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# The Andrews Community: A Chacoan Outlier in the Red Mesa Valley, New Mexico

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*A number of explanatory models perceive Chaco Canyon, New Mexico as the hub of a centralized social agency that expanded outward in the latter half of the 11th century A.C., during Anasazi times. Such arguments are based in part on the appearance of architecturally distinctive Chacoan great houses in outlying communities during this era. The Andrews community, an outlier located in the Red Mesa Valley 80 km south of Chaco Canyon, was occupied from the A.C. 880s to the A.C. 1070s; a great house was constructed in the midst of the settlement at around A.C. 1020. Several lines of evidence suggest that the Andrews great house need not have been constructed by an expansionist Chaco Canyon presence but rather might have been built by the inhabitants of the community for local purposes involving competitive emulation and/or the staging of ritual events. This finding weakens explanatory models that rest upon the assumption of centralized Chacoan control of the San Juan Basin or a centralized Chacoan source for all great house architecture.*

## Introduction

The stark landscape of NW New Mexico's San Juan Basin was home to the Chaco Anasazi, prehistoric farmers who produced gray ware and black-on-white pottery and erected impressive masonry buildings. Chaco Canyon, in the heart of the San Juan Basin, contains a cluster of imposing Anasazi pueblos established during the 10th–12th centuries A.C. in a series of construction episodes. These pueblos, or great houses, are planned, massive, large-roomed, usually multiple-storied structures; Pueblo Bonito is one well-known example (Judd 1964). Great houses typically contain several enclosed circular rooms, or kivas. Great houses exhibit core-and-veneer masonry, and a number of different facing styles are recognized (Lekson 1984: 17–21). Hundreds of small houses—small-roomed, single-storied, unplanned buildings lacking core-and-veneer masonry—were also built in Chaco Canyon during this time (McKenna and Truell 1986). The era of Chacoan florescence in Chaco Canyon and the San Juan Basin spans the Pueblo II and early Pueblo III periods. Researchers with the Chaco Center, a long-term cooperative venture between the University of New Mexico and the National Park Service, have subdivided the Chacoan heyday into the Early (A.C. 900–1040), Classic (A.C. 1040–1100), and Late (A.C. 1100–1140) Bonito phases (Windes 1987: 244).

Over a hundred additional great houses have been documented in the San Juan Basin and adjacent areas of SE Colorado, SW Utah, and NE Arizona (Fowler, Stein, and Anyon 1987; Marshall and Sofaer 1988; Marshall et al. 1979; Powers, Gillespie, and Lekson 1983) (FIG. 1). These sites are called "outliers" in reference to their spatial relationship to Chaco Canyon, or "great house communities" if surrounded by a number of small habitation sites. Great houses both within and outside Chaco Canyon often are associated with one or more great kivas, earthworks, and road segments. These features are collectively termed Bonito style architecture (Marshall, Doyel, and Breternitz 1982: 1227–1230). Great kivas are large, semi-subterranean circular structures usually considered to represent communal, public, integrative architecture (Vivian and Reiter 1965; Adler and Wilshusen 1990: 138–143). In contrast to the small, 4 m diameter kivas enclosed within great houses, great kivas exhibit diameters in excess of 10 m and are usually found in front of the great house to the south or SE (Lekson 1984: 51; 1991: 36, 42). Earthen platforms composed of trash, construction debris, or sterile materials are associated with some canyon great houses (Lekson 1984: 74; Windes 1987: 561–667). At outlying great houses, earthworks in the shape of encircling berms formally separate space around great houses (Stein and

