a definite and specific archaeological context, which concerns both the pottery and the tree-ring specimens.

Bannister (1953: 35) notes the classes of information necessary for the interpretation of tree-ring dates:

In summary, there are three classes of basic information necessary for the interpretation of tree-ring dates. The first class concerns the way in which a dated specimen was originally used; the second category deals with the relationship between a dated specimen and the context in which it was found; and the final factor involves the degree of similarity between the tree-ring date of a specimen and the year in which the original tree died.

Four types of chronological error are also noted by Bannister (1962: 508):

Type 1. The association between the dated tree-ring specimen and the archaeological manifestation being dated is direct, but the specimen itself came from a tree that died or was cut prior to its use in the situation in question.

Type 2. The association between the dated tree-ring specimen and the archaeological manifestation being dated is not direct, the specimen having been used prior to the feature being dated.

Type 3. The association between the dated tree-ring specimen and the archaeological manifestation being dated is direct, but the specimen itself represents a later incorporation into an already existing feature.

Type 4. The association between the dated tree-ring specimen and the archaeological manifestation being dated is not direct, the specimen having been used later than the feature being dated.

The validity of the so-called "dating" of the pottery type in question is increased when there is specific, detailed information available concerning the tree-ring specimen and the associated pottery. For example, we can place much more validity on the interpretation of a pottery type found on the floor of a pithouse which produces a series of cutting dates for the main roof support posts than we can for a pottery type identified from a collection of surface sherds from a site with a single non-cutting date which lacks provenience data. This means that the classes of information and the types of chronological error noted previously are considered in interpreting each and every instance of tree-ring dates in an archaeological situation.

T. L. Smiley performed a great service by assembling a list of all the published tree-ring dates in the Southwest (1951). However, interpretation of the majority of these tree-ring dates is left up to the archaeologist, and this can only be done through individual effort to determine the archaeological context and associations

of these dates. The non-specific nature of Smiley's listing must account for the fact that many archaeologists have, unfortunately, ignored the large body of information contained therein. Nonetheless, Smiley (1951) provides the over-all background for this paper.

Methods of Analysis

Since 1951 approximately 2750 individual tree-ring dates from about 200 Southwestern archaeological sites have been obtained by Laboratory of Tree-Ring Research personnel, exclusive of dates derived as an adjunct of the various Indian Land Claims Cases. Smiley, Stubbs, and Bannister (1953) treating the Rio Grande area and Bannister (1959) dealing with Chaco Canyon are the two, recent, major works which utilise the medium of tree-ring dates to correlate prehistoric archaeological material. T. P. Harlan's reanalysis of tree-ring specimens from the Flagstaff area (1962) constitutes another new body of material available for archaeological interpretation.

Several statements which define, clarify, and interpret the methods of dendrochronology have appeared within the past decade. Among the more important publications in this vein are Bannister (1953, 1959, 1962), Bannister and Smiley (1955), and Smiley, Stubbs, and Bannister (1953). These publications outline many of the field and laboratory problems of tree-ring dating

and establish a theoretical framework for the interpretation of tree-ring dates derived from an archaeological context.

The analysis which follows is carried out within the framework of the procedures, cautions, and controls outlined in these publications. It involves an effort to quantify and qualify the provenience and context of each individual tree-ring date or group of tree-ring dates that is recorded in an archaeological situation. The validity of each tree-ring date or group of dates depends upon the amount of detailed information concerning the dated specimen itself, its context in relation to the archaeology, and finally the strict archaeological interpretation of the material culture, the pottery types, which we are attempting to date.

The basic data concerning the actual tree-ring dates, their context-provenience, and quantifications and qualifications of the ceramic associations are listed in Chapter II.

The "raw data" presented in Chapter II is used in Chapter III as the basis for citing examples of the application of tree-ring dates to the dating of prehistoric Southwestern pottery, in a variety of situations and using differing amounts of information with various degrees of interpretive validity. Fundamental to this interpretation is the recognition of the classes of

information and the types of chronological errors noted in the introductory paragraphs of this chapter.

Chapter III serves as the framework for an evaluation, in Chapter IV, of the dating of all Southwestern pottery types found at sites which have tree-ring dates.

This paper is not concerned with the preceramic Southwestern cultures, specifically Basketmaker II. Nor does it consider sites assignable to the period following Spanish contact; these sites are only cited when they have been previously noted by Smiley (1951) or Smiley, Stubbs, and Bannister (1953). Interested parties may refer to the following references for information on the dating of post-Spanish contact sites: Bannister (1959), Hall (1944, 1951), Hester (1961), Indian Land Claims Cases (as they become available), Peterson (1935), Smiley (1951), Smiley, Stubbs, and Bannister (1953), Stallings (1937), and Vivian (1960).

Presentation of Data

The following comments explain the categories of information given for the archaeological sites considered in Chapter II. Data for each site or site-area, in so far as pertinent information is available, is presented in the same order.

Site Number. The numbers assigned to each site or site-area, and shown on Figure 1, are those given in

Smiley (1951). There is no particular arrangement or sequence of these numbers; they were assigned at random by Smiley. The system is continued here to avoid confusion. New numbers (117-121) have been added to accommodate localities which have produced tree-ring dates since 1951. Newly dated sites in previously numbered localities are indicated by lower case letters (a, b, c, etc.) added to existing numerical designations.

Site Name, Institutional Number, or Site Area.

If the site is named in the literature this designation is given first; if the site is also known in the literature by a specific institutional number it is also given. (See "Abbreviations Used in this Paper," Tables 1 - 4). A general and, when appropriate, a specific notation of the site area, location, and description follow.

Dates. The references cited under "Dates" contain specific note of individual tree-ring specimens. Institutional files are cited for tree-ring dates which are not published. The provenience and actual dates are listed if there are new dates or if there is information concerning these specimens which is not contained in the published sources.

All the tree-ring dates in this report are in the Christian era. Consequently, the abbreviation, A.D., is not used.

Summary of Dates. Summaries of the lists of dates include information such as ranges of dates, clusters of dates, and cutting dates. Individual tree-ring dates given by provenience in the literature are simply summarized.

Pottery Types. Reference is made to the published source for the site under discussion if it is readily available and specific. Otherwise, the source cited refers to data in certain institutional files or supplied through the medium of "personal communication" from various workers commanding knowledge of unpublished material. When a name appears as a citation of authority without a date of publication reference it indicates some form of personal communication. In all other instances, the identifications are my own.

Indigenous. The pottery types noted under this category are known or thought to have been locally made, at the specific site or site-area under discussion.

Trade. This category includes pottery types known or thought to have been traded into the site or site-area under discussion from some other locality, even though the distance involved may be small.

The relative occurrence of pottery types, for both Indigenous and Trade categories, is also indicated. "CAPITAL LETTERS" indicate that these types are the most numerous and that their association is to be stressed

for interpretive purposes, within the respective categories of Indigenous and Trade. "Capital and Lower Case Letters" indicate that these pottery types are present, but not as dominant types within the Indigenous and Trade categories. A question mark (?) following a pottery type name indicates that this type is present but that definite association with the tree-ring specimens is questionable, or that there is some question regarding its classification by type. The text for the specific site under discussion usually clarifies this questionable designation.

Comments. Miscellaneous and summary information, cautionary notes, cross references, and other comments are included under this heading.

Categories for the relative interpretive validity of tree-ring specimens and associated ceramics are not given under this heading. This is shown by examples in Chapter III and summarized in Chapter IV for each pottery type.

The Rio Grande area contains many sites which are considered by Smiley, Stubbs, and Bannister (1953) and for which no additional tree-ring dates or archaeological information has been made available since 1953. In these instances reference is simply made to Smiley, Stubbs, and Bannister (1953). However, the tree-ring information for these Rio Grande area sites is summarized

in the Master Tree-Ring Date Chart (Table 5) and considered in Chapter IV.

Abbreviations Used in This Paper

Four classes of abbreviations and symbols are used in the format for presenting the tree-ring data and associated material. These are listed in Tables 1 through 4.

TABLE I
INSTITUTIONAL ABBREVIATIONS

AF	Amerind Foundation, Inc., Dragoon, Arizona.
ASM	Arizona State Museum, Tucson, Arizona.
GC-SJ	Glen Canyon-San Juan Project, Museum of Northern Arizona, Flagstaff, Arizona.
GP	Gila Pueblo, Globe, Arizona.
LA	Laboratory of Anthropology-Museum of New Mexico prefix to site number. Santa Fe, New Mexico.
MNA	Museum of Northern Arizona, Flagstaff, Arizona.
MM	Museum of New Mexico, Santa Fe, New Mexico.
NA	Museum of Northern Arizona prefix to site number. Flagstaff, Arizona.
SWAC	Southwest Archeological Center, Globe, Arizona.
TRL	Laboratory of Tree-Ring Research, Tucson, Arizona.

TABLE 2

SYMBOLS USED IN CONJUNCTION WITH TREE-RING DATES
(Modified after Bannister 1959: 26-7)

+	Outer rings crowded, probably some absent in series.
++	Outer rings very crowded, ring count made, probably many absent in series.
v	Last ring variable around circumference, probably several rings lost.
vv	Last ring very variable around circumference, probably many rings lost.
inc	Final ring incomplete.
year	Last ring on specimen.
+x & x	Last ring on specimen, unknown number of rings lost.
year ±10	Estimated cutting date. (The number 10 is an example only).
<u>year</u>	Last year on specimen, cutting date. (For dates derived by Gila Pueblo and some early dates by TRL personnel).
r	Outer ring constant over significant portion of the circumference, probable cutting date.
c & C	Last ring constant around circumference, probable cutting date.
b & B	Bark present, definite cutting date.
G	Beetle galleries present on surface, probably very near cutting date.
L	Probable cutting date, presence of distinctive surface-color condition with Chaco Canyon specimens.
(OS)	Outside, implies cutting date. Used by J. C. Mc.Gregor and as it appears in the TRL Files.
(end)	No rings estimated lost from outside, implies cutting date. Used by F. M. Hawley for Chaco Canyon dates.

