The Basketmaker Communities Project
Annual Report, 2017 Field Season

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Introduction

In 2017, the Crow Canyon Archaeological Center (Crow Canyon) conducted its seventh year of field research as part of the Basketmaker Communities Project, a multiyear study of early Pueblo community development in the central Mesa Verde region. The first four years of the study focused on a pivotal, but under-investigated, time in Pueblo history—the Basketmaker III period (A.D. 500–750). The focus of Crow Canyon’s field research has been a settlement cluster consisting of more than 100 Basketmaker sites located within a 4.9 km² area near the town of Cortez, in southwestern Colorado. From 2015 to 2016, Crow Canyon’s field research focused on the Hatch group—a series of four closely spaced multicomponent sites that date from the Basketmaker III (A.D. 500–750) and Pueblo II (A.D. 900–1150) periods. This temporal broadening was an effort to answer questions posed in Research Domains III and V in the Basketmaker Communities Project research design (Ortman et al. 2011) and in the research design addendum (Ryan and Diederichs 2014). These research domains address the following questions: (1) Is there evidence for changes in community organization over time? (2) Is there evidence for environmental change related to land-use patterns during the Basketmaker III–Pueblo III periods? (3) How did the momentary population change through time, and is there evidence for this change being linked to environmental degradation?

In 2017, our field research focused on completing excavations and documentation at the Ridgeline site (5MT10711). Information from this site will broaden our dataset for the Basketmaker III time period on Indian Camp Ranch and will help us address the following research question (Ortman et al. 2011): Is there additional public architecture that dates from the Basketmaker III period on Indian Camp Ranch? The inclusion of this site in our dataset may help us understand population change through time and how the wider Basketmaker III population related to the aggregated Basketmaker III settlement at the Dillard site.

This report summarizes progress on the Basketmaker Communities Project during the 2017 Crow Canyon field season, which was conducted from March through August under the State of Colorado Archaeological Permit No. 2017-4. This field season was partly funded by a History Colorado State Historical Fund grant (No. 2015-01-005). Fieldwork was conducted by members of the archaeology staff with assistance from interns. In 2017, there was no public involvement at the Ridgeline site. Field and laboratory work conducted by contractors is also summarized in this report. Upon completion of all fieldwork and laboratory analyses, Crow Canyon will publish detailed results of the Basketmaker Communities Project on its website (www.crowcanyon.org).

Project Area Location and Ownership

The Basketmaker Communities Project study area is located in the central Mesa Verde region (Figure 1). Specifically, the study area is located in the McElmo drainage unit, which is defined as lands that are drained by McElmo Creek. The settlement cluster that is the focus of Crow Canyon’s research lies north of this creek, on a dissected upland between Alkali Canyon to the west and the less-substantial Crow Canyon drainage to the east, just over 6 km (about 4 mi) west of Cortez, Colorado.
The primary project area is defined by the property boundaries of Indian Camp Ranch, a 1,200-acre, 31-lot private residential community developed in the late 1980s and early 1990s. There are 208 known archaeological sites on lands within the Ranch (Ortman et al. 2011). Surface remains suggest that, of those sites, 107 date from the Basketmaker III period, 49 date from the Pueblo II period, three are multicomponent Basketmaker III/Pueblo II sites, and 10 are multicomponent Pueblo II/Pueblo III sites. Figure 2 illustrates the boundaries of Indian Camp Ranch and of individual lots for which Crow Canyon obtained permission from individual landowners to conduct field investigations during this field season.

Permits and Permissions

During 2017, excavation was conducted under State of Colorado archaeological permit No. 2017-4 and with the permission of the Indian Camp Ranch Homeowners Association and individual landowners. Both the bylaws and covenants of Indian Camp Ranch (Indian Camp Ranch Homeowners Association 2007) were crafted to promote the preservation of, and research on, archaeological sites on the Ranch. In 2010, the Association granted Crow Canyon permission to conduct field research at Basketmaker sites located within the Ranch subject only to restrictions imposed by individual landowners and provided that the work complied with the professional and ethical standards established by the Society for American Archaeology and the Register of Professional Archaeologists.