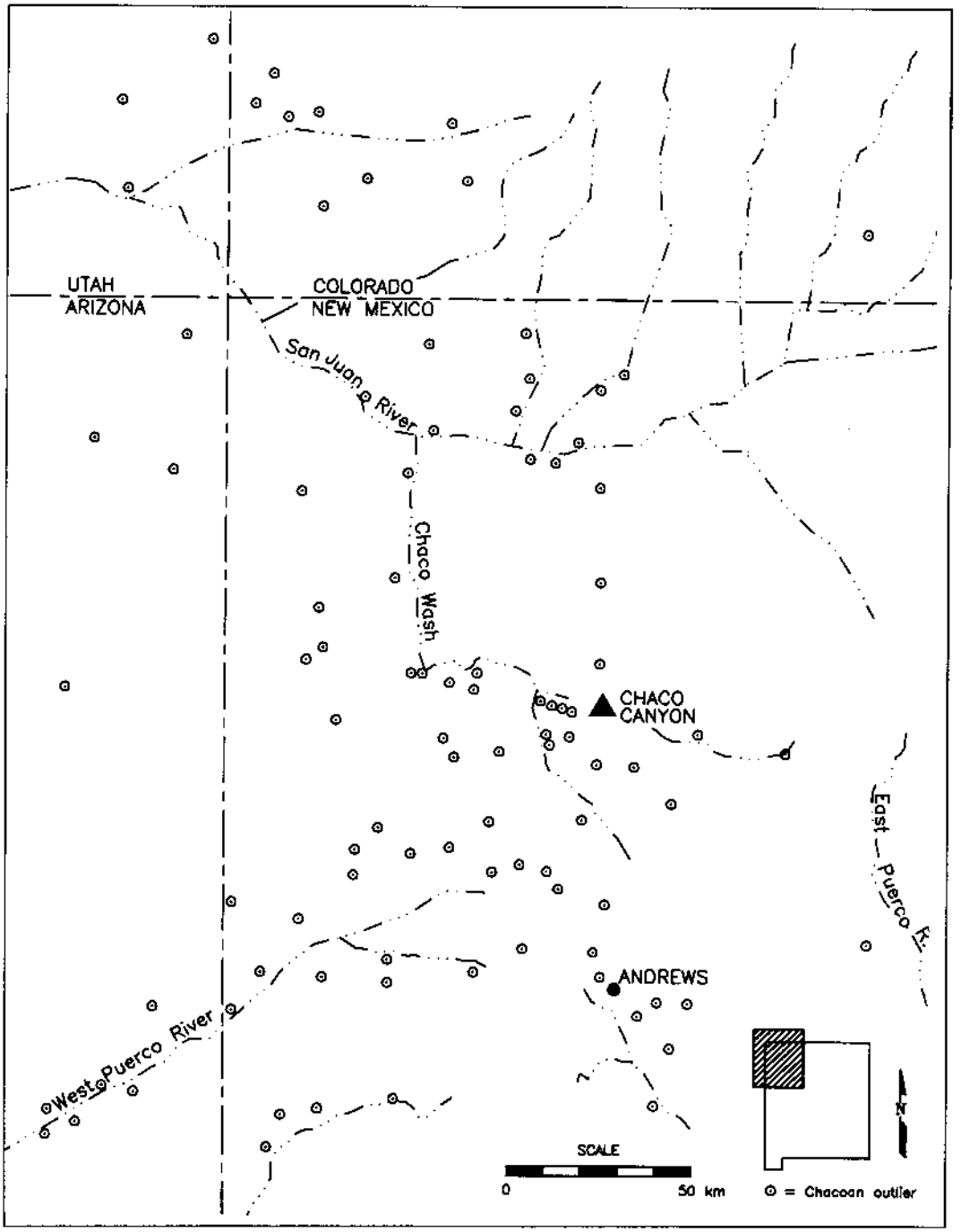


Figure 1. Location of the Andrews community in relation to Chaco Canyon and other known Early and Classic Bonito phase great houses (after Fowler, Stein, and Anyon 1987; Marshall and Sofaer 1988; Marshall et al. 1979; Powers, Gillespie, and Lekson 1983).

Lekson 1992). Road segments are cleared, linear alignments of problematic function (Vivian 1997). Although the Great North Road and the South Road radiate for a considerable distance from Chaco Canyon, many roads are short segments visible only in the immediate area of great house communities (Roney 1992). Most outlying great houses appear to have been founded in the latter half of the 11th century, during the Classic Bonito phase. Tree-ring dates are available for sites in Chaco Canyon and for a few outlying great houses, but the dating of most outliers and communities is based on surface ceramics.

A number of competing models have been proposed to

explain the origins and nature of the Chacoan system. The models invoke diverse conceptions of Chacoan sociopolitical organization that range from the egalitarian to the hierarchical. The canyon has been the focal point of most models, but each has repercussions for the character of the relationship between the outliers and Chaco Canyon. The presence of common architectural attributes among outliers may indicate cooptation of existing communities into a centralized Chacoan sociopolitical entity (Wilcox 1993), colonization of the San Juan Basin by Chacoans (Vivian 1990: 184), membership in a common economic or ritual koine (Judge et al. 1981; Judge 1989; Mathien 1993; Stein and Lekson 1992; Toll 1991), use of similar strategies to power (Sebastian 1992), or local emulation of Chacoan forms (cf. Kintigh 1994; Renfrew and Cherry 1986).

Although it has long been recognized that all outliers are not identical, there is a tendency among most models to treat outliers as a homogenous group of entities. Marshall, Doyel, and Breternitz (1982: 1231) distinguish between "ancestral" outliers, in which Bonito style elements were introduced into existing communities, and "scion" outliers, Chacoan colonies newly established *in toto* during the Classic Bonito phase. A centralized, expansionist Chacoan agency is generally assumed to be responsible for the appearance of Bonito style architecture in both these situations.

This paper presents the results of current research at one Chacoan outlier—the Andrews community, located in the southern San Juan Basin. The Andrews great house does not appear to have been constructed by Chacoans seeking to incorporate the area into their canyon-centered system; rather the Andrews great house appears likely to have been built by indigenous community residents. What is more, ceramic dates suggest that, in contrast with most outliers in the central San Juan Basin, the Andrews great house was constructed in the early decades of the 11th century, a generation or two prior to other outlier great houses. These findings have implications for our perceptions of outlier functions and relationships with Chaco Canyon, and, by extension, for various Chacoan explanatory models. Some outlying great houses may have been constructed as an aspect of competition between neighboring communities and as a setting for local, communal ritual.

## Field Research in the Andrews Community

The Andrews community is located in the Red Mesa Valley, a topographically defined area approximately 65–90 km south of Chaco Canyon. Andrews itself lies approximately 80 km south of Chaco Canyon and was investigated as part of a comparative architectural study involving 12 additional outlier communities (Van Dyke in press). Andrews is on property purchased by the Archaeological Conservancy from private owners and recently transferred to the Bureau of Land Management. The great house and surrounding community sit on colluvial slopes at the base of a sandstone escarpment jutting 156 m (512 ft) above a broad valley drained by Casamero Draw. Part of the community (LA 17194–17218), including the Andrews great house and environs, two additional great kivas, and 22 community sites, was recorded in the late 1970s by Marshall et al. (1979: 117–129). Looters have damaged four rooms in the sw part of the great house and are responsible for numerous potholes at surrounding community sites. In an attempt to curb looting and stabilize exposed masonry, the Archaeological Conservancy placed sterile backdirt over the looted areas of the great house and surrounding sites in April 1995.

During the summer of 1995, the Andrews Community Archaeological Mapping Project (ACAMP) undertook detailed field survey, recording, and mapping. The 25 sites recorded by Marshall were revisited, and 19 new sites (LA 111156–111174) were located comprising a community total of 44 sites (FIG. 2). Of this total, 41 are Anasazi sites dating to the late Pueblo I and Pueblo II periods. ACAMP undertook detailed total station mapping of all visible architecture and topographic modifications.