TABLE 3

SYMBOLS USED TO SHOW PERSON(S) WHO DATED
FLAGSTAFF AREA TREE-RING SPECIMENS

-
-
- (a) Dated by T. P. Harlan (1962).
 - (b) Same date obtained by A. E. Douglass and T. P. Harlan.
 - (c) Dated by A. E. Douglass.
 - (d) Dated by J. C. Mc.Gregor and verified by A. E. Douglass.
 - (e) Same date obtained by J. C. Mc.Gregor and T. P. Harlan.
 - (f) Dated by J. C. Mc.Gregor.
 - (g) Dated by T. L. Smiley.
 - (h) Same date obtained by E. W. Heury and T. P. Harlan.
 - (i) Dated by E. Schulman.
 - (j) Same date obtained by E. Schulman and T. P. Harlan.
 - (k) Same date obtained by unidentified person (probably either J. C. Mc.Gregor or A. E. Douglass) and T. P. Harlan.
 - (l) Dated by unidentified person (probably J. C. Mc.Gregor or A. E. Douglass).
 - (m) Same date obtained by A. E. Douglass and T. L. Smiley.
-

TABLE 4

POTTERY TYPE ABBREVIATIONS

B/C	Black-on-cream.
B/Gy	Black-on-gray.
B/O	Black-on-orange.
B/Br	Black-on-brown.
Br.	Brown
B/R	Black-on-red.
B/W	Black-on-white.
B & W/R	Black and White-on-red.
Corr.	Corrugated.
Poly.	Polychrome.
R/Bf	Red-on-buff.
R/Br	Red-on-brown.
R/O	Red-on-orange.
R/W	Red-on-white.
W/R	White-on-red.

CHAPTER II

SOUTHWESTERN ARCHAEOLOGICAL SITES WITH TREE-RING DATES

All sites and localities are numbered following Smiley (1951) and are shown on Figure 1. The sites and site-areas are also indexed, with reference to these numbers, in the Appendix.

1. Arroyo Hondo Area

1a. Chamisa Locita, LA:4. A small pueblo ruin about 8 miles southeast of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 15). One additional traded pottery type might be added on the basis of Mera's (1940: 2) statement that Heshotauthla Polychrome is present.

1b. Los Alamos, LA:8. A medium size pueblo ruin southeast of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 17).

1c. Arroyo Hondo, LA:76. A large pueblo ruin about 4 miles south of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 19-20).

1d. Mocho, IA:191. A small pueblo ruin on the north side of Arroyo Hondo about 6 miles south of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 25-6).

1e. Pena Negra, IA:235. A small pueblo ruin located about 8 miles southeast of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 27).

2. Galisteo Creek Area

2a. Lamy, IA:10. A small pueblo ruin about one-half mile southwest of Lamy on the east bank of Galisteo Creek.

Comments: See Smiley, Stubbs, and Bannister (1953: 17).

2b. Lamy, IA:27. A small pueblo ruin about one mile southwest of Lamy.

Comments: See Smiley, Stubbs, and Bannister (1953: 18). One additional traded pottery type might be added on the basis of Herra's (1940: 2) statement that Heshotauthla Polychrome is present.

2c. Galisteo, IA:309. A medium pueblo ruin on the San Cristobal Arroyo about 5 miles south of the Lamy highway overpass.

Comments: See Smiley, Stubbs, and Bannister (1953: 30-1). One additional traded pottery type might

be added on the basis of Mera's (1940: 2) statement that Heshotauthla Polychrome is present.

2d. Manzanares, IA:1104. A small pueblo ruin on the north bank of Galisteo Creek about 1½ miles east of the Lamy railroad station.

Comments: See Smiley, Stubbs, and Bannister (1953: 37). One additional traded pottery type might be added on the basis of Mera's (1940: 2) statement that Heshotauthla Polychrome is present.

3. San Cristobal

3a. San Cristobal, IA:80. A large pueblo ruin on the San Cristobal Arroyo about 25 miles south of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 20-1).

4. Pueblo Largo

4a. Pueblo Largo, IA:183. A large pueblo ruin on the Canada Estacada, about 30 miles south of Santa Fe.

Dates: Smiley, Stubbs, and Bannister (1953: 25) list 20 dates from Pueblo Largo. The following are unpublished dates released to Bertha P. Dutton on January 8, 1959 by the TRL.

Plaza V, Room 12, 1260+vv, 1284+v.

Plaza V, Room 13, 1298v, 1298c, 1299c, 1303+v.

Plaza V, Room 17, 1275+vv.

Plaza V, Room 18, 1292+v.

Plaza V, Room 20, 1265vv, 1268+vv, 1286+v, 1287vv,
1292v.

Plaza V, Room 21, 1250+vv, 1255+vv, 1260+v, 1266v,
1267vv, 1267+v, 1267v, 1267c, 1268v, 1270c,
1289+v, 1291+v, 1292v, 1292+v, 1324+v
Repair beam(?).

Plaza V, Kiva XX (Corner Kiva), 1219vv, 1292v,
1295v.

No provenience given, 1264+v.

Summary of dates: A total of 52 dates range from 1219vv to 1457, with 15 between 1292+v to 1299C. Plaza V rooms were probably built during the last quarter of the 13th century. Nelson's (1914) Building IV is later, dating in the early 1400's.

Pottery Types:

Building IV. Indigenous: Glaze II, III,
and IV; Trade: Chupadero B/W(?),
Biscuit B (Bandelier B/Gy)(?).

Plaza V, Rooms and Kiva (B. Dutton).

Indigenous: GLAZE I (RED, YELLOW,
AND POLY.), SANTA FE B/W, GALISTEO
B/W, Poge B/W; Trade: Biscuit A
(Abiquiu B/Gy), Biscuit B (Bandelier

B/Gy), Wiyo B/W, Chupadero B/W,
St. Johns Poly., Jemez B/W, Mesa
Verde B/W.

Comments: The rooms in Plaza V are not trash filled and the fill, ceremically, is the same from top to bottom. Plaza V is mostly Glaze I period and Galisteo B/W is in the minority (B. Dutton).

5. Pecos Area

5a. Pecos Pueblo, LA:625. A large pueblo ruin on the east side of Pecos Arroyo about 3 miles south of Pecos, New Mexico.

Dates: Smiley, Stubbs, and Bannister (1953: 33) list 79 dates and proveniences. The TRL files contain 9 additional dates, recently obtained.

North Quadrangle, Kiva 7, squared beam, 1577+.

South Mound, Room 7, 1486+; under fallen wall,
1476+, 1489+.

North Quadrangle, inside room on south side of
east entrance, roof beams, 1459inc,
1512inc.C, 1513inc.C.

South Mound, Room 5, 1427, 1466+.

Comments: Kiva 7 was occupied until the abandonment of Pecos and perhaps held the "undying fire" (Kidder 1958: 195).

Using Kidder's Pecos chronology (Kidder and Shepard 1936: 610) limits our concern through the Glaze III period only. This chronology is:

1150	Forked Lightning founded.
1300	Forked Lightning abandoned; Pecos founded.
1300-1375	B/W period at Pecos.
1375-1425	Glaze I period.
1425-1475	Glaze II period.
1475-1550	Glaze III period.
1550-1600	Glaze IV period.
1600-1700	Glaze V period.
1700-1838	Modern period.
1838	Pecos abandoned.

5b. Pecos Mission (Nuestra Senora de Los Angeles de Porcinucula). Mission in the pueblo of Pecos.

Comments: This is a post-Spanish contact site. See Smiley, Stubbs, and Bannister (1953: 42-3). Stubbs, Ellis, and Dittert (1957) is also a pertinent, recent reference.

5c. Rowe (Guthe's Ruin), 1A:108. A medium pueblo ruin about one-quarter mile east of Rowe, near Pecos, New Mexico.

Comments: See Smiley, Stubbs, and Bannister (1953: 22). Kidder and Shepard (1936: 343) note that Heshotauthla Polychrome is present as a trade ware.

5d. Arrowhead Ruin, 1A:251. Pueblo ruin on the Glorieta Arroyo, about 2 miles east of Glorieta.

Dates: See Smiley, Stubbs, and Bannister (1953: 27-8).

Pottery Types (Holden 1955; Pearce 1937):

Indigenous: SANTA FE B/W, GLAZE I (RED, YELLOW, AND POLY.), Rowe B/W, Galisteo B/W (Crackle); Trade: WIYO B/W, Biscuit A (Abiquiu B/Gy).

Comments: Neither Pearce (1937) nor Holden (1955) mention Poge B/W or Heshotauthla Polychrome. They do, however, list an occasional sherd of Biscuit B (Bandelier B/Gy), Glazes II and III, and Chihuahua Polychrome.

The "2nd room from Kiva" has been identified as Room 18.

The Kiva was built during Glaze I, probably towards its end (Kidder 1958: 51).

Kidder (1958: 43) dates the abandonment of Arrowhead at about 1400.

5e. Forked Lightning, LA:672. A medium pueblo ruin about one mile southwest of Pecos Pueblo.

Comments: See Smiley, Stubbs, and Bannister (1953: 35).

Kidder (1958: 42-3) has added a few pertinent details on the associated ceramics. The presence of an incipient glaze-decorated redware, perhaps a proto-Pinedale Polychrome, is noted, plus the absence of Heshotauthla Polychrome. The main occupation of the site was from about 1225 to 1300. The tree-ring dates close to 1115

probably represent an earlier occupation of some part of the site and they go along with the Chaco II (Kwabe's B/W) sherds.

6. Santa Fe River Area

6a. Pindi Pueblo, LA:1. A large pueblo ruin on the Santa Fe River west of Santa Fe.

Summary of dates: Smiley, Stubbs, and Bannister (1953: 12-4) list 149 dates ranging from 1051 to 1349, with 49 between 1151 and 1260 and 56 between 1300 and 1338.

Pottery Types: Stubbs and Stallings (1953: 17, 22-3, 156-62, Fig. 70) discuss the tree-ring dates and the ceramic relationships in such detail that they do not bear repeating here.

Comments: The correlation of tree-ring dates and stratigraphic techniques for Pindi Pueblo is a model for archaeological interpretations of this kind.

6b. Agua Fria, LA:2. "The School House Site," a large pueblo ruin near Pindi Pueblo.

Comments: See Smiley, Stubbs, and Bannister (1953: 14-5).

6c. Arroyo Negro, LA:114. A small pueblo ruin on the Santa Fe River about 3 miles west of Santa Fe.

Comments: See Smiley, Stubbs, and Bannister (1953: 22-3).

7. Walnut Canyon Area

7a. Walnut Canyon, NA 310. A one-room cliff house in Walnut Canyon National Monument.

