

The Basketmaker Communities Project Annual Report, 2015 Field Season

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Introduction

In 2015, the Crow Canyon Archaeological Center (Crow Canyon) conducted its fifth year of field research as part of the Basketmaker Communities Project, a multi-year 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. Currently, Crow Canyon’s field research is 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 is 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: Is there evidence for changes in community organization over time? Is there evidence for environmental change related to land-use patterns during the Basketmaker III–Pueblo III periods? How did the momentary population change through time, and is there evidence for this change being linked to environmental degradation?

Excavations were completed at Site 5MT10709 (no name assigned) and the Shepherd site (5MT3875). Excavation, subsurface probing, and/or remote sensing were conducted on five multicomponent sites located in the eastern portion of the Indian Camp Ranch subdivision: the Pasquin site (5MT2037), the Dry Ridge site (5MT10684), the Badger Den site (5MT10686), Site 5MT10685 (no name assigned), and Sagebrush House (Site 5MT10687). Work will continue on these sites during the 2016 field season. Mapping and in-field artifact analysis were conducted on two multicomponent sites (5MT18629 and 5MT18632) located on property adjacent to Indian Camp Ranch that is owned by Galen Larson.

This report summarizes progress on the Basketmaker Communities Project during the 2015 Crow Canyon season, which was conducted from March through November. The 2015 field season was funded, in part, by a History Colorado State Historical Fund grant (#2015-01-011) and an Earthwatch Institute grant. Fieldwork and related Crow Canyon education programs were conducted by members of the archaeology and education staff, with assistance from seasonal employees and interns. Field and laboratory work conducted by contractors is also summarized. Upon completion of all fieldwork, laboratory analyses, and synthetic studies, 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 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 in 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/III sites. [Figure 2](#) illustrates the boundaries of Indian Camp Ranch and of individual lots, outlined in bold, for which Crow Canyon obtained permission from individual landowners to conduct field investigations during the 2015 season.

Permits and Permissions

During 2015, excavation, testing, and survey were conducted under State of Colorado Archaeological Permit No. 2015-2 and No. 2015-3 and with the permission of the Indian Camp Ranch Homeowners Association and individual landowners. Both the bylaws and covenants of Indian Camp Ranch were crafted to promote the preservation of, and research on, archaeological sites (Indian Camp Ranch Homeowners Association 2007). 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. A contract signed with Galen Larson allows Crow Canyon to conduct surveys on his property through December 2016. Since 2010, 10 individual contracts between Indian Camp Ranch landowners and Crow Canyon have been signed. These contracts limit Crow Canyon activities on particular properties: two prohibit testing and excavation but permit surface mapping and remote sensing; a third permits less than 10 m² of excavation at two separate sites, which limits our work to test excavations at those sites. Five other contracts give permission for excavations at sites on the landowners' lots. The contract between Galen Larson and Crow Canyon allows for in-field analysis of artifacts, soil probing, and remote sensing.

Public Involvement

A diverse segment of the public benefitted from Crow Canyon's research during the 2015 field season. Through our research and education programs, participants ranging in age from middle school through adult assisted with field and laboratory work. Specifically, 105 children in school-sponsored programs, 25 National Endowment for the Humanities teachers, 11 Middle School Archaeology Camp participants, 10 High School Field School participants, 21 High School Archaeology Camp participants, nine College Field School participants, 54 individuals in our Archaeology Research Program, and 23 Earthwatch Institute volunteers— a total of 258 members of the lay public—participated in Crow Canyon's excavation project in 2014. Hundreds of additional individuals were provided with formal tours offered as part of single-day field trips, multiday non-excavation school-group programs, or other Crow Canyon-sponsored activities. Crow Canyon continued its partnership with the Earthwatch Institute in 2015; individuals from all over the world participated in our excavation project. The number of people served reflects

not only Crow Canyon's commitment to involving the public in its research but also the level of public interest in the ancient past of the Mesa Verde region.

American Indian Involvement

American Indians were involved in the Basketmaker Communities Project in several ways during 2015. Scholarship funds totaling \$30,435 were disbursed to 117 American Indian students. Scholarships were provided to American Indian students attending Crow Canyon's Middle School Archaeology Camp and High School Archaeology Camp.

Additional American Indian students were included in school groups that attended Crow Canyon programs with support from the Center. Students were affiliated with Brave Girls in Santa Fe, Southern Ute Montessori, Zuni Youth Enrichment Program, Pueblo Pathways Project, Shiprock High School, Summer Art and Archaeology Program, Ute Mountain Ute Tribe, and Southern Ute Tribe.