The ACAMP project recorded a sample of ceramics and lithics at each site. Surface artifacts were systematically examined on a total of 44 middens from 35 sites; grab samples were recorded at the remaining 6 sites. Because in-field artifact analysis was focused toward ceramic chronology, sherd density was of primary concern in decisions regarding location and size of artifact sample areas. On the 36 middens with surface ceramic artifact densities of 2.5 sherds per sq m or more, all sherds within a 5 × 5 m area were examined. Within eight artifact scatters with surface ceramic artifact densities of less than 2.5 sherds per sq m, 100% of the visible sherds on the midden were examined.

Sherds were typed following the work of Carlson (1970), Crown (1981), Fowler (1988), McKenna and Toll (1984), Mills (1987), Goetze, Mills, and Zedeño (1993: 21–85), Sullivan (1984), Toll and McKenna (1987, 1997), and Windes (1977, 1984). A total of 12,281 sherds from 39 sites was examined in the field; 12,049 of these were identifiable at least to ware. The homogenous Andrews ceramic assemblage is composed almost exclusively of sand and sherd-tempered Cibola Gray Ware (n=9590) and Cibola White Ware (n=2445) with a very small quantity of sherd-tempered nonlocal White Mountain Red Ware (n=14). Cibola wares are considered to be locally produced, although Red Mesa Valley ceramic production and distribution patterns have yet to be fully explored. The ab-

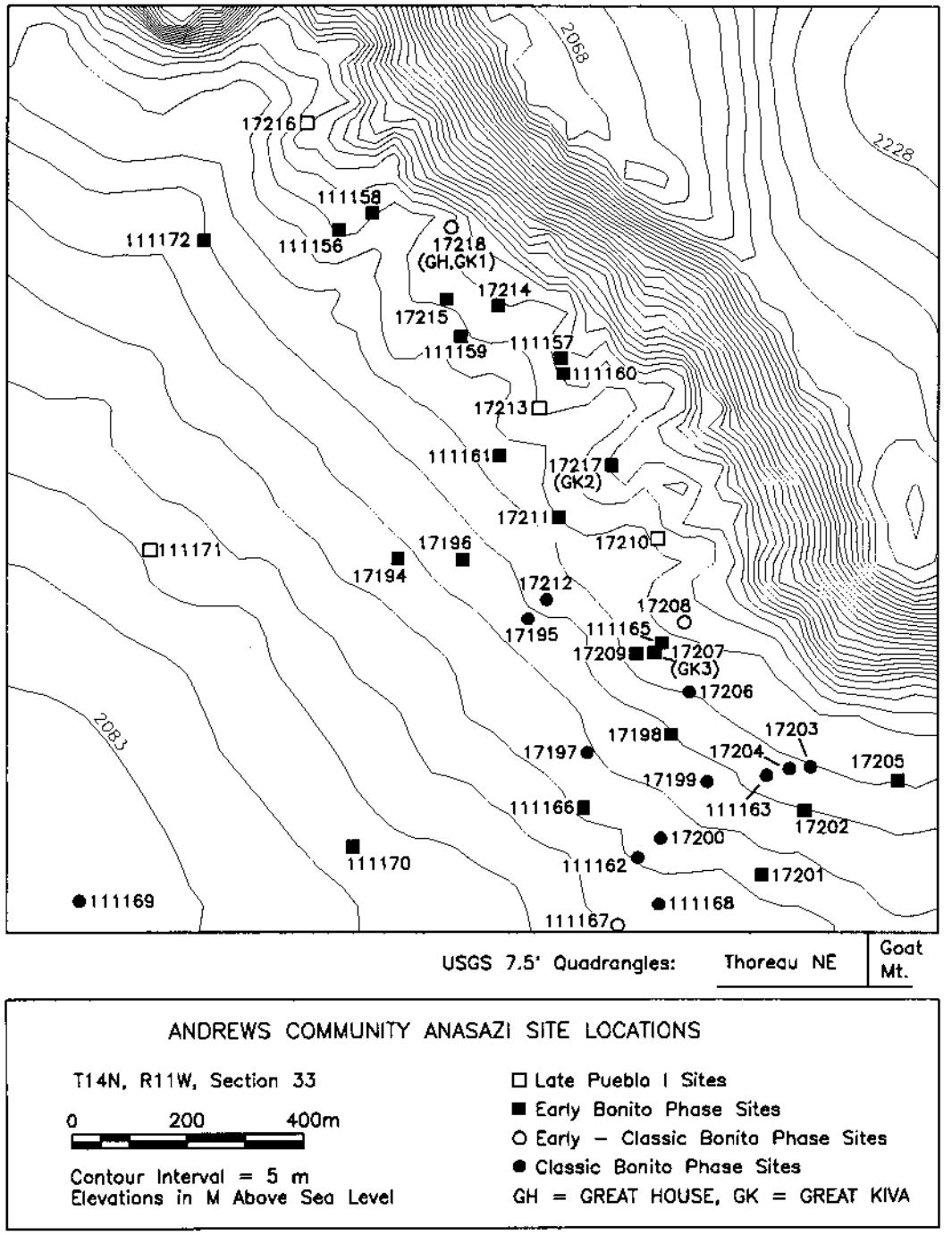


Figure 2. Andrews community site locations.

sence of imported Chuskan or other nonlocal wares is a quite different pattern from that seen at Classic Bonito phase sites in Chaco Canyon or the central San Juan Basin, where Chuskan wares frequently comprise 30% or more of ceramic assemblages (Toll 1984: 115; 1985: 439–451). Chuskan wares are identified by means of a distinctive trachyte temper that easily distinguishes them from Cibolan wares in the field, so it is unlikely that their presence was overlooked.