Dates (Harlan 1962: 34):

Lintel above door, 911(e), 933(e).

Comments: There is no sherd collection or additional information available for this site.

7b. Walnut Canyon, NA 323. A 16-room cliff house in Walnut Canyon National Monument.

Dates (TRL Files):

Post in outer wall, 1003(f).

Comments: There is no additional information for this site.

7c. Walnut Canyon, NA 333. A 4-room cliff house in Walnut Canyon National Monument.

Dates (Douglass 1947: 11; Harlan 1962: 35):

Provenience unknown, 1187vv(c), 1187(a).

Comments: The two dates are possibly from the same specimen. There is no information on the ceramic associations.

7d. Walnut Canyon, NA 739. A 9-room cliff house in Walnut Canyon National Monument.

Dates (Colton 1946: 76; Harlan 1962: 43; Rixey 1949: 87; Schulman 1950b: 21):

Room A, No provenience given, 1070(a),
1092(e).

Room B, Plank, 1083(f).

Room C, No provenience given, 1256vv(j).

Pottery Types: The surface collections from in front of NA 739 B (Colton 1946: 76) and the MNA Survey Collection for NA 739 A, plus the general site collection indicate the following:

Indigenous: WALNUT B/W, RIO DE FLAG BR.
(includes Angell Br.?--DAB), WINONA BR.,
SUNSET RED, Turkey Hill Red, Elden Corr.,
Black Falls Corr.; Trade: Black Mesa B/W,
Sosi B/W, FLAGSTAFF B/W, Tusayan B/W
(includes Wupatki B/W), Showlow B/R,
Tusayan B/R, Citadel Poly., Tusayan Poly.,
Wingfield Plain, Verde Gray, Tusayan Corr.,
Moenkopi Corr., Kiet Siel Gray.

Rixey and Voll (1962: 89-90) add Dogosahi B/W (Trade) and Walnut Corr. (Indigenous) to the types found at the site. The reader is also referred to Rixey (1948: 31-4, 42).

Comments: The range of tree-ring dates and the range of time indicated by the pottery types is similar, but without definite association or provenience information the site does not warrent further comment or interpretation.

B. Winona Village and Ridge Ruin Areas

8a. Pipers Crater Fort, NA 534. A masonry "fort" on top of Piper's Crater.

Dates (Harlan 1962: 41):

Backdirt, 1246(b). Douglass (1947: 11) gives the date as 1244vv.

Pottery Types (MNA Survey Collection): The following types are present; no indication of the percentage distribution is given.

Indigenous: Walnut B/W, Sunset Red, Black Falls Corr.; Trade: Kayenta B/W, Citadel Poly., Tusayan Poly., Unidentified B/O, Tusayan Corr., Moenkopi Corr.

Comments: Although there is no definite association between the single, non-cutting tree-ring date and the sherd collection they appear to be roughly contemporary.

8b. Winona Village, NA 2133A. A Winona Phase pithouse. Winona Village is situated on a low ridge about one-half mile northeast of Winona, Arizona.

Dates (Colton 1946: 185; Harlan 1962: 85-6; Mc.Gregor 1941: 18):

"Posts," North side of doorway, 1076(c);
Post #18, 1082(1); Post #12, 1086(1);
Center post, 1087(1); Post, 1090(1).
"Roof Material," 2 at 1071(one c, one 1),
1074(a), 1076(a), 1078(b), 1079(a),

3 at 1080(one a, two 1), 2 at 1081
(one a, one c), 3 at 1082(a), 4 at
1083(three c, one 1), 3 at 1084(two
a, one 1), 2 at 1085(one a, one c),
6 at 1086(one a, two c, three 1),
1087(1).

Roof, center of room, 1070(1), 1076(1),
1077(1), 1082(a), 1085(b).

Roof, front of entrance, 4 at 1077(one a,
one c, two 1), 1078(1), 2 at 1079
(one a, one 1), 1080(1), 1084(a).

North side of doorway (Roof?), 1081(c),
1083(1), 1085(c).

Summary of dates: There is obviously some duplication of specimens among the 52 individual dates, which range from 1071 to 1090. The latest date for each "group" of material is 1084, 1085, 1085, 1087, and 1090.

Pottery Types (Colton 1946: 185-6):

Indigenous: COCONINO R/Bf, Winona R/Bf,
ANGELL BR., WINONA BR., SUNSET RED, Winona
Smudged; Trade: BLACK MESA B/W, Shato
B/W, Tusayan Poly., Tonto Red, Tusayan
Corr., Deadmans Gray, DEADMANS FUGITIVE RED.

Comments: The construction of NA 2133A is convincingly dated at 1090, plus or minus a few years, and the ceramic associations are important for interpretive purposes.

8c. Winona Village, NA 2133B. A small, surface, storage structure associated with NA 2133A.

Dates (Harlan 1962: 86; Mc.Gregor 1941: 18; TRL Files):

Roof timber, 1074(a), 1080(a), 1081(a).

Probable roof timber, 1101(1).

Summary of dates: The three roof timber dates are possibly from the same original specimen. Construction is postulated for the 1080's, with occupation-repair until at least 1101.

Pottery Types (Colton 1946: 187):

Indigenous: WINONA R/Bf, Rio de Flag Br., ANGELL BR., WINONA BR., Sunset Red, Winona Smudged, Winona Corr., Little Colorado Corr.; Trade: BLACK MESA B/W, Shato B/W, Tonto Red, Tusayan Corr., Deadmans Gray, Deadmans Fugitive Red.

Comments: Both the ceramics and the tree-ring dates verify the contemporaneity of NA 2133A and B.

8d. Winona Village, NA 2133C. A Winona Phase pithouse.

Dates (TRL Files):

Probable roof timber, 1058(1)(2 dates from same specimen).

Pottery Types (Colton 1946: 189):

Indigenous: HOLBROOK B/W, Coconino R/Bf, WINONA BR., Angell Br., Youngs Br., Sunset Red, Turkey Hill Red; Trade: BLACK MESA B/W, Shato B/W, Dogoszhi B/W, Tusayan B/R, TUSAYAN CORR., Deadmans Gray, Deadmans Fugitive Red.

Comments: The associated ceramics indicate that NA 2133C is definitely post-Sunset Crater in date and the single tree-ring date either represents a re-used timber or a fragmentary specimen.

8e. Winona Village, NA 2133D. An Angell Phase pithouse.

Dates (Colton 1946: 190; Harlan 1962: 86; Mc.Gregor 1941: 18):

Roof timber, 1077(a), 1081(a), 1083(c),
1084(a), 2 at 1094(a), 1100(a).

Summary of dates: The 7 specimens may be from the same original beam.

Pottery Types (Colton 1946: 190):

Indigenous: Holbrook B/W, WINONA BR., ANGELL BR., Sunset Red, Turkey Hill Red, Little Colorado Corr.; Trade: BLACK MESA B/W, Tusayan B/R, Tusayan Corr., Deadmans Gray, DEADMANS FUGITIVE RED, Tonto Red.

Comments: Both the ceramics and the tree-ring date(s) indicate occupation at around 1100.

Eg. Winona Village, NA 2133C. An Angell Phase pithouse.

Dates (Colton 1946: 190; Harlan 1962: 85; Mc.Gregor 1941: 18; TRL Files):

Roof Material, 1076(1), 1078(a), 1085b(1).

Summary of dates: Only the 1085 date is published. Harlan (1962: 85) shows the 1078 specimen (F-4676) to be from NA 2133A, which is a typographical error. Construction at 1085 is suggested.

Pottery Types (Colton 1946: 190):

Indigeneous: WINONA BR., ANGELL BR.,
Youngs Br.; Trade: BLACK MESA B/W,
TONTO RED, Tusayan Corr., Deadmans
Fugitive Red.

Comments: Colton (1946: 190) notes the absence of certain pottery types normally associated in the late 1000's with the above types.

Eg. Winona Village, NA 2134A. A Padre Phase pithouse.

Dates (Colton 1946: 192; Harlan 1962: 88; Mc.Gregor 1941: 18):

Specimen #17, 1089(a).

Hole in wall, SE side of room 1100(b).

Above floor, near south wall, 1101(1).

Unknown provenience, 1106(a), 1113(a),

1118(a), 1122(d?), 1127(a), 1130(a).

Floor, SW corner, 1110(1).

Miscellaneous roof material, 1111(k),

1113(a), 1118(1).

Specimen 21c, 1111(a).

Specimen #7, 1122(a)(3 dates from same specimen).

Specimen #22, NE corner, above G, 1126(d?).

Specimen #8, Floor, 1131(k)(3 dates from same specimen.

Summary of dates: The 20 individual dates do not represent more than 17 specimens, ranging from 1089 to 1131. Thirteen of the dates are between 1110 and 1131.

Pottery Types (Colton 1946: 194):

Indigenous, floor only: HOLBROOK B/W,

WINONA BR., SUNSET RED; Trade, floor only:

BLACK MESA B/W, Tusayan B/R, Tusayan Corr.,

Deadmans Fugitive Red.

Comments: Construction and occupation within the 1100 to 1131 period is indicated, by both the tree-ring dates and the associated ceramics.

8h. Winona Village, NA 2134E or E1. E is a Padre Phase pithouse and E1 is a Winona Phase pithouse.

Dates (Colton 1946: 194; Harlan 1962: 88,
Mc.Gregor 1941: 18):

Post, 1086(b)(2 dates from same specimen).

Roof material, 1071(c), 1099(c), 1108(c).

Summary of dates: All 4 dates are post-Sunset Crater and the pithouses were inhabited around 1100. Both Colton and Mc.Gregor state that the dated tree-ring specimens are from NA 2134E, but the definite provenience with either structure is doubtful.

Pottery Types (Colton 1946: 194, 196): The following list is a combination of the sherd records from both NA 2134E and E1 because the ceramics from the two pithouses are almost identical, considering the differences in number of sherds recovered.

Indigenous: Holbrook B/W, ANGELL BR., WINONA BR., YOUNGS BR., SUNSET RED, Turkey Hill Red, Little Colorado Corr., Winona Smudged; Trade: BLACK MESA B/W, Shato B/W, Dogoszhi B/W, Medicine B/R, Tusayan B/R, Deadmans B/Gy, Tonto Red, Tusayan Corr., Deadmans Gray, DEADMANS FUGITIVE RED. There is also a single sherd of Gila Plain from NA 2134E.

