A Reconnaissance of the Archaeology of Sapawe, an Ancestral Tewa Village in the Rio Chama Valley, Northern New Mexico

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In Memory of Archaeologist David Bardé

Sapawe (LA 306) resides on a high western terrace of El Rito Creek, about 5 km downstream from the town of El Rito, New Mexico (Figure 1). Often regarded as the largest Pueblo IV (A.D. 1300-1550) adobe communal house in the American Southwest, Sapawe has had a fitful relationship with archaeologists during the twentieth century. The fundamental work on Sapawe was conducted during the 1960s through the University of New Mexico (UNM) Field School under the direction of Florence Hawley Ellis. Other excavations, studies, and surveys have since taken place, but these investigations have been intermittent, scattered efforts topically mining the potential and undeveloped information from the site. We review the field work, studies, and archival status of Sapawe as a first step for others interested in furthering investigations into Sapawe and the Pueblo IV period. This paper's primary contribution is the development of a Sapawe site plan distinguishing the exposed rooms and excavation areas.

Background

During the middle of the twentieth century, many large, multi-plaza pueblos came under investigation in the northern Rio Grande Valley and its tributaries, particularly the Rio Chama Valley (Beal 1987; Jeançon 1923; Wendorf 1953). Sapawe, Sapawi'i (*Place of the Rushing Waters*), Sapa'owingeh, *Sæp̀æwè*, and most prosaically LA 306 (also BLA 306 with the AZ/UNM state code), caught the attention first of Edgar Lee Hewett (1906:40, Figure 5). Since then, it has been a consistent part of the conversation about peopling of the Rio Grande Valley via migrations and gateway communities along the Chama by Tanoan peoples (Anschuetz and Scheick 2006:230-234; Blinman 2017; Fowles 2004; Harrington 1916:144; Ortiz 1979:280; Ortman 2010) but remained unexplored until the 1960s. At the turn of the decade, UNM and Dr. Florence Ellis were conducting a field school at Yunque, the first New Mexico capital on the west bank of the Rio Grande across from today's Ohkay Owingeh Pueblo (Ellis 1989). Ellis dispatched a small crew in 1960 to test and gather preliminary documentation on Sapawe (in part, Darcy 1960).

Ellis had a long-standing interest, spurred by Tewa oral traditions and ongoing work in Puebloan land claims, in the ethnoarchaeological tracing of Tanoan migrations back to and through predecessor sites along the Rio Chama Valley (Ellis 1978a). Sapawe beckoned as a means to further those studies because it was the largest site of its class, information from it would expand that available from prior work, it was positioned along a natural corridor between the Northern San Juan and the Northern Rio Grande Valley, and—as a matter of mundane practicality—it resided on state lands that required no cumbersome permitting and questions of access. There was also the matter of the purpose of field schools (which was to train future archaeologists) and the adobe construction of Sapawe insured training in relatively soft homogeneous deposits that would enable students (undergraduate and graduate) to concentrate on field technique, recording, cataloguing, and absorbing information on Southwestern archaeology and ethnology well into late night seminars at Ghost Ranch where the Field School was hosted.

Figure 1. Aerial view of Sapawe. North is at the top. © Tom Baker, Aerial Archaeology, 1995.

No basic archaeological report has ever been prepared for the UNM Field School excavations of Sapawe. We initially approached the subject of Sapawe, knowing the enormity of notes and artifacts, with an eye toward preparing an overview of the kivas at LA 306 similar to an earlier work on Tsama (LA 908), which the Field School dug in 1970 (Windes and McKenna 2006). Records of the excavation in the form of student notebooks, maps, teaching assistant (TA) summaries, seminar reports, etc., are now housed in the Maxwell Museum of Anthropology at UNM but came late to the repository several years following the passing of Dr. Ellis in 1991; the Maxwell's organization of the materials is still a work in progress.

We were not prepared for the state of organization of the archived files, the extremely variable quality of the TA summaries both in reporting and print quality, the number of missing summaries, and the many copies and rearrangements by Andrea, Ellis' daughter, who took control of the collections after her mother passed away. Originals of the TA

reports have yet to be located. Though TAs were not provided with a guideline standardizing what, minimally, was to be included in their summaries, some standardization of room information was structured by mimeographed room summary forms that prompted recording of room sizes, features, floors and contents. Such sheets were apparently not used for kivas, however, and these summary sheets are currently scattered over several archival folder domains. The TA summaries are variable narratives with minimal tabular presentations, and basic data is woven throughout the text which often involves ethnographic analogies and comparisons; they are products of their times and the interest of Dr. Ellis.

To date we have located copies of 16 of the possible 26 TA summaries (Bardé 1966; Campbell 1969, Chapman 1966; Davis 1968; T. Frisbie 1966; T. Frisbie et al. 1963; Morrison 1966; Reinhart 1968; Snow 1963, 1964; Stephenson 1966; Wiseman 1968). Ellis' (1963) report of the initial season features two introductory pages by Dr. Ellis, while the body of the report is composed of the four TA summaries for that season. Researchers should be aware that at least one archived version of Ellis (1963) contains the TA summaries through 1968, though those contributions often have the front page removed (removing the year and attribution) and other select pages omitted; it makes for choppy reading.