Environmental Setting

The topography of the Basketmaker Communities Project study area consists of gently rolling uplands where varying thicknesses of eolian silt loam overlie Dakota Sandstone. The elevation at the center of the project area is about 1890 m (6200 ft). Approximately 100 million years of geologic history dating from the late Triassic/Jurassic through the middle Cretaceous are exposed west of the project area in Alkali Canyon. The various geologic strata provided Pueblo people with construction stone and raw material for tools, and the permeable layers form a high-quality aquifer that gives rise to numerous springs at the interfaces between fine sandstone beds and less-permeable mudstones.

Indian Camp Ranch was probably once completely covered by pinyon-juniper woodlands that were dominated by pinyon pine and Utah juniper and that included an understory of bunch grasses, yucca, and prickly pear cactus. Today, remnants of this woodland can be found in the northwest and south-central portions of the Ranch, but elsewhere the native vegetation has been replaced (in the past 100 years) by ranch land and farm fields. Properties in the eastern one-third of the Ranch have been cultivated and are planted in winter wheat. Vegetation on ranch lands is dominated by big sagebrush, rabbitbrush, and bunch grasses.

2017 Fieldwork: The Ridgeline Site

Excavations during the 2017 field season were conducted only at the Ridgeline site (5MT10711). Table 1 lists all excavation units investigated at the site. By the end of the 2017 season, the final six excavation units had been fully excavated and documented. Before backfilling, exposed walls and floors within structures were protected with Geotech cloth—a breathable synthetic fabric
that does not deteriorate unless exposed to ultraviolet light. Backfill sediment was tamped down to reduce settling, and the ground surface was restored as much as possible to pre-excavation condition.

The Ridgeline site, 5MT10711 (Figure 3), is located on the westernmost ridge in the Indian Camp Ranch subdivision (Figure 2). This site was identified by Woods Canyon Archaeological Consultants in 1991 (Honeycutt and Fetterman 1991) and was surveyed using electrical resistivity in 2012 (Charles 2012). The results of both surveys suggest that the site dates from the Basketmaker III period. During the 2017 field season, we focused on completing excavations in the east half of an oversized pit structure (Structure 101-103), three extramural surfaces (Nonstructures 109, 112, and 120), and three pit rooms (Structures 110, 116, and 117).

Structure 101-103

Structure 101-103 is a large pit structure that measures approximately 11 m from the north wall of the main chamber (Structure 101) to the south wall of the antechamber (Structure 103). The main chamber measures approximately 9 m east-west, and the antechamber measures approximately 6 m east-west. During the 2017 field season, excavations focused on documenting and recording all surfaces in both the main chamber and the antechamber.

Surface 1 in Structure 101 was the final floor and was formally prepared with red plaster and tan/brown sand. The hearth, the northeast and southeast main support posts, a deflector, a sipapu, a wing wall, and several pit features were associated with Surface 1 (Figure 4). During the excavation of these features, an earlier surface was detected beneath Surface 1. The fill composing Surface 1 was then removed to reveal Surface 2.

Surface 2 predates Surface 1 and was formed of a mixture of adobe, charcoal, red plaster, crushed sandstone, and calcium carbonate. The few artifacts recovered from Surface 2 are interpreted as secondary refuse within Surface 2 sediment. Several pit features, some of which were filled with sandy loam, were identified on Surface 1. A floor vault, four post holes (two of which were earlier versions of the northeast and southeast main support posts), and one paho mark were also documented (Figure 5). Excavation of the features associated with this floor resulted in the discovery of a third floor underlying Surface 2.

Surface 3 in Structure 101 was the earliest floor in the main chamber. Surface 3 is formed of undisturbed native calcium carbonate (Figure 6). No artifacts were observed on this floor. Two sipapus and two postholes that once held early main-support posts were associated with this floor. The presence and locations of these suggest the existence of an earlier, smaller pit structure that was later subsumed by Structure 101-103.