Comments: NA 2134E was cut through NA 2134E1 and there is obviously some refuse (ceramic) mixture

between the two pithouses, as well as the possibility of re-used (salvaged?) timbers.

8i. Winona Village, NA 2135C. A Padre Phase pithouse.

Dates (Harlan 1962: 90; TRL Files):

Roof material, 1051(a), 2 at 1087(a),
1098(a).

Entrance way, 1072(a), 1095(a)(2 dates
from same specimen).

South post, west wall, 1096(b)(3 dates
from same specimen).

Summary of dates: Seven dates range from 1051 to 1098, with 5 falling after 1087. The 1051 date is either a re-used timber or a fragmentary specimen.

Pottery Types (Colton 1946: 199):

Indigenous, floor only: Holbrook B/W,
WINONA BR., Angell Br., SUNSET RED;

Trade, floor only: BLACK MESA B/W,
TUSAYAN CORR.

Comments: The pithouse is definitely post-Sunset Crater, and was probably constructed in the 1090's.

8j. Winona Village, NA 3644C. An Angell Phase pithouse.

Dates (Colton 1946: 226; Mc.Gregor 1941: 18;
TRL Files):

Roof material, 1103(1), 1110(c), 1113(c),
1115(OS)(1).

Summary of dates: The one outside (bark?) date suggests construction at about 1115.

Pottery Types (Colton 1946: 226):

Indigenous: HOLBROOK B/W, Walnut B/W, Angell Br., WINONA BR., Youngs Br., SUNSET RED, Turkey Hill Red, Little Colorado Corr., Winona Smudged; Trade: BLACK MESA B/W, DOGOSZHI B/W, Flagstaff B/W, Tusayan B/W, Tusayan B/R, Citadel Poly., Tonto Red, Tusayan Corr., Moenkopi Corr., Deadmans Fugitive Red.

Comments: The high percentage of Black Mesa Black-on-white in this pithouse seems to indicate that the pottery type continued to be made during the first quarter of the 12th century.

8k. Winona Village, NA 3644J. An Angell Phase pithouse.

Dates (Colton 1946: 227; Mc.Gregor 1941: 18; TRL Files):

Roof material, 1090(1), 1092(c).

Pottery Types (Colton 1946: 228):

Indigenous: HOLBROOK B/W, ANGELL BR., WINONA BR., Youngs Br., SUNSET RED, Turkey Hill Red, Winona Smudged;

Trade: BLACK MESA B/W, Dogoszhi B/W,
Flagstaff B/W, Tusayan Poly., Deadmans
B/Gy, Tusayan Corr., Moenkopi Corr.,
Deadmans Gray, Deadmans Fugitive Red.

Comments: The tree-ring dates indicate occupa-
tion around 1100 and the ceramics are similar to other
nearby sites which were built and inhabited at this time.

81. Winona Village, NA 3644K. Two superimposed
Padre Phase pithouses.

Dates (Colton 1946: 230; Mc.Gregor 1941: 18;
TRL Files):

Roof material, 1060(1), 2 at 1076 (one c,
one 1), 1077(1), 1115(c).

Summary of dates: The 3 dates in the 1070's
may be from the same specimen.

Pottery Types (Colton 1946: 230):

Indigenous: HOLBROOK B/W, Walnut B/W,
Rio de Flag Br. (Angell Br7--DAB),
WINONA BR., SUNSET RED, Turkey Hill Red,
Winona Smudged, Little Colorado Corr.;

Trade: BLACK MESA B/W, Shate B/W, TUSAYAN
B/R, Deadmans B/Gy, Tonto Red, Tusayan Corr.,
Moenkopi Corr., Honani Toled, Deadmans
Fugitive Red.

Comments: Because NA 3644K is actually 2 super-imposed pithouses the 1060 date is either a re-used timber or a fragmentary specimen and the 1115 date may belong to the latest of the two houses(?).

8m. Winona Village, NA 3644P. An Angell Phase pithouse.

Dates (Colton 1946: 232; Mc.Gregor 1941: 18):

Roof material, 1100(c).

Pottery Types (Colton 1946: 233):

Indigenous: ANGELL BR., WINONA BR.,
Youngs Br., Sunset Red, Little Colorado
Corr.; Trade: BLACK MESA B/W, Dogoszhi
B/W, Tusayan B/R, Tonto Red, Tusayan
Corr., Deadmans Gray.

Comments: The ceramic content is, again, similar to other nearby pithouses dating around 1100.

8n. Ridge Ruin, NA 1785. A surface pueblo ruin of at least 19 ground floor rooms, 2½ miles ENE of Winona, Arizona.

Dates (Colton 1946: 138; Harlan 1962: 65-7; Mc.Gregor 1941: 18):

Room 6, 1085(c), 1086(a), 1088(a), 1089(a),
1090(a), 1094b(a), 1095(a), 1096(a),
1097(a), 1100+?(a), 3 at 1105(a),
1106(a), 1107(a), 1108(a), 1108b(a),

1109(a), 1111(a), 3 at 1114(a),
 2 at 1115(a), 3 at 1116(two a, one 1),
 1120(a), 1124(a), 1126(a), 1128(a),
 1129(a), 1130(a), 1134(a), 1151(c),
 1201(a), 1206(a), 2 at 1207(a).

Room 8, 1123(c), 1127b(a), 1147(a), 1173(b).

Room 11, 11107(1), 1117(f?).

Summary of dates: The 39 dates for Room 6 range from 1085 to 1207, roughly the same as the range of dates from Wupatki. The room was probably built by, or in, the early 1130's. The dates in the 1200's could represent repair wood, or since the room was trash filled they might not be associated with the actual occupation of the room.

Room 8 was tested only. Perhaps the bark date of 1127 represents construction.

Room 11 was also only tested. However, construction just before 1120 seems probable.

Pottery Types (Colton 1946: 142, 144; MNA Files):
 The fill sherds of Room 6 are attributed to trash from a nearby Padre Phase pithouse.

Indigenous: HOLBROOK B/W, Walnut B/W,
 Angell Br., WINONA BR., Youngs Br.,
 SUNSET RED, Turkey Hill Red; Trade:
 BLACK MESA B/W, Shato B/W, Citadel Poly.,
 Tusayan Corr., Deadmans Fugitive Red.

There were 2 vessels on the floor of Room 11, a Sunset Red jar with a Gila Shoulder and an Angell Brown jar.

Comments: Generally speaking, the tree-ring dates indicate construction activity was heaviest during the 20 years preceding 1130. The ceramic information shows a close similarity to nearby sites dated in the late 1000's and the early 1100's.

Ridge Ruin is assigned to the Elden Phase.

So. NA 3673R. A masonry pithouse under a trash mound, 300 feet east of Ridge Ruin.

Dates (Colton 1946: 237; Harlan 1962: 98; Mc.Gregor 1941: 18):

South side of entrance, 1075(b).

"T" post, 1081(a)(6 dates from same specimen).

Summary of dates: Harlan (1962: 99) shows specimen F-4874 as being from NA 3674 but it is part of the "T" post specimen from NA 3673R.

Pottery Types (Colton 1946: 237; MNA Files):

Indigenous: Holbrook B/W, Walnut B/W, Angell Br., WINONA BR., Youngs Br., SUNSET RED, Winona Smudged, Winona Corr., Little Colorado Corr.; Trade: BLACK MESA B/W, Shato B/W, Flagstaff B/W,

Tusayan B/R, Deadmans B/Cy, Tusayan
 Corr., Moenkopi Corr., Deadmans Gray,
 Deadmans Fugitive Red.

There were also 15 whole vessels found on the
 floor of NA 3673R. Indigenous: 3 Sunset Red, 1 Youngs
 Br., 1 Winona Br., 3 Winona Corr.;
Trade: 3 Black Mesa B/W, 1 Whipple
 (Reserve) B/W, 1 Tusayan Corr., 2 Dead-
 mans Fugitive Red.

Comments: Both the pottery and the tree-ring
 dates are post-Sunset Crater and construction soon after
 1081 is postulated.

Sp. Winona Village, NA 2134T. A large trash
 mound.

Dates (Harlan 1962: 88; TRL Files):

Section 21C, 1062(f), 1100(1).

Provenience unknown, 1119(a).

Pottery Types (Colton 1946: 196-7):

Indigenous, Layer C only: Coconino R/Bf,
 Winona R/Bf, Angell Br., WINONA BR.,
 Turkey Hill Red, Little Colorado Corr.,
 Winona Corr.; Trade, Layer C only: BLACK
 MESA B/W, Tusayan B/R, TUSAYAN CORR.,
 Moenkopi Corr., Deadmans Gray, Deadmans
 Fugitive Red.

Comments: The ceramics of Layer C are post-Sunset Crater, The tree-ring dates are not from construction timbers and thus for interpretive purposes are of dubious value.

9. Elden Area

9a. Elden Pueblo, NA 142. A masonry pueblo of about 64 ground floor rooms one-half mile east of the base of Elden Mountain.

Dates (Harlan 1962: 31):

Backdirt, 1160(b).

Pottery Types: A total of 147 whole vessels were excavated with burials at Elden Pueblo. The 115 vessels at the Museum of Northern Arizona and the United States National Museum are tabulated in Colton (1946: 45) and the additional 32 vessels are at the Arizona State Museum.

Indigenous: 6 Padre B/W, 10 WALNUT B/W,

1 Winona B/R (R/Bf?), 23 WINONA BR.,

2 Youngs Br., 24 SUNSET RED, 22 TURKEY HILL RED, 15 ELDEN CORR., 1 Winona Red;

Trade: 1 Sosi B/W, 20 FLAGSTAFF B/W,

1 Flagstaff-Tusayan B/W, 2 Tusayan B/W,

7 Wupatki B/W, 1 Unidentified B/W,

1 Medicine B/R, 2 Tusayan B/R, 3 Citadel

Poly., 1 St. Johns Poly., 1 Tonto Red,

3 Tusayan Corr.

Comments: The single tree-ring date is not of much value for interpretation.

9b. Elden Pithouse, NA 1531. A pithouse on the east side of Mt. Elden, near Elden Pueblo.

Dates (Harlan 1962: 55):

Floor by south corner post, 687(a).

East corner post, 708(a).

East side, east ventilator post(?),
7657(c).

Front of ventilator, 8337(c--Suggested date).

Backwall poles, 8337(c)(7 dates, same specimen).