Ellis, however, did prepare a rather comprehensive summary following the 1964 season, which exists as a mostly handwritten document in the Ellis Papers but has not surfaced in the literature on Sapawe (Ellis 1965). Ellis summarizes the basic architectural approach of Sapawe—the construction of long, parallel walls with subdividing cross-walls, all largely founded on cobble foundations set in shallow trenches—with additional rooms being added toward the plaza through time. She postulates the growth (and abandonment) as heliocentric plaza developments out from the central Plaza A. A very common construction sequence at Sapawe is the building of core rooms (two tiers of three parallel walls; Figures 2-3) with fireboxes along the plaza-ward wall, the later plastering over of these fireboxes, the construction of second stories with conversion of the (now) lower floor to storage purposes, and the addition of newer rooms toward the plaza interior. Ellis sees all habitation rooms with fireboxes and occasionally grist facilities on the upper floor(s) at LA 306 during the full development of the pueblo. Porticos, or ramadas, are common on the plaza peripheral rooms and were often, along with lower rooms, used as turkey pens; Plaza A is well known for its standing portico posts. Ellis remarks that few rooms were used as trash dumps but that burials in rooms outside of Plaza A (there are no known interments in the roomblocks surrounding Plaza A) indicate that the pueblo was not uniformly

Figure 2. Room excavations at Sapawe, Plaza A, West Roomblock, 1963. Note the clean adobe-melt fill and the many roof-support posts or collapsed vigas against the walls. Mary Hrones clearing out Room AW51. Photograph courtesy of Mary Hrones (Parsons).

Figure 3. Room excavations at Sapawe, Plaza A, West Roomblock, 1963, showing the basic single-story adobe-wall architecture. Looking south. Ted Hughes (foreground) and John Speth (center, background). Photograph by Mary Hrones (Parsons).

or completely occupied through its history. Ellis extensively discusses pottery distributions and discounts a Wiyo-horizon occupation, suggesting the lack of sub-floor Wiyo deposits and the minimalist Wiyo sherds in room fill deposits are likely reflective of residue from wall melt during Sapawe's decomposition to grade. Ellis relies heavily on Schoenwetter's (1965) pollen study in discussing ecological changes and factors for the occupation and abandonment of Sapawe.

At this moment the base data for Sapawe resides in individual student notebooks. Over the six seasons of work at Sapawe (1960, 1963-64, 1966, 1968-69), we count at least 239 students who have contributed notebooks to the files; many are room-redundant as usually two students worked in each room. The kiva notes are sketchy and diffusely distributed in the Maxwell Archives; Ellis kept many kiva notes herself but these notes have yet to be relocated. Topical subjects, such as pottery, turkey remains, and ground stone (discussed below) were covered in seminar papers found in the Ellis Papers; at least 19 such papers exist.

The organizational structure was Ellis as mentor/teacher/director, with TAs managing student crews of up to about 10 people and responsible for preparing a summary report of each crew's work, as well as supervising students laboring in the sun with details of triangulation, artifact and fill description, and artifact collection procedures. TAs also coordinated site mapping workshops from established datums around the site, backhoe operations, and drove the bus. Each field season began with assigning crews to various areas of Sapawe to be excavated. Students would then shovel-scrape/scuffle away the top 6- to 10-inch layer of soil and plants from a section of the roomblock, schematically map and measure the exposed room walls, indicate abutment sequences (verified later as rooms were dug), and be assigned rooms for excavation. More rooms were surfaced mapped after shovel stripping than were dug and those schematic plans reside in the student notebooks. With the exception of a few Plaza D rooms in 1963, fill was not screened and all excavation was done in six-inch levels except where a backhoe was brought in for crude trenching, kiva testing, some room fill removal—particularly in the Plaza A divider rooms—and some overburden removal. All measurements were kept in the English system. Our naiveté in regards the reporting on kivas came to an abrupt halt when we realized it was unclear how many kivas were actually thought to be at LA 306, how many were actually dug, and that several had duplicate numbers. More importantly, there was no finalized site map. None of the 10 alidade maps and numerous student schematic plans had been concatenated into a final version, and several maps are undated. A development of a basic site plan accounting for excavated rooms and blocks of field school investigation became paramount (Figure 4).[1]

Cultural Material and Technical Studies

The excavations yielded masses of cultural material that are presently stored at the Maxwell Museum in several hundred boxes (Table 1). Although the last excavations were in 1969, few student artifact studies provided a complete accounting of all the classes of artifacts collected. In addition, the relative indifference for complete material analyses and the start of a new UNM field school in 1970 at Tsama (LA 908), near the mouth of El Rito Creek along the Rio Chama, meant that many Sapawe artifact classes were left incomplete. Switzer (1967b) notes the attitude towards many classes of artifacts in his paper, stating that "Students [are] advised not to save every chip excavated; hence, they saved none." While this is not quite true, it does illustrate that many materials were deemed unimportant and only haphazardly collected.

Selected cultural materials—ceramics, bone tools, ground stone, as well as prolific ritual artifacts such as cloud blowers (pipes), lightning stones, and kiva bells—became the focus of most student papers. A typical institutional attitude towards the bulky ground stone (especially manos and metates) in those days was noted by Reinhart (1966) in his critique that "Dr. Ellis [was] under pressure to dispose of the implements," which later

Figure 4. Plan of Sapawe showing all areas of excavations and room clearing. Digital final compiled by Clay Mathers, August 2017.