The bench face in Structure 101 displayed evidence of three distinct plastering events (Figure 7). The bench itself appears to have been constructed when the pit structure was built. The bench was carved out of undisturbed calcium-carbonate deposits; sandstone slabs were then placed vertically into wet adobe along the bench face. Reddish plaster was applied to the horizontal surface of the bench and to the faces of the vertical sandstone slabs along bench face (Figure 8).
In Structure 103—the antechamber for Structure 101—the last use surface is Surface 1; this surface was not formally prepared but consists of use-compacted native sediment (Figure 9). Northeast and southeast main support posts and the doorway between the main chamber (Structure 101) and the antechamber (Structure 103) are associated with this surface. The construction and use of the bench is also associated with Surface 1. Seventeen postholes were documented on the horizontal surface of the bench. After the excavation and documentation of these features, an earlier use surface, Surface 2, was discovered.

Surface 2 is the earliest use surface in Structure 103. One paho mark and several other small pit features, as well as an undercut nook under the bench, were associated with this surface (Figure 10). The bench was constructed of redeposited native sediment and might have been added after the structure was built (Figure 11). If so, the original roof would have needed a support system independent of the absent bench. However, no postholes were identified on the extramural surface surrounding Structure 103. Perhaps the antechamber originally had a cribbed roof, or the prehistoric ground surface and associated postholes surrounding the antechamber have been destroyed.

Nonstructure 109

As previously reported (Sommer et al. 2017), Nonstructure 109 is an extramural surface that was exposed in a 2-x-2-m unit in the northern part of the site. The surface is composed of native sediment containing charcoal and calcium carbonate inclusions. This unit was excavated to investigate whether vertical slabs exposed at the modern ground surface were walls of a pit room (see Structure 110).

Structure 110

As previously reported (Sommer et al. 2017), Structure 110 is a slab-walled pit room north of Structure 101-103 (Figure 3). During the 2017 field season, the floor of this structure was exposed and documented (Figure 12). The floor is use-compacted native sediment; no plaster was observed. Few artifacts—flaked-lithic debitage and a fragment of nonhuman bone—were recovered from the floor. The slabs forming the walls of Structure 110 did not rest at floor level; rather, they had been set into undisturbed native sediment that formed the lower walls of the room.

Nonstructure 112

Nonstructure 112 is an extramural surface composed of undisturbed native sediment. The surface was exposed in a 2-x-2-m unit north of Structure 101-103 that was located to investigate several vertical sandstone slabs visible at the modern ground surface. As previously noted (Sommer et al. 2017), several artifacts were recovered from this surface. During the 2017 field season, three pit features were identified on this surface, as was a slab-walled pit room (see Structure 117). The three pit features associated with Nonstructure 112 were filled with secondary refuse; the uses of the pits are unknown.
Structure 116

Structure 116 is a pit room north of Structure 101-103 (Figure 3). The structure was identified during the excavation and documentation of extramural surface Nonstructure 109. Although the room was unburned, the fill of the room contained a small amount of burned roofing material, probably from Structure 110. The presence of this material in the fill of Structure 116 indicates that the structure was no longer being used as a room when Structure 110 burned. Further, the east wall of Structure 116 passes beneath the vertical slabs that form the southwest wall of Structure 110, which constitutes additional evidence that Structure 116 was built and decommissioned before Structure 110 was constructed (Figure 13). No artifacts were found on the floor of Structure 116, although multiple artifacts that appear to be pendant blanks were recovered from refuse in the fill of the room.

Structure 117

Structure 117 is a slab-walled pit room north of Structure 101-103 and east of Structure 110 (Figure 3). The room was identified during the excavation and documentation of extramural surface Nonstructure 112. The roof of Structure 117 had burned, though only one dendrochronological sample was recovered. The floor is use-compacted native sediment. Several gray ware sherds, a few pieces of flake lithic debitage, a mano, raw clay, red ochre, a couple of reconstructible vessels, and a portion of a bowl were recovered from the floor. Three features are associated with this surface: a storage bin, a footer trench for vertical wall slabs, and a pit of indeterminate use (Figure 14).

Nonstructure 120

Nonstructure 120 is an extramural use surface below Nonstructure 109. Structure 116 was excavated into Nonstructure 120. Two pit features but no artifacts were associated with Nonstructure 120. The uses of the pit feature are indeterminate, but they might be associated with Structure 116; all three were excavated into Nonstructure 120.