Surface ceramics provide the basis for temporal assignments of the sites in the Andrews community, discussed extensively elsewhere (Van Dyke 1997). As mentioned, surface ceramics are widely used as temporal indicators for Chacoan sites in the absence of excavation data (e.g., Mar-

shall et al. 1979; Mills 1988; Powers, Gillespie, and Lekson 1983). Ceramic groups and mean ceramic dates were assigned following the work of South (1977: 201–235), Goetze, Mills, and Zedeño (1993: 87–150), and Christenson (1994). Early Bonito phase assemblages are dominated by Red Mesa Black-on-white, and the appearance of Gallup Black-on-white and indented corrugated herald the advent of the Classic Bonito phase (TABLE 1). Although some researchers may consider mean ceramic dating to be problematic, when production spans for ceramic types are well-established through tree-ring cross-dating, as is the case for many Chacoan types, mean ceramic dating can provide a finer temporal resolution than ceramic group dates. Mean ceramic dating has been successfully employed in a number of Chacoan settings (Goetze, Mills, and Zedeño 1993: 100–113; Kincaid, Stein, and Levine 1983: 9-31; Mills 1988: 61–81). Christenson found the technique to be highly accurate in tests using tree-ring dated ceramics from neighboring Kayenta Anasazi sites. The reader interested in a detailed discussion of the methods and production spans used to calculate Andrews mean ceramic dates should refer to Van Dyke (1997).

In-field analysis was conducted on all lithic artifacts within the sample proveniences. The material type and form were recorded for each artifact following the guidelines and procedures set forth in Chapman (1977). The Andrews lithic assemblage is composed largely of local materials, including a variety of cherts and silicified woods.

### *The Great House and Environs*

The Andrews great house (FIG. 3) is located on the crest of a small finger ridge at the NW edge of a broader and slightly lower colluvial ridge. The great house is elevated 3 m above the surrounding landscape with views west across the valley drained by Casamero Draw. The great house is the highest structure in the Andrews community, with a maximum elevation of 2139 m (7018 ft) above sea level. Masonry walls were constructed of sandstone with occasional limestone elements and exhibit core-and-veneer and compound construction. Nonbanded and discontinuously banded facing was observed in the looted portion of the great house prior to backfilling.

There are at least 12 rectangular rooms and 5 enclosed circular rooms, or kivas, present in the great house (FIG. 4). Great house rectangular rooms have a mean area of 15.15 sq m, nearly 4 times the 4.02 sq m mean room area of the Andrews community structures. The central row of the roomblock probably contained multi-storied rooms. The central, NE–SW wall of the roomblock is well-defined; interior room walls are more tenuously identified. A somewhat unusual feature of the Andrews great house is the presence of a masonry corridor or passageway that begins on the NE side of the structure and extends between two kivas. A retaining wall extends from the SW side of the structure around the south end of the building. The retaining wall may have originally extended across what is now a 15 m gap to the beginning of the passageway. Following the methods set forth by Lekson (1984: 277–286, appendix B), the amount of labor involved in the construction of the Andrews great house is estimated at 37,000 person-hours. This estimate includes all related activities such as gathering raw materials and shaping stone.

The great house faces the SE, overlooking a broad, slightly lower colluvial slope upon which are five middens, possible terraces, four isolated rooms, and a great kiva (FIG. 4). The oblong middens range in area from 341 to 2377 sq m. Midden 1, that nearest the great house, dates from the early 11th century with a mean ceramic date of A.C. 1017 ± 90. In contrast, Middens 2–5 all date from the early 10th century with mean ceramic dates ranging between A.C. 919 ± 56 and A.C. 930 ± 60. These dates suggest either that the great house was occupied for at least a century, or that it was constructed on the location of a previous, early 10th century structure.

Great Kiva 1, located 50 m SE of the great house, has an interior diameter of 11.7 m and an interior depth of ca. 1.5 m. Sandstone masonry is visible along the southern interior wall of the structure. The orientation of the great kiva is unclear but the entry may face the great house to the NW. The great kiva is surrounded by a 2–6 m wide berm topped by rubble, particularly to the south and SW, and containing five possible masonry rooms attached to the great kiva.

Although 1930s aerial photographs are reported to show two prehistoric road segments in the Andrews area

Table 1. Ideal ceramic groups and associated stylistic types in the Andrews community.

| *Ceramic group* | *Dominant stylistic types* |
|---|---|
| Late Pueblo I (A.C. 800–900) | Kana-a Neck Banded, Narrow Neck Banded, White Mound Black-on-white, Kiatuthlanna Black-on-white |
| Early Bonito Phase (A.C. 900–1040) | Narrow Neck Banded, Neck Corrugated, Red Mesa Black-on-white, Escavada Black-on-white |
| Classic Bonito Phase (A.C. 1040–1100) | Neck Corrugated, Indented Corrugated, Gallup Black-on-white, Escavada Black-on-white, Puerco Black-on-white, Chaco Black-on-white |

Figure 3. The Andrews great house, looking NW.

(Nials, Stein, and Roney 1987: 133–134), ACAMP found no trace of these. The landscape in the immediate area of the great house, however, was modified in antiquity. Midden 1 also constitutes a low, partially encircling berm 20–30 m SE of the great house. Midden 1 is so named because it contains dense trash on the surface, but without excavation it is unclear whether this feature is a true trash midden or is built of construction debris, sterile soil, or some combination of the above. The intervening, 10 m-wide dip between Midden 1 and the great house might be a short road or ramp leading up to the great house. Other features in the great house area include a group of early 10th century terraces (LA 17215), and three isolated rooms represented by sandstone alignments.