Table 1. Primary cultural materials recovered from Sapawe.[a]

Material	Approx. Totals	Student and later papers	Seasons covered
Bone	10-15000?		1960-1969
Unworked faunal bone		Steele 2014, 2015a-b; 2016a-c; 2017	1960-1969
Worked faunal bone	546	Brown 2005; DuChene 1969; C. Frisbie 1967; Stanley 1969; Worthing 1964	1960-1968
Flutes & whistles	216	Brown 2005; Burger et al. 2014; DuChene 1969; C. Frisbie 1967; Stanley 1969	1960-1969
Human burials	56+	Destroyed by lab flooding in ca. 1970	
Ceramics	153260		1960-1969
Whole or partial vessels	280+	T. Frisbie 1964; Markham 1969	1960-1968
Pipes	106	Gustafson 1965	1960-1964
Chipped stone[a]	1766+	Stanford 1966	
Mixed "lithic"	2981	This is probably not all chipped stone	
Drills	5	Stanford 1966	1968
Projectile Points	58	Moore 1969	1960?-1968
Other worked chipped stone	?	Moore 1969, Stanford 1966	1960?-1968
Ground stone		Reinhart 1965; Windes 1967, 1969; Wiseman 1969, 1970	1960-1968
Axes	47+	Windes 1967	1960-1966
Manos (frag. & intact)[b]	314+	Windes 1967, Wiseman 1969, 1970	1960-1968
Metates (frag. & intact)[b]	194+	Reinhart 1965; Windes 1967; Wiseman 1969, 1970	1960-1968
Mauls	26+	Windes 1967	1960-1966
Shaft-straighteners	38+	Windes 1967	1960-1966
Minerals[a]	596+	Switzer 1967b?	1963-1966
Azurite	1		
Calcite	80		
Malachite	2		
Other cuperous minerals	26		
Sea shell	24		
Turquoise (all pendants)	6		
Ritual items			
Kiva Bells	35+	Brown 2005; Davis 1969; Newman 1967	1960-1966
Lightning stones	79+	Kopp 1969; Switzer 1967a	1960-1968

[a] Fill was not screened. Unworked bone, minerals, and chipped stone were mostly discarded.
[b] It is unlikely that many, if any, fragments were kept or even collected.

led to wholesale giveaways of manos and metates, including those from the ground stone-lined drainage ditch proceeding out of the southeastern corner of Plaza A into Plaza D (Figure 5). Part of the effort directed to student ground stone studies (Reinhart 1965; Windes 1967, 1969; Wiseman 1969, 1970) probably was associated with the pressure to dispose of certain artifact classes. Much pottery was retrieved from Sapawe, which has not been analyzed, along with over 280 restorable and whole vessels examined in part by T. Frisbie (1967) and Markham (1969), surely a treasure trove for future research.

From her ethnographic work, Ellis was focused on ritual items and kiva architecture (Figure 6) that might have helped show continuity between the Rio Chama and the Northern Rio Grande Tanoan sites. Papers by Davis (1969), Kopp (1969), Newman (1967), and Switzer (1967a, 1967b) showed particular interest in the prolific numbers of "phonolite" stone kiva bells (35+), white quartzite, hotdog-shaped lightning stones (79), and various ceramic effigies and figurines (Davis 1969; Newman 1967). We cannot be sure that all the student papers were located and few cover all years of the field school sessions at Sapawe, so that many artifact classes are not fully accounted. Many of the kiva bells and lightning stones came from room caches, especially from those in Plazas A, D, and F, which suggest that these rooms may have been ceremonial in nature or the focus for manufacturing of sacred objects, perhaps for other pueblos. In additional, at least 106 cloud blowers (pipes) (57 in Gustafson 1965) were uncovered at Sapawe, 12 of which Davis (2017) used as contrast data for Pueblo-Plains increased interaction along a "trade zone" on the eastern Puebloan frontier. Forty-five pipes came from Kiva 3 in Plaza A.

Figure 5. Excavations at Sapawe, 1969, showing the ground stone-lined drainage ditch between Plazas A and D. Looking northwest. Left to right: Tom Windes, unknown, Dave Bardé, and Karl Reinhart. Photograph by Hayward Franklin.

Figure 6. Excavations in 1969 at Plaza A, Kiva 12. Hayward Franklin and Florence Hawley Ellis excavating the firebox. Photograph courtesy of Hayward Franklin.

Another underrepresented item, the unworked chipped stone, was generally not collected, but we acknowledge the pioneering efforts of Dennis Stanford (1966), whose paper recognized the complexity and useful technology derived from analyses of the chipped stone at Sapawe.

Despite the underrepresented numbers of faunal material—most were thrown out as common

practice prior to about the 1970s—students analyzed many of the bone tools and instruments (C. Frisbie 1967; Stanley 1969), while Koelle (1969) analyzed the turkey bones. Musicology research focused on the largest known collection of flutes and whistles (216) in the Southwest (Brown 2005; Burger et al. 2014). Analyses of fauna have seen recent interest with Steele (2014, 2015a-b, 2016a-c; 2017) presenting various aspects of use from a sample of over 5,000 elements, noting, in part, that turkey appeared to decline through time. In a similar vein Burger (2017) is examining the temporal distribution of large mammals and smaller species, including turkeys, in trying to gauge the role of social institutions in food security.