Plant and Artifact Analyses

Pollen Analysis

Twenty-five pollen samples collected during the Basketmaker Communities Project were processed by the Palynology Laboratory at Texas A&M University, where pollen grains were separated and concentrated utilizing protocols developed and tested by Vaughn Bryant, Jr. The pollen was identified and analyzed by Susan Smith. During the 2017 season, Smith analyzed 15 samples from the Mueller Little House site (5MT10631), five samples from the Dry Ridge site (5MT10684), and five samples from the Ridgeline site (5MT10711). One report (Smith 2017) discusses all 25 pollen samples.
Obsidian Analysis

Seven obsidian artifacts—three from the Dillard site (5MT10647), two from the Portulaca Point site (5MT10709), one from the Mueller Little House site (5MT10631), and one from the Ridgeline site (5MT10711)—were analyzed for elemental concentrations through energy-dispersive X-ray fluorescence by Steve Shackley (2017). All analyses were conducted on a ThermoScientific Quant’X EDXRF spectrometer located at the University of California, Berkeley. The artifacts were identified to three source areas in New Mexico and Utah: El Rechuelos in the Jemez Mountains, New Mexico; Grants Ridge sources at Mount Taylor in New Mexico; and Wild Horse Canyon in Utah. With the exception of the artifact sourced to Wild Horse Canyon, these results are similar to those of earlier studies of obsidian artifacts for the Basketmaker Communities Project (Shackley 2013, 2015).

Compositional Analysis of Pottery

Using neutron activation analysis, Jeffrey Ferguson and Michael Glascock (2017) analyzed 123 pottery sherds from the Dillard site (5MT10647) for elemental concentrations. All analyses were conducted at the Archaeometry Laboratory at the University of Missouri Research Reactor Center.

Artifact Analysis

In-house artifact cataloging and analysis for the Basketmaker Communities Project is ongoing. Thus far, more than 39,000 flaked-lithic artifacts and 44,400 pottery sherds have been analyzed, and 1,900 flotation samples have been processed. Of the 39,000 pieces of chipped stone, 2,000 pieces were analyzed in 2017. Of the 44,400 pottery sherds analyzed, 5,800 sherds were analyzed in 2017. Of the 1,900 flotation samples processed, 300 were processed in 2017.

Chronometric Analyses

One of the primary objectives of the Basketmaker Communities Project is to create a Basketmaker III settlement history of the project area by collecting materials from habitation and ancillary structures that yield absolute dates. Three dating methods are being applied: radiocarbon accelerator mass spectrometry, archaeomagnetism, and dendrochronology. No new dendrochronological dates were available as of November 2017.

During the 2017 season, 13 radiocarbon accelerator mass spectrometry samples were submitted to Beta Analytic Inc., and three archaeomagnetic samples were submitted to the Archaeomagnetic Laboratory at East Tennessee State University. Table 2 provides radiocarbon accelerator mass spectrometry dates received in 2017. Two of the three archaeomagnetic samples were datable. The archaeomagnetic sample taken from the hearth in Structure 101 at the Mueller Little House site (5MT10631) yielded numerous date ranges; the range most likely to be accurate is A.D. 660–690 (Lengyel 2017a). The sample taken from the hearth in Structure 108 at the Dry Ridge site (5MT10684) yielded numerous date ranges; most likely to be accurate is either A.D. 985–1040 or A.D. 1060–1140 (Lengyel 2017a). The third archaeomagnetic sample, taken from a hearth at the Ridgeline site (5MT10711), did not produce a plot on the curve. This sample plots
near the A.D. 900 window of the dating curve, although even this date is later than the Basketmaker III date range (A.D. 500–750) expected for this sample (Lengyel 2017b).

**Human Remains**

No human remains were exposed during excavations at the Ridgeline site in 2017.

**Curation**

Crow Canyon has an executed agreement with the Anasazi Heritage Center, Dolores, Colorado, for the curation of collected materials and associated documentation from the Basketmaker Communities Project. The Anasazi Heritage Center will curate materials generated as a result of all field seasons (2011–2017) of the project.