As part of Crow Canyon's ongoing Pueblo Farming Project, Hopi farmers visited the Crow Canyon campus in 2015 to consult on our experimental gardens. Crow Canyon's Native American Advisory Group contributed to the Basketmaker Communities Project in several ways. The Group met four times in 2015, and the Director of American Indian Initiatives Marjorie Connolly consulted with particular members of the group on issues such as culturally sensitive items. Finally, during Crow Canyon's October board meeting, members visited sites in the Hatch group, were updated on progress made during the 2015 field season, and provided a site blessing.

Throughout these activities, the insights and perspectives shared by American Indians informed Crow Canyon's research and enriched the experience of participants enrolled in the Center's education programs. We intend to build on our relationships with American Indians by providing scholarships for field programs and through continued consultation with our Native American Advisory Group and other interested parties as the Basketmaker Communities Project progresses.

Environmental Setting

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, including a portion of the tract on which the Dillard site is located, is dominated by big sagebrush, rabbitbrush, and bunch grasses.

2015 Fieldwork

Excavations during the 2015 field season were conducted on six sites: the Hatch group, which consists of 5MT10687 (Sagebrush House), 5MT10686 (the Badger Den site), 5MT2037 (the Pasquin site), 5MT10684 (the Dry Ridge site); 5MT3875 (the Shepherd site); and Site 5MT10709 (no name assigned). Remote sensing, but no excavation, was conducted at Site 5MT10685. [Table 1](#) lists all excavation units for the 2015 field season. [Table 1](#) also specifies which units have been completed and which will be continued during the 2016 field season. By the end of the 2015 season, excavation had occurred in 116 excavation units at these six sites, and a total of 70 of those 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. The backfilled sediment was tamped down to reduce settling, and the ground surface was restored as much as possible to its pre-excavation condition. At the end of the 2015 field season, 46 excavation units were still in progress. These were covered with plywood and sealed with plastic sheeting to protect the units from damage during the winter. Work within these units will resume during the 2016 field season.

Site 5MT10709

During the 2015 field season, excavations at Site 5MT10709 (no name assigned) continued ([Figure 3](#)). This site was selected for testing because it is a single habitation site dating from the Basketmaker III period. One pithouse, two middens, and a concentration of rubble with upright slabs had been identified by Woods Canyon Archaeological Consultants (Honeycutt and Fetterman 1991), and the presence of these features was confirmed by Crow Canyon staff in 2013. No less than 3 percent of each midden was randomly tested; six 1-x-1-m units were excavated in the east midden, and eight 1-x-1-m units were placed in the west midden. See Sommer et al. (2015) for discussion of these middens. A 3-x-1-m unit was excavated through the inferred center of the pithouse in an effort to expose and document a hearth and other floor features. A 2-x-2-m unit was placed within the concentration of rubble and upright slabs in an effort to document the nature of this rubble.

Structure 106

Only information regarding the final excavation and documentation of Structure 106 will be presented here; see Sommer et al. (2015) for a more complete discussion of this structure. One 3-x-1-m unit was placed in the inferred center of this pithouse in order to expose a hearth and other floor features. Excavations in 2015 showed that Structure 106 was burned during the decommissioning process, and we were able to recover 17 dendrochronological samples. Artifact density in the wall-fall and roof-fall strata was low to moderate and included gray ware sherds, flaked-lithic debitage, charcoal, and ground-stone fragments. The floor of the structure is

plastered and burned. A gray ware jar, the burned remains of a basket, two bone awls, yellow pigment, and a piece of flaked-lithic debitage were recovered from the floor ([Figure 4](#)).

The hearth is located in the southwestern quadrant of the 3-x-1-m unit and had been excavated into the underlying bedrock. The hearth has a relatively large adobe collar that rises 10 cm above the floor of the structure. The basin of the hearth is not lined with plaster; instead, the bedrock was left exposed ([Figure 5](#)). Roof-fall debris was identified within the hearth, which reveals that the feature had not been sealed before the structure was decommissioned. Beneath the roofing, a layer of ash was identified, presumably from the last use of the feature as a hearth. Flotation and pollen samples were taken from this ash. Three variously colored silt layers, all of which contained charcoal inclusions, were observed and documented below the ash. The charcoal may indicate that burning had occurred on each layer of silt. No thermal alteration or charcoal-staining was observed on the bedrock lining the hearth; the silt might have been used to insulate the hearth's contents and keep embers banked and burning for subsequent uses.

No other features were identified on the floor of Structure 106. At the time of this writing, we have received neither dates nor other analytic data for this structure. This excavation unit was fully excavated and documented.

An auger was used to assess the depth of a floor in a 1-x-1-m unit excavated through the bottom of a midden deposit and into the upper fill of a structure (no number yet assigned) that might be an antechamber of Structure 106. Augering was used to excavate to the depth of the floor. The floor is located 88 cm below the modern ground surface. The elevation of the floor of this structure is approximately 40 cm higher than the elevation of the floor of Structure 106. This unit was documented and backfilled.