Burials noted in the field notebooks represented at least 56 individuals from 17 rooms and five kivas; artifact accompaniments are almost nonexistent and those present (except for matting) are of questionable association. None came from floor context and none from Plaza A except within the interior east-west block of rooms that nearly subdivided Plaza A. Unfortunately, basement flooding of the Anthropology Building in the 1980s, where the burials were housed, destroyed notes, provenience boxes, and considerable amounts of fragile bone rendering the remains unanalyzable. Osteology experts Stanley Rhine and Nancy Akins were called in but there was little they could do to salvage the remains. Bones from this disaster are now used in the comparative collections.

Despite the lack of a basic report on LA 306, Sapawe has been fundamental to a number of other analyses or provided an important case when examining various aspects of the protohistoric period (Pueblo IV at A.D. 1300-1550) and in pioneering technical studies. Field houses, irrigation systems, mulch gardens, and limited activity areas—generally on the east side of El Rito Creek—have been described and discussed by Ellis (1970, 1978b:63-64), Franklin (1970), and Skinner (1965), with a focus toward recognizing important subsistence practices associated with Sapawe in the immediate landscape. A recent article by Eiselt et al. (2017) also examines the importance of flood water farming at Sapawe in the immediate landscape. Schoenwetter's (1965) pollen work at Sapawe represents one of the first intense sampling and paleoenvironmental reconstructions in the Southwest and is interwoven in several of Ellis's draft summaries and notes concerning Sapawe. Schoenwetter's interpretations at Sapawe are akin to his later published palynology reconstruction along the eastern Chuska Mountain slope (Schoenwetter 1967). Finally, Stephen Shure (1969) provided one of the earliest studies of aerial photography for mapping archaeological sites and its potential application for Sapawe.

Dating Sapawe: Ceramics

There are two sources of occupational dates for Sapawe: cross-dated ceramic assemblages and tree-ring dates. Ellis developed a three-level chronology of ceramic assemblages for students to assess the temporal placement of deposits in their rooms, and chronological discussions based on this system are present in almost every student notebook and in the TA summaries (Table 2).

Table 2. Sapawe Pottery Complexes as defined by F. H. Ellis (1965).

Complex I. A.D. 1385 or 1400-1425:
high Biscuit A
some Biscuit B
trace of Wiyo or Santa Fe
Complex II. A.D. 1400-1425 or 1450:
Biscuit A and B about equal
Complex III A.D. 1450-1525:
more Biscuit B than A
some Biscuit-Sankawi
possibly some Sankawi
Complex IV. A.D. 1500-1550):
high Biscuit B
some Biscuit A
some Potsuwi'I and Sankawi
Complex V. A.D. 1550-possibly 1650:
much Sankawi
Potsuwi'i
some Biscuit A and B
possibly Glaze V

Sapawe is overwhelmingly a Biscuit B pottery ruin so that assemblage variances on this theme naturally depend mostly on the relative amounts of Biscuit A (and Wiyo Black-on-white [B/w]) and Sankawi Black-on-cream (B/c) (see also Duwe 2011:692, 695). Tabulations by level are available in student notebooks and TA summaries, but that body of data has not been assembled and assessed and the collections require reanalysis. From the standpoint of her ceramic typological time, Sapawe ranges from about A.D. 1325 to 1650; Ellis (1964) felt Sapawe saw a very short occupation, primarily between A.D. 1490 and 1525. Duwe (2011:702), however, proposed a date range of A.D. 1373 to 1540.

Dating Sapawe: Structural Wood and Tree-ring Dating

The immediate vicinity around Sapawe today supports a juniper and piñon woodland with large open grassy areas along with riparian vegetation, including cottonwoods, in the side drainage courses and along El Rito Creek. The abundance of tree species as structural elements reflects a favoring of local woodlands for most construction purposes. Nearby mountains provided higher elevations species, such as Douglas fir, ponderosa pine, and spruce for longer spans used in kivas, and offered alternate harvest areas as local woodlands were depleted for building and firewood. However, the age of the majority of dated construction piñon (Table 3) suggests that wood depletion was not serious and supports a relatively short occupation at Sapawe.

Student notebooks document a lot of structural wood; vigas, latillas, shelf poles, vent framers, and other uses. Juniper, the most common local species, was generally considered a poor resource for tree-ring dating and those submitted of juniper (*J. monosperma*) gave only two dates from 25 samples. Ellis, with a strong background in tree-ring sample selection, submitted only 50 samples for dating (SAP-1 to SAP-50) by 1970 from the Sapawe inventory. The majority of the sample consisted of juniper and piñon (respectively 25 and 20). These samples returned 21 dates, which was suggestive but inadequate to the understanding of Sapawe's construction history. The Northern Rio Grande Research Project (Haas and Creamer in 1988) sampled Sapawe as part of a larger effort to refine temporal histories of large pueblos in the northern Rio Grande. Their charcoal samples of 30 or more rings returned just six new tree-ring dates (SAP-51 to SAP-67). Duwe (2011:797-799, 779, 782) presents a partial list of tree-ring dates and species for Sapawe.