### *Additional Great Kivas*

In addition to Great Kiva 1 near the Andrews great house, two other great kivas are present in the Andrews community. Both are ceramically dated to the Early Bonito phase. Great Kiva 2, or LA 17217, is situated on the top, SW-facing slopes of a broad, colluvial, finger ridge SW of the sandstone escarpment, 500 m SE of LA 17218. This extremely large great kiva is an oval, NE–SW trending depression surrounded by a berm, with exterior measurements of 32 m NE–SW × 26 m NW–SE and interior measurements of 22 × 18 m. Great Kiva 2 has a maximum topographic relief of approximately 3 m. Sandstone masonry alignments that may represent a series of attached rooms form a double arc along the west edge of the great kiva. Additional masonry around the kiva's edge may be obscured by colluvial deposits. Two isolated rooms on the site both are constructed of angular sandstone cobbles. An artifact scatter is located downslope to the SE, south, and SW of the great kiva. The artifact scatter is ceramically dated to the Early Bonito phase, and a mean ceramic date of A.C. 924 ± 60 has been calculated for the assemblage.

The LA 17207 great kiva complex is situated on colluvial slopes at the base of the sandstone escarpment, 225 m SSE of LA 17217. The site complex contains Great Kiva 3 (LA 17207) and two roomblocks with associated middens (LA 17209 and LA 111165). Multiple site numbers in the complex reflect the designation of features previously recorded by Marshall et al. (1979: 117–129). Great Kiva 3 forms an earthen depression 29 m NE–SW × 21 m NW–SE with a maximum depth of approximately 50 cm. The depression is surrounded by an earthen berm 2–4 m wide. No masonry is visible. Ceramics date the site complex to the Early Bonito phase; a mean ceramic date of A.C. 941 ± 74 is estimated for the associated midden.

### *Community Structures*

The Andrews community contains 38 Anasazi sites in addition to the great house complex and the two additional great kivas. There are 23 multi-room habitation sites, 8 isolated rooms, 5 isolated middens or artifact scatters, and 2 agricultural sites. The community is laid out along the base of the talus slope. Most of the sites are to the SSE and out of sight of the great house, and many have been disturbed by pothunting. Seven of the more severely damaged of these were backfilled by the Archaeological Conservancy in April 1995.

A typical habitation site contains one or more roomblocks and one or more associated middens located to the south or east. A total of 26 roomblocks are distributed between the 23 habitation sites. The roomblocks are C-shaped, linear, or L-shaped and range in size from 2 to 10 rooms. Almost all of the roomblocks face south or east. Pitstructure depressions were located between roomblocks and middens at two habitation sites (LA 17196 and LA 111159). It is likely that unidentified pitstructures, with depressions obscured by colluvial deposition, are present in the areas between roomblocks and middens at additional habitation sites.

Like the habitation sites, all of the isolated room sites contain one or more middens, generally located to the south or east. In some cases, isolated rooms may represent sporadically occupied field houses. In others, high concentrations of midden deposits suggest that the isolated rooms represent small, intensively occupied habitation sites.

Two sets of agricultural features were identified within the Andrews community. LA 17215 is a series of terraces below the great house, and LA 111158 is a possible check dam with associated artifact scatter located on the edge of the finger ridge immediately north of the great house.

### *The Community in Diachronic Perspective*

Ceramic dates provide an excellent picture of the 200-year period of growth, development, and abandonment in