Structure 115

A 2-x-2-m unit was placed within the rubble concentration to investigate the nature of this deposit. Excavations revealed Structure 115 to be a semi-subterranean storage room with upright slabs lining the north and northwest sides of the structure. Presumably, slabs were used to create edges around the entire structure, but the south and east sides of Structure 115 had experienced significant erosion. The sandstone slabs are tabular and had not been plastered. The slabs were set into fill and then mortared in place; additional mortar was applied to their inner faces to increase their structural integrity.

Two postholes were identified—one was dug into the prehistoric ground surface just outside Structure 115, and the other was dug into the floor of the structure ([Figure 6](#)). The presence of the postholes—as well as fill strata containing burned adobe, calcium carbonate, charcoal, and small chunks of sandstone—suggest that the structure was roofed.

The floor of Structure 115 is use-compacted native sediment. A broken mano, two pieces of flaked-lithic debitage, and several burned beans were recovered from the floor of the structure. Proximity and their relative locations on the site suggest that Structure 115 is associated with Structure 106. This excavation unit was documented and backfilled.

Site 5MT3875

Site 5MT3875, the Shepherd site ([Figure 7](#)), is located on the east slope of a ridge that drops into the Crow Canyon drainage system on the eastern edge of the project area ([Figure 2](#)). It was first recorded in 1983 by Jo Berger, one of the original Crow Canyon directors, as part of an early Crow Canyon archaeology program. It was re-documented in 1991 by Woods Canyon Archaeological Consultants, who recorded the site as a large scatter of artifacts dating from the Basketmaker III period and that included 11 burned-rock concentrations ranging in size from 2-x-2 m to 10-x-4 m. Two small rubble mounds were also recorded. During the 2015 field season, our efforts were focused on excavating and documenting the middens (Nonstructures 105, 109, and 112), a rubble mound (Nonstructure 108), pit features associated with extramural use surfaces (Nonstructures 119, 122, and 129), and a structure (Structure 106) that probably dates from the Pueblo II period.

Nonstructure 105

A low-density midden (Nonstructure 105) is located in the central portion of the Shepherd site. Along with a light scatter of surface artifacts, five rock clusters were mapped within this midden. Three percent of the midden was randomly sampled with 11 units measuring 1-x-1 m each. The midden deposits are shallow, ranging from 3 to 20 cm thick. Artifact density in the excavated units was low but included pottery sherds, flaked-lithic artifacts, and ground-stone tool fragments. All excavation units were completed, documented, and backfilled.

Structure 106

A 3-x-1-m unit was used to investigate the deposits below a rock concentration in the northwest portion of the Shepherd site. Excavation of this unit exposed a portion of Structure 106. Mancos corrugated sherds were recovered from the collapsed roof of the structure, suggesting that Structure 106 probably dates from the Pueblo II period. Portions of the north wall of the structure were exposed and documented in the excavation unit. The basal stones of the wall rest directly on the floor, which is composed of use-compacted native sediment. Only two (flaked-lithic) artifacts were recovered from the floor. Features associated with the floor include a pit of unknown function, a burned spot, and a posthole ([Figure 8](#)).

The posthole is 15 cm long, 15 cm wide, and 16 cm deep. It is located on the interior of the north wall of the structure, and the post this pit once held was probably used to support the northern part of the roof. The fill directly above the floor of Structure 106 contains no evidence of burned or decomposing roofing, though several sandstone chunks were observed throughout the excavation unit. The presence of this relatively large posthole that contained no remnants of wood, as well as the sandstone chunks in the structure fill, suggests that the roof was dismantled and the materials reused elsewhere. This excavation unit was completed, documented, and backfilled.

Nonstructure 108

Nonstructure 108 is an L-shaped rock concentration measuring 10-x-6 m. The rocks range from 5 to 40 cm long, and the concentration rises only slightly above the surrounding modern ground surface. A 2-x-2-m unit was excavated in the northwest portion of the concentration. Artifact density was low, but recovered materials included pottery sherds, flaked-lithic artifacts, ground-stone tool fragments, and nonhuman bone. No intact architecture was observed, and pre-occupational deposits were mixed with the low-density midden. Nonstructure 108 was probably created by mechanical activity from modern chaining and plowing activities. This excavation unit was completed, documented, and backfilled.

Nonstructure 109

Nonstructure 109 is a midden that measures 8-x-8 m and is located northeast of Nonstructure 108. The midden was randomly sampled with five 1-x-1-m units. Similar to the other refuse deposits at the site, this midden is shallow, averaging 12 cm deep. Artifact density was low to moderate and included pottery sherds and flaked-lithic artifacts. All excavation units were completed, documented, and backfilled.