**Summary**

The goals of the seventh and final year of field work for the Basketmaker Communities Project were to complete all excavations and documentation at the Ridgeline site. We learned that the oversized pit structure underwent at least three distinct construction episodes—the initial construction of the pit structure and two remodeling events. We also learned that pit room Structure 110 was superimposed over an earlier pit room, Structure 116. These data suggest that the site was occupied for a prolonged period of time.

Several analyses were completed, and the resulting data provide us with a greater understanding of the ancestral Pueblo community that inhabited the landscape that is today occupied by Indian Camp Ranch. Several special analyses are ongoing. The following materials from the Basketmaker Community Project sites have been selected and submitted to specialists for analysis: pollen samples, faunal remains, and dendrochronological samples. A comprehensive report on all excavations conducted as part of Crow Canyon’s Basketmaker Communities Project will be published on Crow Canyon’s website at www.crowcanyon.org.
Personnel, 2017 Field Season

Archaeology Department Staff

Shirley Powell, vice president of programs
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Shanna Diederichs, supervisory archaeologist
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Rebecca Simon, field archaeologist
Kari Schleher, laboratory manager
Jamie Merewether, collections manager
Leigh Cominiello, laboratory assistant
Kate Hughes, laboratory education coordinator
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Kristin Kuckelman, research publications manager
Jessica Petrie, field intern
Caelie Butler, field intern
Genevieve Woodhead, laboratory intern
Christina Stewart, laboratory intern
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Indian Camp Ranch Homeowners Association

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Smith, Susan J.

Sommer, Caitlin, Susan C. Ryan, Kari L. Schleher, Shanna R. Diederichs, Steven R. Copeland, Rebecca L. Simon, and Grant D. Coffey
Figure 1. The location of the Basketmaker Communities Project study area in the central Mesa Verde region.
Figure 2. The Indian Camp Ranch subdivision showing property boundaries and the one site investigated during the 2017 season.
Figure 3. The Ridgeline site (5MT10711).
Figure 4. Excavated features on Surface 1 in Structure 101, the Ridgeline site (5MT10711).
Figure 5. Excavated features on Surface 2 in Structure 101, the Ridgeline site (5MT10711).
Figure 6. Excavated features on Surface 3 in Structure 101, the Ridgeline site (5MT10711).
Figure 7. Evidence of at least three distinct plastering events on the vertical bench face in Structure 101 at the Ridgeline site (5MT10711). The wooden scale arrow rests at the front edge of the horizontal bench surface. The yellow arrow points to evidence of the first plastering event, the green arrow points to evidence of the second, and the red arrow points to evidence of the third plastering event.
Figure 8. Oblique and profile views of construction details of the bench face in Structure 101, the Ridgeline site (5MT10711). Note the adobe placed behind the sandstone slabs (right) and the red plaster placed on the horizontal surface (upper, right) and on the vertical face of the bench (right center).
Figure 9. Surface 1 of Structure 103, the Ridgeline site (5MT10711). Arrows indicate the doorway (upper right) between the main chamber (Structure 101), and the antechamber (Structure 103) as well as the southeast (left) and northeast (lower right) main support posts.
Figure 10. Excavated features on Surface 2 in Structure 103, the Ridgeline site (5MT10711). The arrows indicate the undercut nook below the bench face.
Figure 11. The bench in Structure 103, the Ridgeline site (5MT10711), constructed out of redeposited native sediment (red arrow) that was attached to the original wall of the structure (green arrow).
Figure 12. Western (top left) and eastern (bottom) vertical-slab walls of Structure 110, the Ridgeline site (5MT10711).
Figure 13. The excavated portion of Structure 116, the Ridgeline site (5MT10711).
Figure 14. The excavated portion of Structure 117, the Ridgeline site (5MT10711).
Table 1. Excavation Units Completed and Backfilled, Architectural Block 100, the Ridgeline Site, Basketmaker Communities Project.

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<th>Horizontal Provenience</th>
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<td>East half</td>
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<td>Northeast quad</td>
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Table 2. Radiocarbon Accelerator Mass Spectrometry Dates Received in 2017, Basketmaker Communities Project.

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<td>471923</td>
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