Below south(?) corner post, 833(c).

West corner post, 846(c)(2 dates, same specimen).

North corner, back side, 854(a).

West corner, back side, 965(a)(2 dates, same specimen).

Summary of dates: The 17 individual dates, ranging from 687 to 965, represent only 9 specimens. The pithouse was possibly built about 850, but repaired-occupied until 965.

Pottery Types (Colton 1946: 110):

Indigenous: RIO DE FLAG BR.; Trade:

KANA-A B/W, Deadmans B/R, Deadmans Gray,

Deadmans Fugitive Red. The INA site collection also shows that Lino B/Gy and Kana-a Gray are present.

Comments: This is a Pueblo I pithouse and the late date of 965 is significant because there are no Pueblo II pottery types present.

9c. Turkey Hill Pueblo, NA 660. A masonry pueblo of at least 22 ground floor rooms, at the base of Turkey Hill.

Dates (Harlan 1962: 42):

No provenience given, 1168b(h), 1170(a),
1175(a), 1204vv(m), 1232(a),
1279vv(m).

Summary of dates: The 6 dates indicate building activity for over 100 years.

Pottery Types: The ASM collection of whole vessels together with the sherds recovered from the excavators dump at Turkey Hill Pueblo (Colton 1946: 73) show the following pottery types:

Indigenous: WINONA BR., TURKEY HILL RED, SUNSET RED, Elden Corr., Sunset W/R, Holbrook B/W, WALNUT B/W, Padre B/W, Leupp B/W; Trade: Black Mesa B/W, Sosi B/W, Dogosshi B/W, FLAGSTAFF B/W, TUSAYAN (includes Wupatki) B/W, Kayenta B/W, Whipple (Reserve) B/W, Pinedale B/W,

Snowflake B/W, Klagetoe B/W, Bidabochi
 B/W, Tusayan B/R, Pinto B/R, Showlow
 B/R, Klagetoe B/O, Citadel Poly., Tusayan
 Poly., Kayenta Poly., Kiet Siet Poly.,
 St. Johns Poly., Kintiel Poly.

Comments: Colton (1946: 74) says the site was occupied before 1100, the main occupation was between 1150 and 1225, and was still occupied until almost 1300. The range of pottery types represents a longer time span than the range of the tree-ring dates, but there is no provenience or associational information for the tree-ring dates available.

10. Deadmans Drainage Area

10 a-c. Pithouses and surface structures on the Baker Ranch, north of the San Francisco Peaks, Township 24 North, Range 7 East.

10a. NA 2551. A timber structure on the Baker Ranch.

Dates (Harlan 1962: 92):

No provenience given, 687(a), 786(a)
 (3 dates, same specimen), 884(a)
 (2 dates, same specimen), 885(a),
 888vv(c).

Summary of dates: Five dates range from 687 to 888, with 3 at 884 to 888. Building, or at least occupation-repair, until 888 is indicated.

Pottery Types (Colton 1946: 204):

Indigenous: Floyd B/Gy, Rio de Flag
Br., DEADMANS GRAY, DEADMANS FUGITIVE
RED; Trade: Kana-a B/W, Deadmans B/R,
Tusayan Gray Ware.

Comments: Ceramically, this is a "pure Pueblo I"
unit.

10b. NA 2798. A deep timber pithouse on the
Baker Ranch.

Dates (Harlan 1962: 93):

No provenience given, 710(c), 742(c),
745(a) Plank, 747(c), 754(a) Plank
(2 dates, same specimen), 759(a)
Plank, 2 at 771 1 Post(a) and 1
Plank(b), 803(c) Pole, 828(c) Plank,
829(a) Pole, 839(a) Pole (3 dates,
same specimen), 850(a) Pole, 882(a)
Pole, 924(a) Pole, 2 at 929(a)
Planks, 6 at 937(a) 4 Poles, 1 Slat,
1 Post.

Summary of dates: Twenty-three dates range from
710 to 937, with probably some duplication of specimens.
The post dated at 937 is significant as it indicates
occupation-repair of the structure until at least 937.

Pottery Types (Colton 1946: 209): The pottery types present and their relative frequency are the same as for NA 2551, 10a.

Comments: This is, also, a "pure Pueblo I" structure.

10c. NA 2800. A shallow timber pithouse on the Baker Ranch.

Dates (Harlan 1962: 95):

No provenience given, 678(a), 688(a)
Post, 691(a) Beam, 711(b) Post,
721(a) Post, 724(a) Pole, 747(c),
792(c) Post, 819(a) Post, 843(a)
Pole, 856(a) Post, 865(a) Pole,
2 at 873(a) Poles, 876(a), 2 at
877(a) 1 is Pole, 877b(a) Pole,
2 at 878(a) Beams, 881(a) Pole,
883(a) Beam.

Summary of dates: There is probably some duplication of specimens among the 22 individual dates which range from 678 to 883. The 7 dates from 877b to 883 indicate building or repair until the 880's.

Pottery Types (Colton 1946: 211): The pottery is the same as found at NA 2551, 10a, and NA 2798, 10b, except that NA 2800 lacks Floyd B/Gy.

Comments: Ceramically, this is also a "pure Pueblo I" structure.

10d. Jack Smith Alcove House, NA 408A. An alcove house a few hundred feet east of the junction of U. S. Highway 89 and the Sunset Crater National Monument entrance road.

Dates (Colton 1946: 64; Harlan 1962: 39-40):

Near center of room, 911+(c)(4 dates from same specimen).

Board in front end, 1000(a)(20 dates from same specimen? Douglass' 3 individual dates range from 975 to 976 and Harlan's 20 individual dates range from 896+ to 1000).

Vestibule posts, 1007(a)(2 dates for same specimen?), 1011(a), 1021(a).

Summary of dates: The 23 individual dates range from 911+ to 1021+ and represent 5(?) specimens.

Pottery Types (Colton 1946: 64):

Indigenous: RIO DE FLAG BR., Angell Br., Winona Br., DEADMANS GRAY, DEADMANS FUGITIVE RED, Deadmans B/Gy; Trade: TUSAYAN CORR., MOENKOPI CORR., BLACK MESA B/W, DOGOSZHI B/W, TUSAYAN B/R, Citadel Poly.

Comments: Architecturally, "Alcove Houses" are a post-Sunset Crater manifestation in the Flagstaff

region (Colton 1946: 270). The pottery from NA 408A is predominately post-Sunset Crater in time and the earlier tree-ring dates need to be explained; however, they are small posts and boards and there are no cutting dates.

10e. NA 192B. A 3-room masonry granary south of Deadmans Flat.

Dates (Colton 1946: 48; Harlan 1962: 32):

Floor, 1075(a), 1084(a), 1085(a), 1087(a),
1089(a), 1099(a), 1100(a), 3 at
1104(a), 1106(a).

East post of ventilator, 925(d and f).

No provenience given, 910(f), 1085(a),
4 at 1093(a).

Summary of dates: The 18 dates probably include some duplicates; there are perhaps 7(?) beams with dates of 910, 925, 1085, 1089, 1093, 1104, and 1106.

Pottery Types (Colton 1946: 48):

Indigenous: Rio de Flag Br., Winona Br.,
DEADMANS GRAY, DEADMANS FUGITIVE RED;

Trade: Black Mesa B/W, Deadmans B/R,
Medicine B/R, Tusayan B/R, Tusayan Corr.

Comments: The former dates of 924 and 925 (Colton 1946: 48) are from the same specimen and Harlan could not verify either the 910 or the 925 date.

The ceramics and the tree-ring dates both indicate occupation soon after the eruption of Sunset Crater, although I agree with Colton (1946: 49) that there may be an earlier occupation indicated by the dates in the 900's and the presence of Rio de Flag Brown and Deadmans Black-on-red.

10f. NA 1570A. A pre-Sunset Crater pithouse on Bonito Terrace.

Dates (Mc.Gregor 1938b: 6; TRL Files):

Above floor, 873 (date "suggested" by A. E. Douglass) and 1046 (Mc.Gregor date); 876 (Douglass date) and 941 (Mc.Gregor date).

Summary of dates: Colton (1945; 1946) uses NA 1570A as a key site for dating the eruption of Sunset Crater, on the basis of Mc.Gregor's dating, particularly the 1046 date. A third dated specimen is considered to be a duplicate by both Douglass and Mc.Gregor.

Pottery Types (Colton 1946: 113):

Indigenous: Deadmans B/Gy, RIO DE FLAG BR., Deadmans Gray, Deadmans Fugitive Red; Trade: BLACK MESA B/W, Deadmans B/R, COCONINO GRAY.

Comments: The specimen dated at 1046 could not be located for reexamination; however, Harlan plotted

the duplicate specimen (mentioned above) and could tentatively agree with Mc.Gregor's date, although the specimen is too short to be dated accurately. Mc.Gregor's laboratory records give 1046±x as the estimated cutting date for the 1046 specimen.

Strict archaeological (ceramic) interpretation indicates occupation in the 1000's and thus supports the Mc.Gregor tree-ring dates, not those of Douglass dated in the 800's.

10g. NA 1920B. A pre-Sunset Crater deep timber pithouse on Bonito Terrace.

Dates (Colton 1946: 158; Harlan 1962: 69-70):

Board(?), 745, 760, 767, 777, 795, 836,
843, 873, 4 at 874, 875 (All dates
by Harlan).

Fill near floor or on floor, 755, 805,
807, 815, 819, 821, 832, 841, 856,
907 (All dates by Harlan).

Provenience unknown, 860(c).

Summary of dates: There is obviously some duplication of specimens in the 24 individual dates which range from 745 to 907.

Pottery Types (Colton 1946: 159):

Indigenous: RIO DE FLAG BR., DEADMANS
GRAY, DEADMANS FUGITIVE RED; Trade:

Kana-a B/W, Black Mesa B/W, Deadmans
B/R.

Comments: Mc.Gregor (1936a: 17) suggests 875 as the building date and the clustering of 6 newly derived board(?) dates at 873 to 875 adds validity to this possibility. Repairs-occupation took place into the 900's.

There are no bark or cutting dates but the upper range of dates agrees with the ceramic dates of 850-950 as the probable period of occupation.

10h. NA 1925B. A pre-Sunset Crater timber pithouse on Bonito Terrace.

Dates (Colton 1946: 160; Harlan 1962: 72):

Ventilator, 703(a).

Miscellaneous, 734(a).