Nonstructure 112

Nonstructure 112 is the easternmost midden, and was randomly sampled with five 1-x-1-m units. This small midden is associated with Nonstructure 129 (see discussion below), which is an electrical-resistance anomaly. This midden is similar to the other refuse deposits at the site in that the artifact density in the excavation units in Nonstructure 112 was low to moderate and included pottery sherds and flaked-lithic artifacts. All excavation units were completed, documented, and backfilled.

Nonstructure 115

One 2-x-2-m unit was placed over a geophysical anomaly detected with an electrical resistivity survey. Excavations began in 2014, and postabandonment deposits were removed. Artifact density was high and included gray ware sherds and flaked-lithic debris. Sparse deposits of small burned adobe nodules were observed in the fill but were not collected. Nonstructure 115 is a mixture of structural debris and sediment containing secondary refuse; these deposits overlie a pit feature associated with Nonstructure 129.

Nonstructure 119

Nonstructure 119 is an extramural use surface underlying the central midden (Nonstructure 105) and is also the prehistoric ground surface. It is composed of undisturbed native sediment. Four features, all pits of unknown function, were excavated into Nonstructure 119. One of the pit features contained a piece of sandstone that might have been used to support a post, but no remnants of a post were observed in the pit. Another pit feature of note may be a portion of a small semi-subterranean room or large storage pit. It is not known how much of the pit was exposed in the 1-x-1-m excavation unit ([Figure 9](#)). Although no postholes were observed,

charcoal, unburned adobe chunks, and sandstone were present in the fill of the feature, suggesting that the pit was roofed. All features were excavated, documented, and backfilled.

Nonstructure 122

Nonstructure 122 is an extramural use surface underlying the north midden (Nonstructure 109), and Nonstructure 108 (the L-shaped rock concentration). Nonstructure 122 is the prehistoric ground surface and is composed of native sediment. The upper few centimeters of this deposit might have been impacted by mechanical disturbance (chaining and plowing). Two pits of unknown function were excavated into Nonstructure 122. One of the pits below Nonstructure 108 might have been a posthole. Sandstone rocks were observed in the feature, but it is unknown whether these were used to support an upright post, or if the sandstone was deposited during the mechanical disturbance evidenced by Nonstructure 108. Both pit features were excavated, documented, and backfilled.

Nonstructure 129

Nonstructure 129 is an extramural use surface underlying Nonstructure 115, and is composed of undisturbed native sediment. A portion of a pit of unknown function had been excavated into Nonstructure 129, and the portion exposed in our 2-x-2-m excavation unit measured 1.15 m long, 1.50 m wide, and 24 cm deep ([Figure 10](#)). This pit was represented by a geophysical anomaly detected during our electrical resistivity survey and might have been a semi-subterranean pit room. The pit was filled with secondary refuse and charcoal, unburned adobe, and chunks of sandstone. The construction material may be the remains of a roof, though no postholes were observed in the portion of the feature that was exposed in our excavation unit. The bottom of the feature is composed of undisturbed native sediment. This excavation unit and feature were completed, documented, and backfilled.

Site 5MT2037

Site 5MT2037, the Pasquin site ([Figure 11](#)), is situated on the top of a north-south trending ridge. The location offers views of Mesa Verde to the southeast, the La Plata Mountains to the east, and Ute Mountain to the southwest. The site is in the southeastern portion of the Indian Camp Ranch subdivision ([Figure 2](#)). It was first recorded in 1969 by Daniel Martin as part of a University of Colorado Department of Anthropology archaeological survey. The sites—named by Crow Canyon as of 2015 as the Pasquin site, the Dry Ridge site, the Badger Den site, and Sagebrush House, and collectively referred to as the Hatch group—were initially recorded as one site in which the Pasquin site was designated Mound 3, the Dry Ridge site was Mound 2, the Badger Den site was Mound 4, and Sagebrush House was Mound 5. Crow Canyon continued the designation of the Pasquin site as Mound 3 when we re-recorded the site in 1983.

The Pasquin site (or Mound 3) was described by the individuals who conducted field work on the site with heavy machinery in 1986 as having two kivas, a roomblock with three rooms, and a plaza area (McClellan 1986). According to Woods Canyon Archaeological Consultants survey records (Honeycutt and Fetterman 1991), in February 1986, Mounds 3, 4, and 5 experienced significant mechanical activity that destroyed some structures and disturbed most of the cultural

deposits on the site. The individuals involved in the disturbance wrote a description (McClellan 1986) of the Pasquin site stating that one of the kivas was 9 ft deep, 14 ft in diameter, and contained a bench 4 ft tall, whereas the other kiva was 7 ft deep, 12 ft in diameter, and contained no bench. Additionally, the north wall of the roomblock reportedly measured 4 ft tall, and each of the three rooms measured 10 ft by 8 ft. An area referred to as a plaza by McClellan (1986) was bordered on the west by a wall 22 ft in long; a wall to the east was more deteriorated and measured 12.5 ft long and 2 ft tall. The kivas were located between these walls (McClellan 1986).