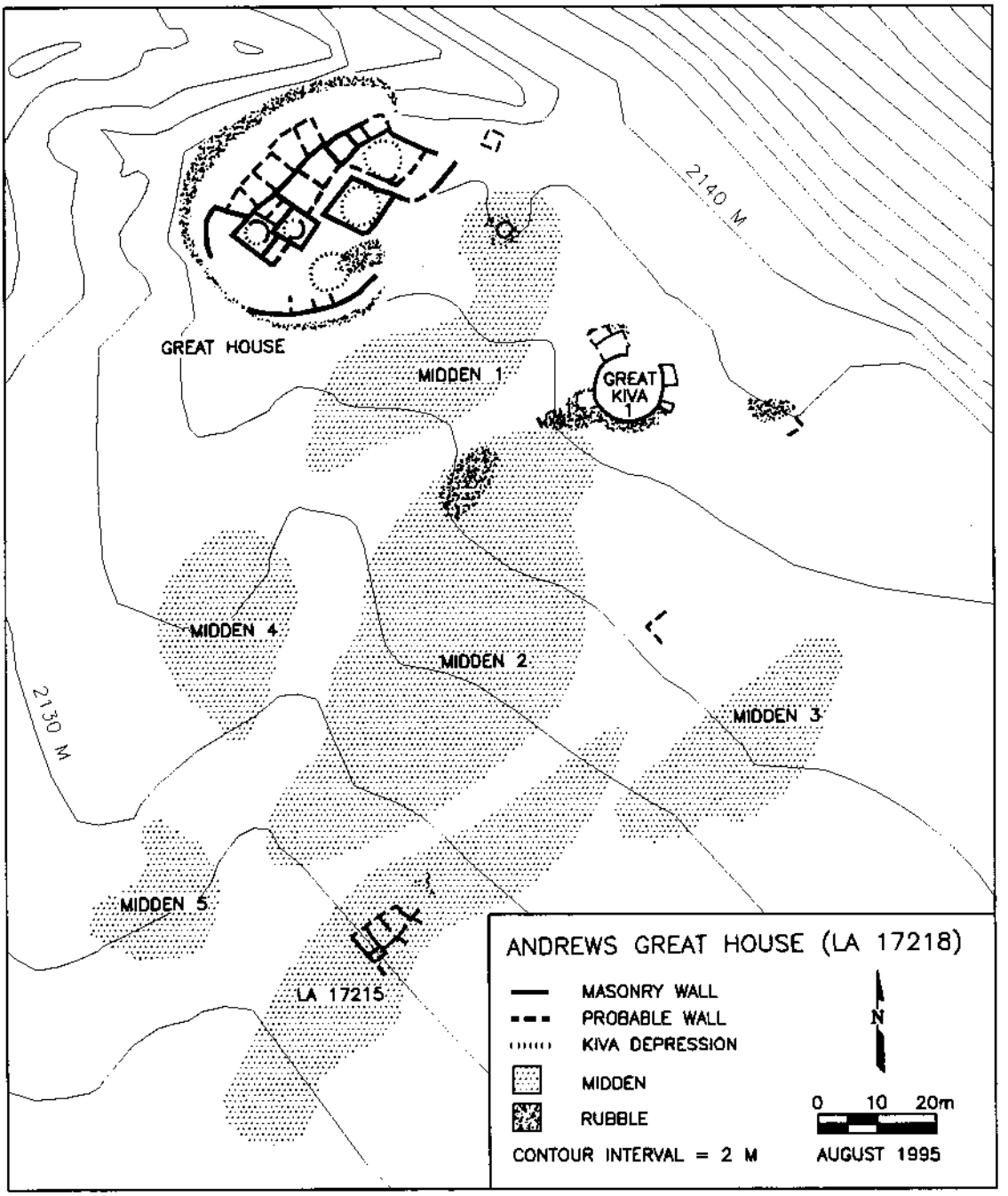


Figure 4. The Andrews great house and its environs.

the Andrews community (Van Dyke 1997) (FIG. 2; TABLE 2). The community was founded in the late 9th century with the establishment of two habitation sites on colluvial finger ridges immediately below the sandstone escarpment. Two artifact scatters also date from this period. The first half of the 10th century saw rapid community growth and the appearance of Great Kivas 2 and 3 (LA 17217 and LA 17207) at new locations on colluvial finger ridges. Ceramic dates from Middens 2–5 indicate the presence of intensive Early Bonito phase occupation in the great house area. These dates suggest that either the great house or an earlier structure on the same location dates to this period. Colluvial ridges also were favored for Early Bonito phase habitation sites. Fourteen roomblocks are loosely clustered

Table 2. Andrews community site data.

| *Ceramic group* | *Mean ceramic date (A.C.)* | *LA No.* | *Site type* | *Roomblock data* | *Roomblock shape* | *Room count* | *Additional features* |
|---|---|---|---|---|---|---|---|
| Late Pueblo I | 882 ± 33 | 17210 | Habitation | Room 1 | – | 1 | 1 midden |
| | | | | Room 2 | – | 1 | |
| | | | | Room 3 | – | 1 | |
| | 889 ± 53 | 17213 | Habitation | Roomblock 1 | C-shaped | 8 | 1 artifact scatter |
| | – | 111171 | Artifact scatter | – | – | – | – |
| | – | 17216 | Artifact scatter | – | – | – | – |
| Early Bonito phase | 941 ± 74 | 17207 | Great Kiva 3 | – | – | – | 1 midden, LA 17209, LA 111165 |
| | 924 ± 60 | 17217 | Great Kiva 2 | – | – | – | 1 artifact scatter, 1 isolated room |
| | 993 ± 93 | 17194 | Habitation | Roomblock 1 | C-shaped | 3 | 1 midden |
| | | | | Roomblock 2 | Linear | 3 | |
| | | | | Roomblock 3 | L-shaped | 8 | |
| | 971 ± 55 | 17196 | Habitation | Roomblock 1 | L-shaped | 5 | 2 pit structures, 1 midden, 1 isolated room |
| | 995 ± 82 | 17198 | Habitation | Roomblock 1 | Linear | 7 | 1 midden, 2 isolated rooms |
| | 988 ± 72 | 17201 | Habitation | Roomblock 1 | Linear | 2 | 1 midden |
| | 951 ± 58 | 17202 | Habitation | Roomblock 1 | Linear | 3 | 3 middens |
| | 971 ± 58 | 17202 | | | | | |
| | 978 ± 65 | 17202 | | | | | |
| | 931 ± 62 | 17205 | Habitation | Roomblock 1 | L-shaped | 6 | 1 midden |
| | 971 ± 96 | 17208 | Habitation | Room 1 | – | 1 | 1 midden |
| | | | | Room 2 | – | 1 | |
| | 941 ± 74 | 17209 | Habitation | Roomblock 1 | Linear | 4 | 1 midden, LA 17207 (Great Kiva 3), LA 111165 |
| | 929 ± 67 | 17214 | Habitation | Roomblock 1 | Irregular | 5 | 1 artifact scatter |
| | 935 ± 65 | 111159 | Habitation | Roomblock 1 | L-shaped | 6 | 1 pit structure, 2 middens |
| | 933 ± 50 | 111165 | Habitation | Roomblock 1 | Linear | 3 | 1 midden, LA 17207 (Great Kiva 3), LA 17209 |
| | 920 ± 83 | 111172 | Habitation | Roomblock 1 | Linear | 3 | 1 midden |
| | 922 ± 60 | 111156 | Field house | Room 1 | – | 1 | 1 artifact scatter |
| | 931 ± 60 | 111157 | Field house | Room 1 | – | 1 | 1 artifact scatter |
| | 995 ± 80 | 111160 | Field house | Room 1 | – | 1 | 1 artifact scatter |
| | – | 111166 | Field house | Room 1 | – | 1 | 1 artifact scatter |
| | 930 ± 69 | 17215 | Terraces | – | – | – | 1 midden |
| | – | 111158 | Check dam | – | – | – | 1 artifact scatter |
| | 948 ± 41 | 17211 | Midden | – | – | – | – |
| | 953 ± 48 | 111161 | Artifact scatter | – | – | – | – |
| | – | 111170 | Artifact scatter | – | – | – | – |
| Early–Classic Bonito phase | 919 ± 56 | 17218 | Great house | Roomblock 1 | C-shaped | 15 | Great Kiva 1, 5 middens, LA 17215 |
| | 920 ± 52 | 17218 | | | | | |
| | 925 ± 60 | 17218 | | | | | |
| | 930 ± 70 | 17218 | | | | | |
| | 1017 ± 90 | 17218 | | | | | |
| | 927 ± 59 | 111167 | Habitation | Roomblock 1 | L-shaped | 4 | 2 middens |
| | 1057 ± 67 | 111167 | | | | | |
| Classic Bonito phase | 1029 ± 102 | 17195 | Habitation | Roomblock 1 | Irregular | 3 | 1 midden |
| | 1034 ± 74 | 17197 | Habitation | Roomblock 1 | L-shaped | 4 | 1 midden, 1 isolated room |
| | 1042 ± 75 | 17199 | Habitation | Roomblock 1 | C-shaped | 4 | 5 middens |
| | 1049 ± 57 | 17199 | | Roomblock 2 | L-shaped | 5 | |
| | 1050 ± 54 | 17199 | | | | | |
| | 1054 ± 72 | 17203 | Habitation | Roomblock 1 | Linear | 3 | 1 midden |
| | 1042 ± 67 | 17204 | Habitation | Roomblock 1 | Linear | 3 | 1 midden |
| | 1056 ± 81 | 17206 | Habitation | Roomblock 1 | C-shaped | 6 | 1 midden |
| | 1057 ± 64 | 17212 | Habitation | Roomblock 1 | Square | 4 | 1 midden, 1 isolated room |
| | 1076 ± 40 | 111162 | Habitation | Roomblock 1 | L-shaped | 10 | 1 midden |
| | – | 111163 | Habitation | Roomblock 1 | Irregular | 3 | 1 artifact scatter, 1 isolated room |
| | 1039 ± 75 | 17200 | Isolated room | Room 1 | – | 1 | 1 midden |
| | – | 111168 | Isolated rooms | Room 1 | – | | 3 middens |
| | | | | Room 2 | – | | |
| | 1016 ± 81 | 111169 | Isolated room | Room 1 | – | 1 | 1 midden |