Post, west wall, 834(a).

Post, north wall, 855(c)(2 dates from same specimen).

Summary of dates: None of the 4 dates are outside or cutting dates. The 834 and 855 specimens are probably from construction beams.

Pottery Types (Colton 1946: 161):

Indigenous: RIO DE FLAG BR., DEADMANS
GRAY, DEADMANS FUGITIVE RED; Trade:
Kana-a B/W, Deadmans B/R, Kana-a Gray.

Comments: All the tree-ring dates fall within the ceramic dates of 700 to 900, but construction was probably near 860, as estimated by Mc.Gregor (1936c: 5).

The published date of 859 for specimen F-2450 (Douglass 1936: 29) is apparently a misprint as both Mc.Gregor (1936c: 5) and the Tree-Ring Laboratory Files show this to have been dated by Douglass as 855±1.

101. Medicine Fort, NA 862. A thick-walled masonry structure on a lava ridge near the Coconino Divide.

Dates (Colton 1946: 84; Harlan 1962: 44):

Room East II, 1059(a)(3 dates from same specimen?).

Room East III, 1059(b)(11 dates from same specimen?).

Large Room IV, squared plank, 904(d);
1061(d)(12 dates from same specimen?).

Summary of dates: The 27 individual dates are possibly from only 4 separate beams, one an artificially squared plank. Construction in 1061 is postulated; Mc.Gregor (1936a: 17) estimated the building date as 1060.

Pottery Types (Colton 1946: 84):

Indigenous: Deadmans B/Gy, Rio de Flag Br., DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: BLACK MESA B/W, DEADMANS B/R, Tusayan B/R, COCONINO GRAY, Tusayan Corr.

Comments: This is definitely a pre-Sunset Crater site. Colton (1946: 81-4) summarizes the discussions which have centered around the cultural affiliations of Medicine Fort.

10j. Medicine Cave, NA 863. A storage cave on the northwest side of the lava ridge upon which Medicine Fort, 10i, is situated.

Dates (Colton 1946: 85; Harlan 1962: 46):

Loose in fill, 1025(f).

Top layer of diagonal trench, 1076(a).

Comments: Neither specimen can be correlated with any associated archaeological material and consequently no interpretation of the dates is attempted. Colton (1946: 86) notes ceramics ranging in time from 700 to 1600 plus.

10k. NA 1238. A timber pithouse in Medicine Valley.

Dates (Colton 1946: 96; Harlan 1962: 49-51):

NE end, 851(a).

Miscellaneous, 915(a).

SW beam, 931(a)(6 dates from same specimen).

Ventilator, 949(a).

Beams between south and north corners,

955(a)(7 dates from same specimen).

V.1 (Ventilator?), 1052(a).

V.6 (Ventilator?), 1057(f).

V.7 (Ventilator?), 1064(f).

Ventilator, 1066(a)(4 dates from same specimen, with 3 at 1066).

V.5 (Ventilator?), 1066(b)(6 dates from same specimen, with 4 at 1066).

NE corner, 1066(a)(13 dates, all 1065-1066, from same specimen).

V.4 (Ventilator?), 1066b(a)(8 dates from same specimen, with 4 at 1066).

Summary of dates: The total of 50 individual dates probably represents 12 original specimens, ranging from 851 to 1066b. A.D. 1066 is thought to indicate the construction date of the pithouse, based on the strength of 19 individual dates of 1066 from 4 original timbers.

Pottery Types (Colton 1946: 97):

Indigenous: Deadmans B/Gy, DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Black Mesa B/W, DEADMANS B/R, Tusayan Corr., TUSAYAN GRAY WARE.

Comments: NA 1238 is a pre-Sunset Crater pithouse and the pottery types in association are important for interpretive purposes. Breternitz (1962) uses NA 1238 as the key site for postulating that the eruption of Sunset Crater took place after the trees which grew in

1066 were incorporated into the pithouse, and before the growing season of 1067.

101. NA 1244B. A timber pithouse in Medicine Valley.

Dates (Colton 1946: 98; Harlan 1962: 52):

Post, SE corner, 817(f).

West roof beam, 993(a)(2 dates from same specimen).

Post, NE corner, 1011(a)(7 dates from same specimen).

Miscellaneous, 977(a), 1010(c), 1093(a).

Beam from NE side, 1094(b)(2 dates from same specimen).

Summary of dates: The 15 individual dates are from 4 beams and 3 miscellaneous specimens. The dates range from 817 to 1094. (See "Comments," below).

Pottery Types (Colton 1946: 98):

Indigenous: RIO DE FLAG BR., Winona Br.,
DEADMANS GRAY, DEADMANS FUGITIVE RED;

Trade: BLACK MESA B/W.

Comments: Archaeologically, this pithouse is pre-Sunset Crater and it is difficult to reconcile the 2 dates in the 1090's. We can only assume that these dates, plus the few Winona Brown sherds, represent a later occupation in the locale. The 4 dates from 977

to 1011 best fit with the associated pottery, based on corroborative evidence from similar Flagstaff sites.

The specimen dated by Mc.Gregor (1938b: 6) as 821 was later dated as 1094 by both Douglass and Harlan.

10m. NA 1625B. A rectangular, rock-outlined pithouse in Medicine Valley.

Dates (Colton 1946: 122; TRL Files):

Large board on south side, 1045(c).

Pottery Types (MNA Site Collection):

Indigenous: Deadmans B/Gy, RIO DE FLAG BR., Floyd Gray, DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Tusayan Gray Ware (Lino Gray?), Verde Gray.

Also see "Pottery Types" for 10n, NA 1625C.

Comments: Colton (1946: 122) cites 2 dates published by Mc.Gregor (1938b: 6) as also coming from NA 1625B. Smiley (1951) did not list these dates and the original catalog and laboratory records (TRL Files) show that these two specimens are obviously from NA 1625C (See "Comments" for 10n, NA 1625C).

The single date and small sherd sample from the excavation indicate that this is a pre-Sunset Crater pithouse, but further interpretation is spurious.

10n. NA 1625C. A timber pithouse in Medicine Valley.

Dates (Colton 1946: 122; Harlan 1962: 57):

NW post, 799(b)(5 dates from same specimen).

Squared plank across ventilator shaft,
870(f).

SE post, 896(c)(3 dates from same specimen).

SW post, 927(c).

Pole, SW corner, 1032(a).

Miscellaneous, 1092(a).

Beam between south posts, on top of SE
post, 1092(a)(4 dates from same
specimen).

Pole, SW corner, 1093(a)(4 dates, all 1093,
from same specimen).

Summary of dates: A total of 20 individual dates
represents only 8 specimens, ranging from 799 to 1093.

Pottery Types: Colton (1946: 122) gives the
sherd totals for NA 1625A, B, and C, which is an analysis
of the MNA Site Survey Collection and not excavated
material. However, the excavated pottery types agree
with this over-all analysis and because very few sherds
were recovered from the excavation, the Survey Collection
tabulation is cited, as follows:

Indigenous: Deadmans B/Gy, RIO DE FLAG
BR., DEADMANS GRAY, DEADMANS FUGITIVE RED;
Trade: BLACK MESA B/W, DEADMANS B/R,
TUSAYAN CORR., Verde Gray.

Comments: Archaeologically, this site is definitely pre-Sunset Crater and we are at odds to explain the 3 late tree-ring dates, especially since there is no pottery which can be ascribed to the 1090's.

The date for the SW Post and a duplicate date for the SE Post are the specimens cited by Colton (1946: 122) and Mc.Gregor (1938b: 6) as coming from NA 1625B. As noted in the "Comments" for 10m, NA 1625B, the original records indicate that both specimens are from NA 1625C.

Further interpretation based on the evidence from either "dated" pithouse at NA 1625 is unwarranted.

100. Medicine Pithouse, NA 1680. A large structure situated 40 feet in front of Medicine Fort, 101.

Dates (Colton 1946: 127; Harlan 1962: 62):

Post #8, 840(c).

West post, back side, 860(c)(3 dates from same specimen).

North post, back wall, 889(c)(2 dates from same specimen).

East post, front end, 889(c)(8 dates from same specimen).

Unknown provenience, 893†(c), 931(a), 1015(a), 1031(a).

Summary of dates: The 18 individual dates, which range from 840 to 1031, probably represent 8 specimens.

Mc.Gregor (1936a: 17) estimated building to be 910 and the pithouse was occupied-repaired until at least 1031.

Pottery Types (Colton 1946: 127):

Indigenous: RIO DE FLAG BR., DEADMANS GRAY, Deadmans Fugitive Red; Trade: BLACK MESA B/W, DEADMANS B/R, MEDICINE GRAY.

Comments: The pottery from Medicine Pithouse and Medicine Fort is very similar, not only as to types represented but also the percentage distribution. The large size of Medicine Pithouse suggests that it might be ceremonial or intercommunity in nature. I wonder if Medicine Fort was built as a replacement for Medicine Pithouse, thus succeeding it in both time and purpose.

10p. NA 2001. A pithouse, designated "A", and an adjoining structure, "B", in Medicine Valley.

Dates (Colton 1946: 169; Douglass 1947:11; Harlan 1962: 74): All the dated tree-ring specimens are probably from NA 2001A, the pithouse:

PLANK, between south and west corner posts, 4 dates of 826(a), 828(f), 911(f), and 981(a) may be the same original specimen.

Frontside, plank(?), 844(m).

By north post, 950(a).

West end, 963(a).

Post, south corner, 965(f)(3 dates from same specimen).

Board, 971(a).

East post, 1002(a).

Miscellaneous, from floor, 1003(a)(4 dates from same specimen).

Summary of dates: The 16 individual dates, which range from 826 to 1003, may represent only 7 or 8 specimens. Mc.Gregor (1936a: 17) estimated building to have been 970 and occupation-repair apparently lasted until at least 1003.

Pottery Types: Colton (1946: 170) does not separate NA 2001A and B in his sherd count.

Indigenous: Deadmans B/Gy, Rio de Flag Br., DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Black Mesa B/W, Tusayan B/R, DEADMANS B/R, Tusayan Corr.

Comments: I cannot find any record of the specimen dated 1008 (Douglass 1938: 11).

10q. NA 2002A. A shallow pithouse in Medicine Valley.