Woods Canyon Archaeological Consultants resurveyed the Pasquin site (Honeycutt and Fetterman 1991) and documented a disturbed midden deposit and one feature composed of thermally altered rocks. When Crow Canyon remapped the site in the summer of 2014, three depressions, a concentration of rubble, a midden, and a possible plaza edge were recorded ([Figure 11](#)). During the 2015 field season, our efforts focused on excavating in the midden (Nonstructure 106) and in three depressions, one of which (see “D” on [Figure 11](#)) appeared as an anomaly in the results of a geophysical survey, and two of which (see depressions labeled “K” on [Figure 11](#)) were inferred kivas.

Nonstructure 106

Sixteen 1-x-1-m excavation units were placed to investigate the midden at Pasquin. Of those 16, four midden units were excavated and fully documented, and the excavation of two other units will resume in 2016. The midden deposit at Pasquin is deeper than middens at the other three sites in the Hatch group and has a moderate-to-heavy artifact density. Pottery sherds, flaked-lithic artifacts, ground-stone tool fragments, charcoal, a projectile point, nonhuman bone, and a pendant were recovered in 2015. The four completed midden units were documented and backfilled. The two unfinished midden units were covered for the winter. The remaining midden units will be excavated in 2016.

Nonstructure 107

Our geophysical survey results for the Pasquin site as of the beginning of the 2015 field season showed no obvious anomalies ([Figure 12](#)). Two depressions in the northern portion of the site appeared to be the best candidates for the location of the two kivas recorded during survey, even though anomalies were not detected. A 28-m-long backhoe trench (Segment 1), was excavated to assess the nature of these depressions. From modern ground surface down to bedrock, we observed sediment affected by modern mechanical disturbance (Nonstructure 107). Both depressions were probably created by bulldozing that reportedly occurred in 1986. Structures might have once existed in the area tested by Segment 1, but we found no preserved structural elements there. Segment 1 was excavated, documented, and backfilled.

Nonstructure 107 consists of a mixture of postoccupational eolian silts, structural debris such as charcoal, calcium carbonate, sandstone blocks, and adobe (possibly from one or more destroyed kivas), midden sediment, and pre-occupational deposits. In the profile faces of the backhoe trench (Segment 1), the churned deposits that composed Nonstructure 107 were visible from the modern ground surface down to bedrock.

The Nonstructure 107 disturbed deposits were also identified in a series of contiguous excavation units that were placed to investigate a geophysical anomaly and a third depression south of the roomblock rubble scatter. First, a 3-x-1-m excavation unit was placed through the center of the anomaly and the depression. In this excavation unit, Nonstructure 107 extended from just below the modern ground surface down to undisturbed native sediment. To verify that these deposits were disturbed, a 2-x-1-m excavation unit was then placed contiguous and south of the 3-x-1-m excavation unit. In this unit, Nonstructure 107 was again observed from just below the modern ground surface to undisturbed native sediment. However, the southern portion of this 2-x-1-m unit contained different sediment (Nonstructure 108).

Nonstructure 108

Contiguous and to the south of the 2-x-1-m excavation unit in Nonstructure 107 discussed previously, a 5-x-1-m excavation unit was placed to investigate a feature that was inferred during survey to be a possible plaza wall and was described by McClellan (1986). The northern end of this trench contained only Nonstructure 107 (disturbance), whereas the southern two-thirds contained Nonstructure 108 beneath Nonstructure 107. Nonstructure 108 is characterized by brown and red mottled silty clay, with charcoal, some sandstone blocks, and sparse calcium carbonate. The artifact density increased at the bottom of this study unit, possibly reflecting the presence of more-intact midden deposits. Nonstructure 108 is a mixture of pre-occupational deposits, midden sediments, and some structural debris. No remains of a wall were observed.

Nonstructure 107 overlies Nonstructure 108, and is evidence of mechanical disturbance that reportedly occurred in 1986. Nonstructure 107 may be the remains of kivas and a roomblock, whereas Nonstructure 108 is probably evidence of disturbance to the modern ground surface from bulldozer treads. No intact remains of a plaza wall, the two kivas, or the roomblock were observed. The units in which Nonstructures 107 and 108 were identified were excavated, documented, and backfilled.