During recent resorting and cataloguing of the Sapawe collections, Windes consulted on potential tree-ring specimens and provided descriptive documentation of 88 new specimens. From this new group, 22 were submitted for tree-ring dating (SAP-68 to SAP-86). This sampling produced evidence of cottonwood use (probably not previously noted because Ellis removed it from the pool of submitted samples) and a greater representation of higher altitude species from Kiva 13 (Plaza D) which appeared to be all secondary elements (n = 56), but none have been submitted for dating.

The overall 34 tree-ring dates from Sapawe (Table 3), mostly non-cutting dates, dated between A.D. 1208 and 1409 with 24 (71 percent) between A.D. 1353 and 1409. These came from rooms in every plaza except in Plaza F. The use of deadwood was sparse (six dated samples). Given the dispersal of dates across the site, it suggests a rather short period in which all the plazas were constructed, although Ellis (1964) believed that many of the roofing beams were reused from abandoned roomblocks. There were nine cutting or near-cutting dates, dated between A.D. 1358 and 1406. The vast majority (88 percent) of the dated samples are of pine (piñon and ponderosa), while two each of juniper and spruce/fir dated. Overall, the small sample of tree-ring dates suggests that most of the construction at Sapawe occurred between about A.D. 1350 and 1410. Ellis (1969:2) believed that only one or two of the initial plazas had been built first, probably Plazas A and D, "but in the 15th century the people of several other sites

Table 3. Tree-ring dates (n=34) from Sapawe (LA 306) along El Rito Creek, Rio Chama Valley.

Location	FS # [a]	TRL# SAP-	Species [b]	TreeAge (yrs)	Max. dia. + length [c] (cm)	Outer ring condition [d]	Inside date [e]	Outside date [e,f]
			Plaza A					
Kiva 1, Roof element?	5	71	PP [b]	66	6.2 – 20+		1308 p	1373 ++v
Kiva 1, Roof beam #1	4	70	PP	49+	10.2 – 30+		1331 $_{fp}$	1379 +vv
Kiva 1, Roof beam #3	8	73	PP	41	6.7 – 9.2+		1366 p	**1406 vv $_{r}$**
Room A 50, Level 1, portico post	15	78	PP	46	5.8 – 38+	complete	1354 p	**1399 +LB**
Room A 54, Level 9, latilla?	17	80	PP	35+	6.3 – 29+		1371 $_{fp}$	**1405 B**
Room AE 1, Level 6, next to west wall	35/17	16	Pnn	146+	12.7 – 109+		1145 np	1301 vv
Room AE 5,	35/24	13	Pnn [b]	148			1206 p	1353 ++vv
Room AN ?, viga	35/22	5	Pnn [b]	169			1188 p	1356 ++vv
Plaza A testing	C/4/4	63	Pnn	47+			1309 fp	1355 vv
Plaza A testing	D/4/5	51	Pnn $_{cc}$ [g]	66+			1143 fp	1208 vv
Plaza A testing	D/5/7	53	Pnn $_{cc}$ [g]	87+			1270 fp	1356 vv
			Plaza B					
"Great" Kiva 2, north main support post	35/49 35/50 35/51	29, 30, 31	Jun	188+	60+ – 58+		1163 ±fp	1350 vv
Room BS 1, beam?, subflr cist (Rm BE1?)	22A	82	SF	47+	5.4 – 6.7+		1312	**1358 vv $_{v}$**
			Plaza C					
Room CS 3, Levels 1-5, viga	35/13	34	Pnn	116	11.4 – 127+	complete	1265 p	**1380 +B**
Room CS 5	35/26	15	Pnn	144+	10.2 – 53+		1121 p	1264 vv
Room CS 5, fill, viga?	35/21	14	Pnn	166+			1129 ±p	1294 vv
			Plaza D					
Room D 5, post	35/12A	11	Pnn	182		incomplete	1211 p	**1392 +v**
Room D 8, Level 4	35/15	4	Pnn [b]	232+	6.4 – 14+		1128 p	1359 ++vv
Room D 8	35/31?	2	Pnn	118+			1267 p	1384 vv
Room D 8	35/17A	1	Pnn	135		complete	1261 p	**1395 r**
Room D 8	35/15?	8	Pnn	200+			1210 p	1409 vv
Room DE, central area portico post	35/47	22	Jun	187+	17.8 – 56+		1134 p	1319 +vv