around Great Kivas 2 and 3 and the great house locale. A single isolated room and eight artifact scatters complete the roster of Early Bonito phase sites in the community (TABLE 2).

Ceramic dates from great house Midden 1 suggest that the great house was built in the early A.C. 1000s. During the 11th century A.C., however, the remainder of the community shifted slightly to the south and further down into the valley. Great Kivas 2 and 3 were no longer in use during the 11th century. A total of 10 roomblocks, 4 isolated rooms, and a single artifact scatter date from the Classic Bonito phase (TABLE 2). Two of the roomblocks are multicomponent, Early–Classic Bonito phase sites. Mean ceramic dates for most of the Classic Bonito phase sites date from the A.C. 1040s and 1050s. The latest site, LA 111162, has a mean ceramic date A.C. 1076, but it is a statistical outlier. The community appears to have been largely abandoned by the end of the A.C. 1070s.

### *Population Estimates*

Table 3 presents population estimates over the life of the Andrews community. The habitation sites in the community were seriated according to mean ceramic dates, and a structure use-life of 30 years or less was assumed. It was further assumed that a prehistoric household was composed of approximately five people (Schlanger 1986). Households are best identified by counting hearths (Swedlund and Sessions 1976) or habitation rooms (Schlanger 1986), but these measures are not available in the absence of excavation data for Andrews sites. The room suite, that ubiquitous three-room Anasazi architectural arrangement, is considered a proxy for the household because by definition it contains a single habitation room. Despite the fact that the Andrews habitation sites cannot all be divided neatly into three-room suites, the total room count for each period divided by three forms a reasonable basis for estimating the number of habitation rooms and, hence, the number of households.

Great house rooms were not included in the original estimates to avoid inflated population figures based on the a priori assumption that the great house was used for habitation. Without the great house rooms, the population of the community is seen to dip slightly during the A.C. 1000–1040 period. Extensive midden deposits associated with the great house suggest that the structure may well have been, in fact, a locus of habitation. When the great house's 15 rooms and attendant people are included in the estimates, the population of the community remains constant at about 60–65 individuals from A.C. 960–1080 (TABLE 3).

Table 3. Estimates of numbers of rooms, households, and individuals for the Andrews community.

| *Period* | *Rooms* | *Households* | *Individuals (including great house)* |
|---|---|---|---|
| A.C. 880–920 | 11 | 4 | 18 |
| A.C. 920–960 | 34 | 11 | 57 |
| A.C. 960–1000 | 36 | 12 | 60 |
| A.C. 1000–1040 | 25 (40) | 8 (13) | 42 (67) |
| A.C. 1040–1080 | 38 | 13 | 63 |

## The Andrews Great House as a Local Structure

The Andrews great house exhibits many similarities with other outlying Chacoan great houses, including core-and-veneer masonry, the use of tabular sandstone as a building material, and the presence of multiple stories, large rooms, and enclosed kivas. There is, however, no necessary reason to invoke a Chaco Canyon agency to explain the appearance of this structure. Indeed, a number of lines of evidence suggest strongly that the Andrews great house was constructed by and for local community purposes.

First, early ceramic dates for the Andrews great house predate what is commonly considered the Chacoan era of expansion during the Classic Bonito phase (Vivian 1990: 184). Construction at the great houses of Pueblo Bonito and Una Vida in Chaco Canyon dates from the late 9th and early 10th centuries, but the most intense canyon great house construction occurred during the latter half of the 11th century. Similarly, great houses in most outlying communities are ceramically dated to the latter half of the 11th century. Contemporaneous episodes of canyon and outlier great house construction support the idea that Bonito style architecture was established at outliers as a result of Chacoan expansion. The establishment of Bonito style architecture at the Andrews community in the early 11th or possibly even the early 10th century calls into question notions of canyon-outlier causality grounded in late 11th century Chacoan expansion. Andrews appears to have been abandoned by the time Bonito style architecture was being established in many other communities.

Second, Andrews does not appear to have been participating in the same interaction networks represented by high frequencies of Chuskan and other nonlocal wares in Chaco Canyon and at outliers in the central San Juan Basin. Low frequencies of Chuskan and other nonlocal wares at Andrews cannot be merely a figment of Andrews' relatively early age, because Chuskan wares are present at central Basin Early Bonito phase sites, such as Willow Canyon, in proportions as high as 65% (Marshall et al. 1979: 93).