Site 5MT10684

Site 5MT10684, the Dry Ridge site ([Figure 13](#)), is situated on the top of a ridge in the southeastern portion of the Indian Camp Ranch subdivision ([Figure 2](#)). It was first documented in a Crow Canyon survey report of 1983 as Mound 2 of Site 5MT2037 but apparently did not experience the same degree of mechanical disturbance as Mounds 3, 4, and 5 (the Pasquin site, the Badger Den site, and Sagebrush House, respectively). In this survey, Dry Ridge was described as having a large mound that rose 1.05 m above the surrounding modern ground surface. A shallow depression was observed and documented by Woods Canyon Archaeological Consultants during their 1991 resurvey of the site, as was a midden measuring about 18 m by 14 m (Honeycutt and Fetterman 1991). In 2014, Crow Canyon remapped the site and observed the same features as those recorded in the 1991 survey. During the 2015 field season, our efforts focused on excavating and documenting a rubble mound (Nonstructure 105), a midden (Nonstructure 106), a kiva (Structure 108), and a use surface (Nonstructure 110) underlying Nonstructure 106 and into which two pit features were excavated.

Nonstructure 105

Nonstructure 105 is a large rubble mound composed of sandstone rocks and sediment ([Figure 14](#)). The mound measures 12 m long, 5 m wide, and is approximately 1 m tall. A 1-x-8-m trench was excavated through the center of the mound to assess the nature of this deposit. The sediment, a mixture of eolian silts and clays, contained inclusions of sandstone blocks, adobe, and a sparse amount of charcoal. The artifact density was moderate and included red ware, black-on-white, and corrugated sherds, as well as flaked-lithic artifacts and ground-stone tool fragments. No stacked masonry or intact architecture was observed, and excavation terminated on undisturbed native sediment ([Figure 15](#)).

The rubble composing Nonstructure 105 was probably the remains of a roomblock associated with Structure 108; it appears as though the original rubble mound was disturbed and redeposited in its current location northwest of Structure 108 through recent chaining and plowing. The unit was excavated, documented, and backfilled.

Nonstructure 106

During the 2015 field season, six of 11 1-x-1-m units were excavated into the midden deposit designated Nonstructure 106. This midden is approximately 25 cm thick and is located within the plow zone. Artifact density was greater toward the modern ground surface and decreased with increasing depth. Artifacts included red ware, black-on-white, and corrugated sherds, as well as flaked-lithic artifacts, ground-stone tool fragments, and a piece of azurite. All six units excavated in 2015 terminated on undisturbed native sediment and were documented and backfilled.

Structure 108

A geophysical anomaly was detected as a result of our electrical resistivity survey ([Figure 16](#)) in the spring of 2015. A backhoe trench (Segment 1) was excavated through the center of the anomaly; this trench was designed to determine whether the anomaly reflected a cultural or geological deposit. Upon confirming that the anomaly was cultural, we placed a 3-x-2-m unit contiguous and north of the backhoe trench, whereas a 1-x-2-m unit was laid in contiguous and south of the backhoe trench.

During the 2015 field season, postabandonment sediments, wall fall, and upper roof fall were removed from the structure. Red ware and gray ware sherds, flaked-lithic artifacts, ground-stone fragments, projectile points, and charred maize kernels were removed from this upper fill. The artifact density was moderate and did not appear to reflect secondary refuse. One pilaster and a section of bench have been revealed within the structure. The pilaster was constructed using stacked masonry, but the bench surface and bench face appear to have been carved out of undisturbed native sediment and not lined with stone. Excavations in 2015 terminated about 35 cm above the floor of Structure 108. Excavation of this structure will continue in 2016.

Nonstructure 110

An extramural use surface (Nonstructure 110) into which at least two pit features had been excavated was identified below the Nonstructure 106 midden. Nonstructure 110 is composed of undisturbed native sediment. Both pit features contained refuse from the overlying midden deposit and were documented as pits of unknown function. Neither feature was lined with stone, nor did either pit contain post remnants. The pits are adjacent to each other and thus might be associated with one another. Each feature was excavated, documented, and backfilled.

Site 5MT10686

Site 5MT10686, the Badger Den site ([Figure 17](#)), is situated south of the Pasquin site (5MT2037), and north of Sagebrush House (5MT10687). It was recorded as Mound 4 both by Crow Canyon in 1983 and by Woods Canyon Archaeological Consultants in 1991 (Honeycutt and Fetterman 1991). The 1983 survey described the site as containing a roomblock 23 m long, two kivas south of the roomblock, and an associated midden.

As described above, this site experienced significant mechanical disturbance, reportedly in February 1986. Records of those activities state that the roomblock had already been removed by plowing, but that, in 1986, a trash mound was observed, and the fill was removed from a kiva 7 ft deep and from a trash-filled pit that was 4 ft deep.