Table 3. continued—

Location	FS # [a]	TRL# SAP-	Species [b]	TreeAge (yrs)	Max. dia. + length [c] (cm)	Outer ring condition [d]	Inside date [e]	Outside date [e,f]
Room DE ? pothunted	35/43	9	Pnn [b]	66+	6.4 – 23+		1296 np	1361 ++vv
Room DE 5, Level 3, subfloor 15cm, viga?	35/31A	37	Pnn	184+	11.4 – 173+		1201 p	1384 vv
Room DEO 9, Levels 4-6, viga	35/11A	36	Pnn	124	12.7 – 135+		1270 p	**1393 v**
Room DW 1, Level 5, viga?	35/27	19	Pnn	221+	14.0 – 66+		1137 ±p	1357 vv
Room DW 4, west wall		50	Pnn	172+			1120 p	1291 vv
Room DW 5, Level 3		49	Pnn	98+			1277 ±p	1374 vv
Plaza D testing	B/6/3	61	SF_{cc} [g]	42+			1324 fp	1365 vv
Plaza E testing	E/8/2	64	Pnn_{cc} [g]	73+			1262 fp	1334 ++vv
Plaza E								
Room EW 1, last 53cm to floor, viga?	35/37	12	Pnn	41+	6.4 – 48+		1285 p	1325 vv
Plaza E testing	A/4/2	56	Pnn_{cc} [g]	86+			1219 fp	1304 +vv
Plaza G								
Room GW 5	33	84	PP	47+	3.3++ –3.4+		1266_{fp}	1312 +vv
Unknown provenience								
	35/56	6	Pnn	89		complete	1292 p	**1380 r**

[a] **FS#:** Indiviual numbers are those assigned by Windes. 35/ (UNM's 35 code for wood) numbers from UNM excavations. Samples with a letter designation (e.g., D/4/5), presumably for the Plaza designation, are those collected by J. Haas in 1988.

[b] **Species*** = deadwood (++ symbol). Species abreviations: Jun = juniper, Pnn = piñon, PP = ponderosa pine, and SF = spruce-fir.

[c] **Lengths** with a "+" are longer than indicated (i.e., broken at end(s) and presumably were originally longer).

[d] **Outer ring condition** = **Complete** ring indicates tree death during non-growing season (late fall-winter-early spring). **Incomplete** ring = indicates tree death during growing season tree death (i.e., late spring-summer-early fall). Growing seasons vary by species.

[e] **Date subscripts** are Windes' inner and outer ring field observations ***if*** they differ from the laboratory analysis and provide a better assessment of the outer ring coding.

[f] **Outside dates** in **bold** are tree death date or near-death date.

[g] All samples are cross section or fragments except for "cc" charcoal samples collected by J. Haas in 1988.

converged here to enlarge the pueblo to seven plazas." Early on, Ellis (1964:2) argued that the occupation lasted until about A.D. 1475 to 1500 or later, but we find little evidence for that late of an occupation at Sapawe from dendrochronology. But the prolific amount of Sankawi B/c indicates at least occupation into the 1600s.

Sapawe Site Plan and Excavation

Sapawe has been estimated to have 2,500 rooms and 19 small and one large kivas arrayed in numerous non-contiguous roomblocks (Anschuetz and Schieck 1996:231). Massed contiguous roomblocks based on the Taos model—multistoried massed Puebloan apartments—as displayed by (Morgan 1994:215-217) are a common perception of Sapawe, but we take exception to this view. Sapawe is a big building that consists of at least seven separate plazas (A-G), covering approximately 280 by 540 m (920 by 1245 ft) in a 26-32 acre footprint (Figure 4). Site plans have been presented by Mera (n.d.), Morgan (1994:215-217), and Haas and Creamer (1988) (Figure 7). The topographic plan developed by Haas and Creamer suggests another small roomblock is present south of Plazas F and E, which defines another more open plaza akin to the one just north of Plaza D. Important comparative aerial imagery had first been produced by Charles Lindbergh in 1927 (see Stuart and Gauthier 1988:343) and more recently by Baker (Figure 1).

We assembled all the maps available in the Maxwell Museum's Ellis Archive and used the last field map from 1969 prepared by David C. Bardé as a base for our revised map (Figure 4).[1] Bardé's map was the most complete of the set and was frequently used for plotting the occurrence of target artifacts for Ellis' seminar papers. Additionally, we made a pass through all the student notebooks and available TA summaries to collect basic architectural data, particularly which rooms were actually dug (as opposed to those delineated and numbered), dimensions, depth, fireboxes or hearths on floors and in fill, other floor and wall features, number of floors, the presence and nature of wall plaster, and the occurrence of human interments. As the database is refined and verified the excavated room count is likely to change. At this point we proffer some preliminary observations on Sapawe based on summary comments, the notebook tour, and tree-ring dates.

The question of Sapawe's size is a continuous thread both in terms of actual size and consistency of occupational history. Students were urged to find fireboxes—the majority of Sapawe's hearths are rectangular to subrectangular features—both on ground floor rooms and in the fill as demonstration of an upper story presence. The notes are rife with waffling, outright omission, and denial of the existence of a second, much less third, story which was invariably prompted by locating a second possible hearth in the fill. Frisbie boldly states (1966) that the southern roomblock of Plaza D is single story. The few viga sockets located were about 168 cm (5'6") above the floor, but roof fall, if any, in the room below would appear to account for only a single roof (if not a second story; Figures 2-3). A quick count of fireboxes shows 75 ground floor features and 83 in-the-fill fireboxes so that about 60 percent of the room fills did not yield firebox evidence of a second story (or of a roof-top firebox).