Dates (Colton 1946: 170; Douglass 1947: 11; Harlan 1962: 76-83):

Miscellaneous, 960(a), 982(a)(5 dates from 973--same specimen?), 997(a),

1040(a)(6 dates from 774--same specimen?), 1069(a)(6 dates from 880--same specimen?), 1112(a) (2 dates from same specimen), 1118(a and b)(16 dates from same specimen?).

Boards, 1017(a)(3 dates from same specimen), 1049(a)(3 dates from same specimen?), 1123(a)(19 dates from 945--same specimen?), 1127(a) (3 dates from 1048--same specimen?).

Poles, 945(a)(3 dates from same specimen?), 1046(a), 1104(a)(3 dates from same specimen?), 1127(a)(5 dates from same specimen?).

Beams, 1022(a)(9 dates from 945--same specimen?), 1094(a)(19 dates from 863--same specimen?), 1116(c)(3 dates from same specimen).

Probably beams, 1003(f)(2 dates from same specimen), 1115(d).

Main roof support posts, 918(f), 930(a), 939(f)(2 dates from same specimen), 972vv(c).

Summary of dates: There are 110 individual dates; many are obviously duplicates of the same specimen.

The 24(?) specimens range from 918 to 1127, with 6 between 1115 and 1127. Mc.Gregor (1936a: 17) estimated three building dates of 950, 1050, and 1120. The site was occupied-repaired until at least 1127.

Pottery Types (Colton 1946: 170):

Indigenous, Floor only: DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade, Floor only: BLACK MESA B/W, Dogoszhi B/W, Tusayan B/R, Citadel (Cameron?--DAB) Poly., TUSAYAN CORR., Moenkopi Corr.

Comments: The pottery is all indicative of post-Sunset Crater occupation although there is no type present which shows the use of cinder temper.

To account for the earlier tree-ring dates we must, again, rely on the hypothesis of re-used timbers (See Colton 1946: 171).

10r. NA 2004B. A granary at the same site as NA 2004A, 10t.

Dates (Colton 1946: 173):

SW Corner, 922(f).

South corner post, 938(f).

Summary of dates: Mc.Gregor (1936a: 17) cites both dates, with an estimated number of missing rings given, and suggests that the structure was constructed in 950.

Pottery Types (Colton 1946: 173):

Indigenous: RIO DE FLAG BR., Winona Br., DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Black Mesa B/W, SOSI B/W, Dogosshi B/W, TUSAYAN B/R, Citadel Poly., TUSAYAN GRAY WARE.

Comments: NA 2004A and B are contemporary, as shown by the ceramic similarity, and re-used beams must be hypothesized to account for the earlier tree-ring dates.

10s. NA 1121. A shallow timber pithouse in Medicine Valley.

Dates (Harlan 1962: 47):

No provenience given, 872(a), 882(a), 888(a), 889(a), 898(a).

Summary of dates: The 5 individual non-cutting dates are possibly from the same original specimen.

Pottery Types (Colton 1946: 88):

Indigenous: Deadmans B/Gy, RIO DE FLAG BR., DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Black Mesa B/W, Tusayan Corr.

Comments: This pithouse was tested only but the ceramics indicate that it is definitely pre-Sunset Crater and should probably date soon after 900.

10t. Whistle House, NA 2004A. A rectangular wooden pithouse in Medicine Valley.

Dates (Harlan 1962: 84):

South beam, 988(a)(3 dates from same specimen).

Miscellaneous, 999(a)(6 dates, from 969 to 999, are probably all from the same specimen).

Pottery Types (Colton 1946: 173):

Indigenous: Deadmans B/Gy, RIO DE FLAG BR., DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade: Black Mesa B/W, SOSI B/W, TUSAYAN B/R, Citadel Poly.

Comments: The ceramics show that this pithouse is definitely post-Sunset Crater and the 2 non-cutting dates in the late 900's must be interpreted as re-used beams, or fragmentary specimens.

10u. NA 2218. A small "Pueblo III" site in Township 24 North, Range 9 East, Section 11, Deadmans Drainage.

Dates (Harlan 1962: 91; MNA Files):

Trash, pothunters refuse, 1086(f),
1088(a), 1091(f).

Summary of dates: The three, non-cutting dates are without definite context, but they do cluster fairly well.

Pottery Types (MNA Survey Collection):

Indigenous: Padre B/W, WALNUT B/W, Leupp B/W, Black Falls Corr., SUNSET RED, Angell Br., Winona Br., Elden Corr., Turkey Hill Red; Trade: Sosi B/W, Dogosshi B/W, Flagstaff B/W, Tusayan B/W, Kayenta B/W, Tusayan B/R, Showlow B/R, Tusayan Corr., Moenkopi Corr., Kiet Siel Gray.

Comments: The ceramics indicate occupation after 1100.

10v. McCormack Spring, NA 5866. A walled-up spring on the slopes of Sugarloaf Mountain.

Summary of dates (Harlan 1962: 101): A single date of 813(a) comes from a timber pulled out during modern development of the spring.

Pottery Types (MNA Survey Collection):

Indigenous: Holbrook B/W, Coconino R/Bf, Rio de Flag Br., Sunset Red, Winona Br., Turkey Hill Red, Deadmans Gray, DEADMANS FUGITIVE RED; Trade: Kana-a B/W, BLACK MESA B/W, Sosi B/W, Dogosshi B/W, Deadmans B/R, Tusayan B/R, Tusayan Corr., Moenkopi Corr.

Comments: Ceramics indicate a long use of the spring and the single non-cutting date is of little value for archaeological interpretation.

10w. NA 3056. A pre-Sunset Crater deep timber pithouse in Bonito Park.

Dates (Harlan 1962: 97):

Fill near or on floor, 812(a).

Pottery Types (Colton 1946: 217):

Indigenous: RIO DE FLAG BR., DEADMANS GRAY, DEADMANS FUGITIVE RED, Deadmans B/Gy; Trade: KANA-A B/W, BLACK MESA B/W, Deadmans B/R, KANA-A GRAY, Tusayan Corr.

Comments: Colton gives 800 to 1000 as the ceramic dates for this structure.

10x. Jack Smith Alcove House, NA 1295A. An alcove house about 100 yards north of NA 408A, 10d.

Dates (Harlan 1962: 54):

Rear ventilator post, 805(a).

Northeast corner post, 893(a).

Pottery Types: The sherds from NA 1295A are not available for study (Colton 1946: 103). The MNA Files record the following whole vessels and ceramic artifacts:

Floor, 3 Rio de Flag Br. vessels and a large scraper of Tusayan B/R.

No provenience given, 3 Deadmans Gray
jars, 1 Rio de Flag Br. vessel,
and 1 Black Mesa B/W jar.

Comments: Not much emphasis can be placed on
this site which has pre-Sunset Crater tree-ring dates,
a mixture of pre- and post-Sunset ceramics, and belongs
to an architectural manifestation which is considered
to be post-eruptive.

10y. NA 1571A. A test in a pre-Sunset Crater
pithouse on Bonito Terrace.

Dates (Harlan 1962: 56):

Above floor, 881(a), 911(a).

Pottery Types (Colton 1946: 115):

Indigenous: RIO DE FLAG BR., DEADMANS
GRAY, DEADMANS FUGITIVE RED; Trade:
BLACK MESA B/W, Deadmans B/R, Kana-a
Gray, Coconino Gray.

Comments: Neither tree-ring specimen gives
an outside or cutting date but both fall at the begin-
ning of the ceramic dates, given as 900 to 1050.

10z. NA 1922A. A pre-Sunset Crater deep wooden
pithouse on Bonito Terrace.

Dates (Harlan 1962: 71):

Fill on or near floor, 701(a), 787(a).

Pottery Types (Colton 1946: 160):

Indigenous: RIO DE FLAG BR., DEADMANS
GRAY, DEADMANS FUGITIVE RED; Trade:

Kana-a B/W, BLACK MESA B/W, Kana-a Gray.

The bowl found on the floor (Colton 1946:
159-60) is Holbrook B/W.

Comments: Both tree-ring dates are too early
for the ceramic dates of 850-950, but since neither is
an outside or cutting date little emphasis can be placed
on them for interpretation.

10aa. NA 1927A. A pre-Sunset Crater timber
pithouse on Bonito Terrace.

Dates (Harlan 1962: 73):

Post, 311(a).

Pottery Types (Colton 1946: 163):

Indigenous, Floor only: Rio de Flag
Br., DEADMANS GRAY, DEADMANS FUGITIVE
RED; Trade, Floor only: Kana-a B/W,
Deadmans B/R, TUSAYAN GRAY WARE.

Comments: The single non-cutting date falls
within the 700 to 900 range of the ceramic dates.

11. Upper Rio de Flag Drainage Area

11a. Coyote Range Pithouse, NA 1959. A shallow
pithouse at the upper end of Antelope Valley.

Dates (Douglass 1938: 11):

SE corner post, 784(c).

Pottery Types (Colton 1946: 166):

Indigenous: RIO DE FLAG BR.; Trade:

KANA-A B/W, Floyd B/Gy, Deadmans B/R,

Kana-a Gray, Deadmans Gray, Wingfield Plain.

Comments: The Wingfield Plain bowl is listed as "Unidentified" by Colton (1946: 166).

NA 1959 is a Pueblo I pithouse with an intrusive Pueblo II burial in the fill, which probably accounts for the 2 sherds of Black Mesa Black-on-white listed by Colton.

11b. NA 5905. Pithouse one-quarter mile NE of the Research Center, Museum of Northern Arizona.

Dates (Harlan 1962: 102):

Floor fill, 820+(a).

Pottery Types (Breternitz 1957: 27-8):

Indigenous: RIO DE FLAG BR.; Trade:

BLACK MESA B/W, Deadmans B/R, Tusayan

Corr.

Comments: The tree-ring date is not of much value for interpretation because it is not an outside date and it is also too early for the associated ceramics.

12. Juniper Terrace

Juniper Terrace, NA 1814, is a site in Township 25 North, Range 8 East, Sections 34 and 35, consisting of: A, a 10-room masonry pueblo; B, a 6-room masonry pueblo; C, a timber pithouse; D, a shallow rectangular structure; E, a kiva remodeled into a masonry pithouse; F, a masonry pithouse or kiva; G, an outline of 3 rooms.

12a. NA 1814C.

Dates (Harlan 1962: 68):

South corner post, 914(a).

Middle post, north end, 921(b).

West corner post, 931(a).

East corner post, 942(a).