In their 1991 survey, Woods Canyon Archaeological Consultants described this site as containing a “bulldozed mound”—beneath which remnants of a roomblock survive today—a kiva depression, and a midden (Honeycutt and Fetterman 1991). In the results of Crow Canyon’s geophysical survey of the site, the roomblock does appear as an anomaly ([Figure 18](#)); however, no anomalies indicated the presence of the kiva reportedly excavated in 1986 or of a second kiva.

During the 2015 field season, a backhoe trench (Segment 1) was excavated to both assess the degree of disturbance to the site and search for a kiva. Investigations were also made into the midden (Nonstructure 106), and the roomblock (Structure 111).

Nonstructure 102

Nonstructure 102 is a mechanically disturbed deposit composed of postoccupational loess, pre-occupational native sediment, and structural debris (adobe chunks, shaped and unshaped sandstone blocks, charcoal, and calcium carbonate). This study unit was first observed and documented in Segment 1, a backhoe trench 17.1 m long. These deposits had been mechanically disturbed from the modern ground surface down to bedrock. Though structural debris—probably the remains of a kiva—were observed in these deposits, no intact structural elements were observed. Segment 1 was documented and backfilled.

Nonstructure 106

Seventeen 1-x-1-m excavation units were randomly placed to investigate the midden at the Badger Den site. Of those 17, two excavation units have been completed and documented, and

excavations have begun in an additional eight excavation units. The midden sediments are somewhat disturbed by mechanical activity. Artifact density is moderate and includes pottery sherds, flaked-lithic artifacts, ground-stone tool fragments, charcoal, and a bead. The two completed units were documented and backfilled. The eight excavation units in which work is ongoing were covered for the winter. Excavations will continue in 2016.

Structure 111

Structure 111 (a masonry room) can be detected from the modern ground surface; the structure is also visible as an anomaly in results of a geophysical survey. A 3-x-1-m unit designed to cross-section the north wall exposed extramural deposits, the wall itself, and a small area within the structure. Thus far, roofing debris in Structure 111 has been removed to reveal the primary use-surface of the room. This floor is composed of redeposited native sediment and adobe with charcoal and some calcium carbonate inclusions. Three ash-filled pits were identified on the floor, as were two pottery sherds, a jar, and one flaked-lithic artifact ([Figure 19](#)). The north wall of the structure appears to have suffered some disturbance, probably either plowing or bulldozing. However, an upright slab with two sandstone blocks stacked on top of it is probably a small section of intact wall ([Figure 20](#)). Excavations will continue in 2016, and the excavation unit has been covered for the winter.

Site 5MT10687

Site 5MT10687, Sagebrush House ([Figure 21](#)), is situated on the south end of a low ridge in the southeastern portion of the Indian Camp Ranch subdivision ([Figure 2](#)). It was recorded as Mound 5 both by Crow Canyon in 1983 and by Woods Canyon Archaeological Consultants in 1991 (Honeycutt and Fetterman 1991). Woods Canyon characterized the site as a Pueblo II habitation with a Basketmaker III component, but noted that the site had been bulldozed and vandalized in the late 1980s. The results of our electrical resistivity survey revealed remnants of one kiva; however, the roomblock and the Basketmaker deposits had apparently been destroyed by mechanical activity ([Figure 22](#)). The 2015 field season focused on excavating a midden (Nonstructure 105), an extramural use surface (Nonstructure 110), a rubble mound (Nonstructure 112), and the remnants of a kiva (Structure 113).

Nonstructure 105

During the 2015 field season, 29 1-x-1-m units were randomly placed to investigate midden deposits at Sagebrush House. Nineteen of the 29 midden units were excavated and documented in 2015. The midden has been impacted by plowing and bulldozing activities; those units closest to Structure 113 contained the highest artifact densities and deposits that were the most intact, whereas those units farther south and east had lesser artifact densities and more-disturbed deposits. Pottery sherds, flaked-lithic artifacts, charcoal, ground-stone tool fragments, and nonhuman bones were recovered from the midden units. The 19 units excavated in 2015 were documented and backfilled. Excavations in 2016 will complete the remaining 10 excavation units.