Parts of Sapawe were gaudily decorated with red, green, yellow, white, and other colors of plaster, often with partial designs evident, as noted in 18 of the upper fill room summaries. Plaster on the ground floor was invariably drab earth tones so that these painted rooms likely do mark the presence of second stories. Except for a group along the central west side of Plaza A, most of these rooms are center-tier rooms and appear in all plazas except C, E and F. Walls were remarkably thin, most less than 12 inches thick, and set (if set) on minimalist cobble foundations. All were seemingly unsuitable to support multiple stories; summaries openly discuss the likelihood of abandonment due to simple structural failure.

Ellis' observation from 1964 regarding burials being peripheral to Plaza A remained true after 1969, and in all instances but two are in plaza-facing rooms, which suggests interior rooms might not have been accessible due to

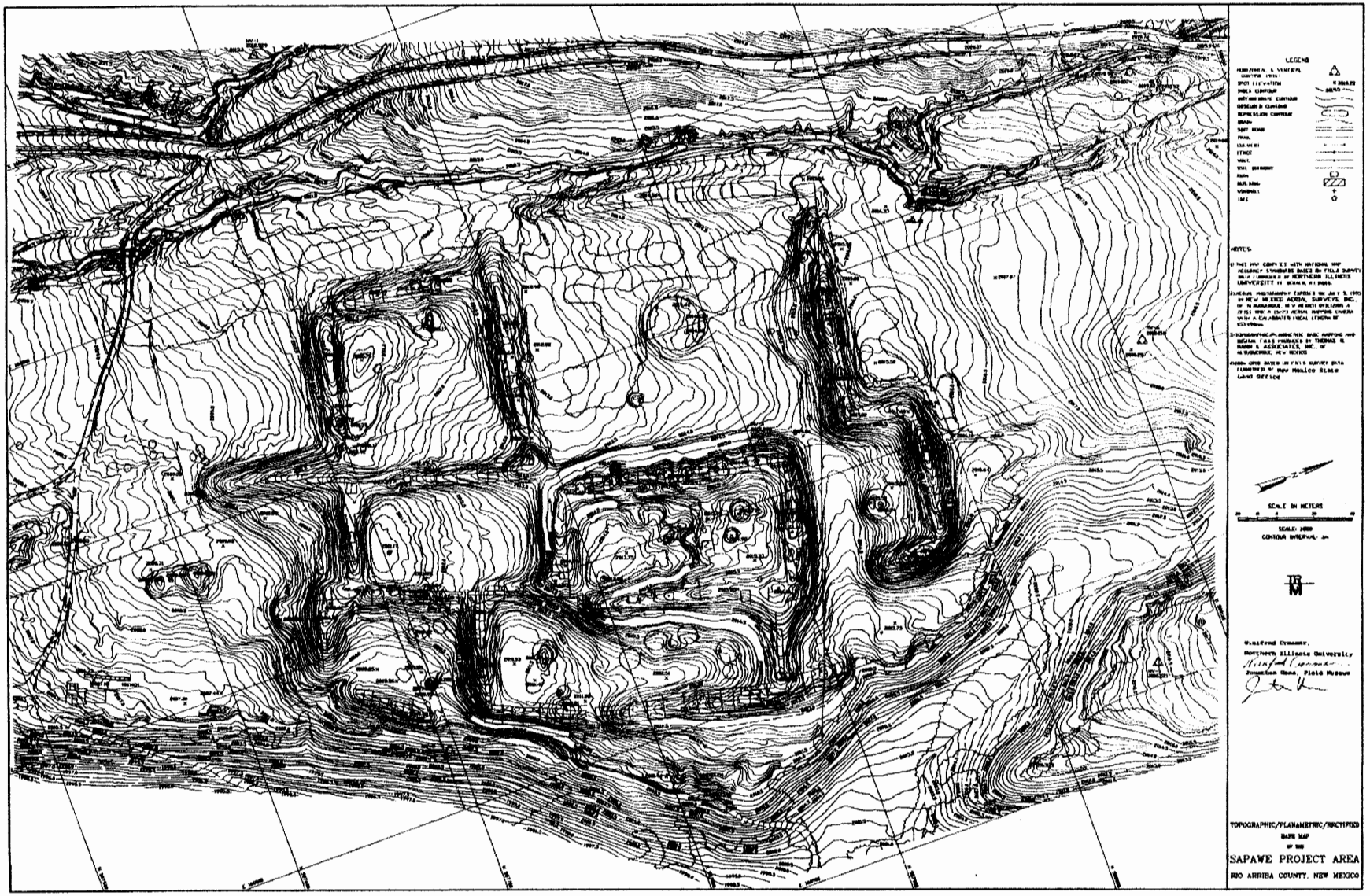

Figure 7. The Jonathan Haas and Winifred Creamer aerial topography contours overlain with the Sapawe roomblocks, 1995. North is on the right side. Imagery by Thomas Mann and Associates, Albuquerque.

building collapse (but two plaza-opening doors in Plaza G have been noted). Rapid deterioration of the site away from living areas here is strongly implied. Differentiation of fill types is not clear or consistently presented in summaries or notebooks. Students specifically mentioned trash fill as at least part of the deposit in about 25 rooms (not all with burials), the remainder being either uncharacterized or inferred from fill descriptions as "structural melt"; at least 60 rooms are noted as having notable structural wood in the fill.