Third, if the Andrews great house were introduced into the community by some outside, presumably Chacoan

agency, we might expect it to be set apart in some dramatic way from the extant community, particularly if the structure represented an incursion of Chacoan political authority (e.g., Smith 1996: 378–379). This is not the case; the positioning of the great house on a colluvial finger ridge exhibits continuity with the locales picked for earlier settlement and indeed is probably on the site of an earlier structure. Thus the great house was constructed in a familiar setting in the midst of an existing community.

Fourth, outside labor need not be invoked to enable the construction of the Andrews great house. Ceramic dates place the great house within the A.C. 1000–1040 interval. Population estimates before, during, and after this period hover at around 60 individuals. The estimated 37,000 person-hours required to construct the great house, assuming 30 people and a six-hour work day, could be consumed in about seven months; this time could have been split up over the course of two or three years. Assuming eight-hour days and 45 people, construction could have been completed in just under four months.

To summarize, the Andrews community was founded in the late 9th century; ceramics and lithics do not reflect intensive interaction with Chaco. Positioning of the great house exhibits continuity with the earlier settlement, and, depending on how the labor was organized, enough people would have been present in the community to undertake great house construction without recourse to outside assistance. All this adds up to a strong statement against the likelihood that the Andrews community and/or its great house represent an episode of mid-11th century Chaco Canyon expansion.

## Conclusions

Andrews appears to be a good example of the indigenous construction of Bonito style architecture within an existing community. This is not to say, however, that all such outliers are local products. Some outlying great houses in the central San Juan Basin undoubtedly have strong relationships with Chaco and may well have been constructed by Chacoans. Bonito style architecture is found in varieties of scale and form in diverse contexts throughout the greater San Juan Basin. To categorize all these sites as homogeneously "Chacoan" may do more to obfuscate than to explain why these structures were built and how they relate to the great houses of Chaco Canyon.

If great houses and other aspects of Bonito style architecture were constructed at some outliers under local auspices, this weakens explanatory models that rest upon the assumption of centralized Chacoan control of the San Juan Basin or a centralized Chacoan source for the Bonito style architecture. If Bonito style architecture does not, at least in some cases, represent the cooptation of communities by canyon entities, what are some possible reasons behind its appearance in these situations? One possibility is that Bonito style architecture was locally erected as part of the legitimation of emerging social inequalities within communities. Control of ritual knowledge is often part of the legitimation of social power (Sebastian 1992: 74, 115; Whiteley 1986: 70). Public, communal ritual camouflages social and economic inequalities (e.g., Cohen 1979; Godelier 1978) and ameliorates potential conflict between individual and group interests (Aldenderfer 1993). Stein and Lekson (1992) have argued that Bonito style architectural features represent a pan-Anasazi ritual landscape, in which great houses, great kivas, road segments, and encircling earthworks are both signifiers and settings for ritual activities. If Bonito style architecture was constructed to function as a ritual setting, social inequalities within communities could have been legitimated through construction and through ceremonies or activities enacted in the facilities.

A second possibility is that Bonito style architecture appeared in outlier communities as an aspect of competition among neighbors. The peer-polity interaction model (Renfrew and Cherry 1986) provides a scenario for the spread of Bonito style architecture in the absence of a strong Chacoan authority. Kintigh (1994) has invoked this concept to explain the appearance of quasi-Bonito style attributes such as oversized unroofed great kivas at large, post-Chacoan sites in the Cibolan (Zuni) area. According to the peer-polity interaction model, neighboring communities observe and compete with one another; if one group builds a highly visible structure, others are likely to rapidly imitate. Construction of Bonito style architecture could have benefited local leaders seeking to bolster personal prestige through competition on a regional scale. Great houses are impressive features; once they appeared in one community, leaders of a neighboring community might have little trouble convincing their populace that competitive emulation was necessary.

Competition or emulation may have been between groups of great house communities, perhaps geographically bounded. Andrews does not stand alone as an Early Bonito phase settlement in the Red Mesa Valley. At least 13 additional great houses are documented in the valley (Marshall et al. 1979: 131–198; Powers, Gillespie, and Lekson 1983: 216–225; Kantner 1996: 65–91). Six of these—Casamero, Coolidge, El Rito, Fort Wingate, Haystack, and Las Ventanas—appear in the midst of communities where occupation ceramically dates from the Late Pueblo I period or earlier. An early horizon at the Fort Wingate great house (Marshall et al. 1979: 155–158) is ceramically dated to the Late Pueblo I/Early Pueblo II period. The El Ri-

to great house (Powers, Gillespie, and Lekson 1983: 222) exhibits compound walls resembling Type 1 masonry that dates to A.C. 900–950 in Chaco Canyon (Lekson 1984: 17–19). Wilcox (1993: 84–86) sees the Red Mesa Valley as a sub-system centered on the very large great house at San Mateo, 20 km ESE of Andrews. Kantner (1996: 84–87) contrasts Red Mesa Valley great house communities with those north of the natural boundary afforded by Lobo Mesa; he uses a rational decision-making model to explain how political competition among local leaders could have led to material elaboration in the form of Bonito style architecture.

Certainly it is tempting to view Andrews and its nearest neighbor, Casamero, located just 4.5 km to the NW, as a single community. If the concept of the community is expanded, one implication is that more labor would have been available for great house construction. The Casamero great house appears to post-date the Andrews great house by a generation, however, as evidenced by a single tree-ring date of A.C. 1041 +vv (Earl Neller cited in Mills 1988: 80) as well as two sets of mean ceramic dates in the A.C. 1040s (Mills 1988: 80). Extensive survey in the broad valley between Casamero and Andrews planned for the summer of 1999 should help clarify the relationship between these two settlement loci.

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