Summary of dates: None of the 4 specimens has a cutting date.

Pottery Types (Colton 1946: 150):

Indigenous: WALNUT B/W, Deadmans B/Gy, WINONA BR., Sunset Red, DEADMANS GRAY, DEADMANS FUGITIVE RED; Trade?: Black Mesa B/W, Sosi B/W, Dogoszhi B/W, FLAGSTAFF B/W, TUSAYAN B/R, Citadel Poly., Tusayan Poly., Tusayan Corr., MOENKOPI CORR.

Comments: Harlan (1962: 68) hedges on identifying the dated specimens as being from NA 1814C; however, information in Colton (1946: 147) and the MNA Files indicate that all the above dates are from NA 1814C.

The tree-ring dates are all too early to be in archaeological association with the ceramics. Colton (1946: 154) suggests re-used beams as the reason and I concur with this assumption.

12b. NA 1814E.

Dates (Schulman 1950b: 21):

Floor, against east wall, north of ventilator shaft, 1135+vv. Smith (1952a: 79) says the specimen was lying on the upper of the two floors of NA 1814E and it is apparently part of the roof.

Pottery Types (Colton 1946: 152):

Indigenous, Floor only: WALNUT B/W, WINONA BR., Sunset Red, Turkey Hill Red, DEADMANS GRAY, DEADMANS FUGITIVE RED;
Trade?, Floor only: Black Mesa B/W, Sosi B/W, DOGOSZHI B/W, FLAGSTAFF B/W, TUSAYAN B/R, Citadel Poly., TUSAYAN CORR., Moenkopi Corr.; Trade: The single sherd of Verde B/Gy is definitely a trade product.

Comments: This date fits the associated ceramics very well. Reexamination of NA 1814E has shown that it was originally a kiva which was later remodeled into a masonry pithouse (Smith 1952a: 77-80).

12c. NA 1814, Burial 1.

Dates (Harlan 1962: 68):

Pole covering burial, 903(a).

Pottery Types (MNA Files): Offerings found with the burial are: 1 Walnut B/W bowl, 1 Tusayan Poly. bowl, 1 Moenkopi Corr. jar, plus a large B/W bowl and jar which could not be located for identification.

Comments: The burial offerings and the pottery from NA 1814E both indicate that the burial should date sometime after 1100. The single non-cutting date from a non-construction timber should be disregarded for interpretive purposes. Burial 1 is under the floor of NA 1814E (Colton 1946: 153) and the date of 1135+ from NA 1814E roofing material leads one to believe that the earlier date for the burial specimen is either dead wood or re-used pole.

13. Wupatki Area

13a. Citadel, NA 355. A masonry pueblo of about 30 rooms at Wupatki National Monument.

Dates (Colton 1946: 52; Douglass 1947: 11):

"Pole," 1192v(m).

Pottery Types (Colton 1946: 52):

Indigenous: WALNUT B/W, Winona Br.,
Sunset Red, Deadmans Gray; Trade?:
Dogoszhi B/W, SOSI B/W, FLAGSTAFF B/W,
TUSAYAN B/R, Citadel Poly., TUSAYAN
CORR., MOENKOPI CORR.; Trade: Prescott
Gray Ware.

Comments: I can find no record of the specimen supposedly dated by Douglass at 1260.

The single non-cutting date and the surface pottery are in accord, but the Citadel material should not be given much weight in interpretation.

13b. Nalakihu, NA 358. A 10-room surface pueblo at the base of Citadel Hill, Wupatki National Monument.

Dates (Colton 1946: 54; Harlan 1962: 36; King 1949: 132):

Room 6, Viga, 1187(a)(7 dates from same specimen).

Pottery Types (King 1949: 111-3): The following, based on 4681 sherds found in all rooms of the pueblo, does not tabulate types which are represented by only a single sherd:

Indigenous: Padre B/W, WALNUT B/W, Sunset Red, TURKEY HILL RED, Deadmans Gray, Deadmans Fugitive Red; Trade?: Dogoszhi B/W,

Flagstaff B/W, Wupatki (Tusayan--DAB)
 B/W, Tusayan B/R, Citadel Poly., Tusayan
 Corr., MOENKOPI CORR., Sandy Gray Ware;
Trade: Verde B/Cy.

Comments: King (1949) discusses the relationship of Malakihu to the Kayenta, Prescott, and Sinagua Branches (cultures).

McGregor's latest date for the tree-ring specimen is 1183, which does not alter the basic time involved.

All the ceramics fit Ceramic Group 7, dated 1130-1210 (King 1949: 132), and hence they are in basic agreement with the tree-ring date.

13c. Lonaki, NA 379. An 8-room masonry pueblo, about one-half mile NE of the Citadel, Wupatki National Monument.

Dates (Colton 1946: 54; Douglass 1935: 52):

Timber in wall, 1192(c).

Pottery Types: The following list combines the information in Colton (1946: 55) and King (1949: 168):

Indigenous: WALNUT B/W, Deadmans Gray, Deadmans Fugitive Red; Trade?: Black Mesa B/W, Sosi B/W, FLAGSTAFF B/W, San Juan Orange Ware (Types not designated), TUSAYAN CORR., MOENKOPI CORR.; Trade: Prescott Gray Ware (Verde Gray).

Comments: "The tree-ring date of 1192 agrees well with the pottery " (Colton 1946: 55).

Lomaki is Fewkes' (1904: 44) Ruin J.

13d. Wupatki, NA 405. A 3-story masonry pueblo with about 70 ground floor rooms at Wupatki National Monument.

Dates (Colton 1946: 58; Mc.Gregor 1942a: 21; Harlan 1962: 37-8; TRL Files):

East side of ruin, South Block, 1094(f),
1123+(c or d), 1130(f).

Room A (Room 31), 3 at 1088(c), 1145(c),
1148(m), 1152(c), 1155(c), 1183vv(m),
1191?(c), 2 at 1194(c).

Room B (Room 337), 1172(c).

Room F, 1135+c(m), 1143+3(c), 1153(c),
1160?(c), 1166(c), 1179?(c), 1184(c).

SW of Room 2 on NW of Main Ruin, 1127vv(m).

Room 9, SE corner, 1126+(m).

Room 13, Roof, 1107+6(m).

Room 35, "General", 1138?(f), 1160b(f),
2 at 1161(f), 1164(f); Roof A,
1099(f), 1160b(f), 1190b(f); Roof B,
1081+(f), 1095(f), 1120(a), 1126(f),
2 at 1127b(f), 1150b(f), 1156(f),
1159(f), 1160(a), 1180(f), 1182(f).

Room 36, Roof C, 1120(f), 1127(a), 1137(f);

No specific provenience given,

1129b(f), 1137b(f).

Room 38, 1141(c), 1192(c).

Room 41, 1164(a), 1166(a)(May be same specimen?); 1172(f).

Room 42 (a storage bin inside Room 44),
1174±1(c).

Room 44, Roof A, 1138(f); 1137(c), 1149(c),
1150(c), 1151(c), 1160(c), 1167(c),
1191(c), 1192(c).

Room 45, Roof A, 1137(f), 1145(f).

Room 46, Roof B, 1094+(f), 1128(c), 1139(f),
1143(f), 1149(f), 1157(a), 1160(e),
1177(f), 1183(f), 1203(c).

Room 47, 1188±2(c).

Room 61A (Roof A?), 1184b(f).

AB Talus, 1130(c), 1159vv(m)(Su77), 1181(c),
1183(c), 1188±1(c), 1191(c).

Section 2, 1159b(f).

Section 3, 1167(f), 3 at 1186(a)(all from
same specimen?), 1192(f).

Section 4, 1071(f), 1134(a), 1148(f), 2 at
1151(f), 11527(f), 1155b(f), 1159(f),
1164(a), 1164b(f), 1170(f), 1189(f),
1189b(f), 1190(e), 1197(a), 1198(a).

No provenience given and Miscellaneous,

1028(a), 10777(c), 1106+v(m)(30 to
W), 1112(f), 1116(c), 1116(f), 1117(f),
1120(f), 1120f2(m)(Under wall),
1123+x(m), 2 at 1124(f), 1125(f),
1126(f), 4 at 1127(three c, one f),
11277(f), 2 at 1128(f), 1130(f),
1131(f), 2 at 1137(c), 11377(c),
1139(f), 1145(c), 1147(a), 1152(f),
2 at 1155(c), 1157(d), 1164(c),
2 at 1167(one c, one d), 1170c(m)
(South log pile), 1170(c), 1171 or
1174(c), 2 at 1173(one a, one e),
1180(?)b(f), 11837(c)(Log pile),
1191(c), 1192(a), 1193(c), 12057(c).

Summary of dates: A total of 154 individual dates range from 1028+ to 12057. There is probably some duplication of specimens, but nonetheless most of the dates fall between 1127 and 1194. There are 28 dates between 1120 and 1130, 25 between 1135 and 1150, and 63 between 1160 and 1194.

Pottery Types: Colton's (1946: 59) Sherd Analysis (1), a total of 84 separate collections made at Wupatki, is cited below to represent the relative occurrences of pottery types for the site as a whole. Only those types

definitely thought to be trade items are listed as "Trade" and all other types which have a frequency of less than 1% within their respective categories of Painted and Unpainted are not listed.

Indigenous: Dogoszhi B/W, Sosi B/W, FLAGSTAFF B/W, WUPATKI (includes TUSAYAN) B/W, Walnut B/W, Tusayan B/R, Citadel Poly., WINONA BR., SUNSET RED (includes Youngs Br.), Turkey Hill Red, Elden Corr., Tusayan Corr., MOENKOPI CORR., Deadmans Fugitive Red; Trade: Showlow B/R, St. Johns Poly., McDonald Corr., Tonto Red, Linden Corr., Prescott Gray Ware (Verde Gray).

The MNA study material from Room 36C, the 3rd lowest floor of a 4-story room, is also indicative of the general run of pottery from Wupatki. Room 36C contains the following types on the floor: Sosi B/W, Dogoszhi B/W, Tusayan (includes Wupatki) B/W, Walnut B/W, Tusayan B/R, Cameron Poly., Citadel Poly., Sunset Red, Winona Br., Tusayan Corr., Deadmans Gray, Deadmans Fugitive Red.

Room 45A material in the MNA study and type collections contains the following traded pottery types: Tularosa B/W, Showlow B/R, St. Johns B/R, Verde B/Gy,