Certainly excavations focused around Plaza A, the smaller, central interior plaza of the site with Ellis placing crews around on all the roomblocks each of the six years of work at Sapawe. A detailed account of crew placement and rooms excavated is not practical for this paper. Our inventory of the student notebooks and TA reports to date has identified 218 excavated rooms (58 in Plaza A) and 13 excavated kivas. We have a rough estimate of 23 kivas at Sapawe and 1,820 ground-floor rooms, but the maximum number of rooms is largely dependent on how many second and third story rooms are postulated.

Sapawe appears to have been built in haste and may well represent the blending of many groups coming together; this has been postulated (Duwe 2011:282-284, 291) on the basis of the "unplanned" and sprawling nature of plaza construction and the number of small kivas. Ellis was focused on the signatures of culture carriers as revealed by "deep structure," not artifacts, based on ethnohistoric information (Ellis 1978a). She felt ethnoarchaeological traces of different groups would be best found in the details of kiva construction, which largely explains the number of sampled kivas. With the exception of the big kiva (Plaza B, Kiva 2), the few notes, plan views, and profiles of the east-west oriented firepit-ashpit-deflector-vent complexes we have located appear to be remarkably similar, but the jury is still out.

One of our main points here is that Sapawe, called by Dave Phillips, Maxwell Museum Director, "The Black Hole of the Southwest," is still a site awaiting excavation: archival excavation. Until the notes are all located, systematically reorganized, evaluated, and summarized, the entry of Sapawe into the archaeological discussion will be on an anecdotal level and, like much rumor, it will be wrong. To opening that door of really investigating, appreciating and perhaps understanding the enormous contributions this site has to offer we present the first full site map of Sapawe.

Note

[1] The revised Sapawe digital plan map is available in the Maxwell Museum of Anthropology Archives.

Acknowledgments

The patience, humor, and helpfulness of Maxwell Archivist Diane Tynik made this entry-level inquiry possible; we cannot thank her enough. We also recognize and applaud Maxwell Director Dave Phillips for timely stepping in and securing the Ellis Archive, for initiating and promoting the continued work on its organization, and his openness and willingness to accommodate students in its use for research and development as a resource, not just for Sapawe's interpretation but for general studies of the period of Puebloan history it represents. We deeply appreciate funding for the recent batch of tree-ring samples that was provided by B. Sunday Eiselt and J. Andrew Darling of Southwestern Heritage Research supported by Ohkay Owingeh Pueblo. Also, our special thanks for the diligent and wonderful digital work provided by Clay Mathers, the aerial from Tom Baker, and the contour map by Jonathan Haas and Winifred Creamer. The editors (Emily Brown, Carol Condie, and Marc Thompson) of the ASNM annual volume have been extremely kind to us during the process of producing this paper and we wish to thank them for all their advice and hard work. Lastly, we acknowledge our debt and appreciation for the work of our late colleague Dave Bardé, whose personal guidance, work on the Sapawe site maps, and excellent notes made much of this report possible and helped make our memories of Sapawe (and later, in Chaco) so enjoyable.

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PAPERS OF THE ARCHAEOLOGICAL SOCIETY OF NEW MEXICO VOLUME 44 • 2018

Two Gentlemen of Chaco

Papers in Honor of
THOMAS C. WINDES
and
PETER J. MCKENNA

Edited by—Emily J. Brown, Carol J. Condie, and Marc Thompson

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Preface

Windes and McKenna, McKenna and Windes. The two appeared as co-authors on so many papers I read in graduate school that in my mind they were both firmly a duo and the stuff of legend, akin to Butch Cassidy and the Sundance Kid, Watson and Holmes, or maybe Sonny and Cher. Meeting them in person (Tom when we were employees of the National Park Service and Peter on a field trip to Shabik'eschee) was no letdown. Tom took the time to answer the many questions on Southwest archaeology I asked while writing my dissertation, and at intervals would inquire about my progress toward my "Phud". And I have never laughed so hard as I did one evening as Pete recounted exploits of members of the Chaco survey and Salmon Ruins excavation crews, including one Tom Windes. The incidents will not be repeated here for the protection of numerous colleagues; suffice it to say that they entailed drunkenness, nakedness, binoculars, mud, pickups, and combinations of all the above. One involved mind-altering substances and a bathtub, one a spear (and more nudity), and one notable tale bordered on the mythic with sweet, sweet vengeance for willful bureaucratic ineptitude realized by cherry bomb in the dead of night.

Misadventures and comedic talent aside, the accomplishments of both Tom and Peter more than justify the pedestal my student admiration placed them on (in my mind's eye, they shared the same one). Their knowledge of Southwest archaeology and things Chacoan is encyclopedic. Pete has authored countless federal cultural resource management reports, notable both for their numbers and for their comprehensiveness and overall excellence. ARMS staff have commented on the fact that his site forms often include much more information than is required, including high quality illustrations and maps, and even short couplets of tongue-in-cheek poetic verse (though the quality of the latter remains unspecified). Tom is likewise cursed with what he describes as an "excessive work ethic"—his volunteer crews describe him as an exacting, indomitable perfectionist, and the consensus is that he is determined to sample *all* of the datable wood at cultural sites in the Southwest. His list of publications is also lengthy, and he has served as a mentor and teacher to many people of all ages, but especially youth. Excessive the work ethic may be, but the results speak for themselves.

—Emily J. Brown