Nonstructure 110

Nonstructure 110 is an extramural use surface into which five postholes and one pit of unknown function were dug. At the beginning of the 2015 field season, a 1-x-3-m unit was placed on a possible roomblock and/or Basketmaker structure. Though no anomaly was revealed by our geophysical survey in this location, we selected this location on the basis of a concentration of sandstone rubble and notes and maps created during activities in 1986 that indicated the existence of a Basketmaker structure northeast of the kiva (McClellan 1986). Two postholes and portions of a third and fourth posthole were exposed in this 1-x-3-m unit. After these features were discovered, one 1-x-2-m unit was placed contiguous to the north of the 1-x-3-m unit, and one 1-x-2-m unit was placed contiguous to the south of the 1-x-3-m unit. These units were designed to expose any additional postholes that might extend the line of postholes to the north or south. As a result of the 1986 report of a Basketmaker structure in that vicinity, we initially hypothesized that we had found either the remains of a stockade or the bench of a Basketmaker pit structure ([Figure 23](#)).

In the 1-x-2-m unit to the south of the 1-x-3-m unit, an additional portion of one of the original four postholes was exposed, but no additional postholes were found. The surface into which this posthole had been dug showed signs of mechanical disturbance, and it is possible that additional postholes were destroyed by bulldozer activity in 1986. In the 1-x-2-m unit to the north of the 1-x-3-m unit, one complete and one partial posthole were documented, as was a pit of unknown function.

In an attempt to document additional postholes, a 2-x-2-m unit was placed contiguous and to the west of the original unit and the northern 1-x-2-m unit ([Figure 21](#)). No postholes were exposed in this 2-x-2-m unit; the undisturbed native sediment in this unit showed signs of mechanical disturbance, and thus, in this area, the use surface (Nonstructure 110) and possible additional postholes might have been destroyed by mechanical activities.

Two-liter flotation samples were taken from those pits that contained a minimum of 2 liters of fill, and pollen scrapes were taken from the bottoms of the pits. Pottery sherds and flaked-lithic artifacts were recovered from the pit features. All units and features were excavated, documented, and backfilled.

Nonstructure 112

Nonstructure 112 is a rubble mound that was inferred by Woods Canyon Archaeological Consultants as having been created by bulldozer activity. We used a 3-x-1-m unit to investigate this rubble mound, which measured about 11 m east-west by 12 m north-south, and concluded that Nonstructure 112 is the result of mechanical disturbance. Included in the mound are midden materials, structural debris—probably from the kiva and roomblock—and human remains. Per Crow Canyon's policy on the treatment of human remains, excavation ceased after five disarticulated human bones or fragments of human bone were found. A 2-in auger was used to determine the depth of the upper extent of pre-occupational deposits; this boundary was documented at depth of 10 cm beneath the bottom of the excavation unit. The shallow depth of undisturbed native sediment confirmed that Nonstructure 112 was created by bulldozer activity

and is not the remains of a structure. No preserved masonry or intact walls were observed. The excavation unit was documented and backfilled.

Structure 113

The remains of a kiva that was constructed during the Pueblo II period were discovered with the results of our electric resistivity survey (see the light-colored area in [Figure 22](#)). Stratigraphy exposed in a backhoe trench (Segment 1) confirmed that a specific anomaly detected by the survey was cultural in origin. A 2.5-x-2.0-m unit was then placed contiguous and to the south of Segment 1 to facilitate excavation of the west half of the structure ([Figure 21](#)), and about 50 cm of disturbed overburden was removed from the 2.5m-x-2-m unit by the backhoe.

All observed fill in Structure 113 had been mechanically disturbed ([Figure 24](#)) and appeared to have been pushed into a depression created, originally, by a pit structure, and more recently, by a bulldozer after the cessation of the mechanical digging of the structure. As such, distinguishing roofing and wall fall from other postabandonment sediments was difficult. Burned roofing beams, presumably from this structure, were collected for analysis. Remnants of a burned and plastered floor and bench face were observed and documented in the western one-fourth of the excavation unit and in a narrow strip along the north wall of Structure 113 in Segment 1 ([Figure 25](#)). We interpret this structure as a kiva because of its depth and its preserved masonry.

The remaining section of the floor was built upon brown silt that had been deposited by the builders in an effort to create a level floor on sloping bedrock. The bedrock surface is about 30 cm deeper toward the southern end of the kiva than in the northern end. In those sections of the structure that had no intact floor, it appears that the bulldozer had removed the floor and even scraped the underlying bedrock.

No artifacts or features were identified on the small sections of floor that were preserved and exposed. We infer that the structure's hearth and possibly other features were removed by mechanical activity. However, because the underlying bedrock was not altered by the ancestral Pueblo residents, it is probable that a hearth and other features were excavated into the silt deposit or constructed on top of the floor of the structure. Pollen scrapes were collected from the intact portions of the floor and will be sent for analysis in 2016. All excavation units were documented and backfilled.

Site Mapping and Electrical Resistivity Survey

Site Mapping

During the 2015 field season, two sites, 5MT18629 and 5MT18632, located on land owned by Galen Larson (adjacent to the Indian Camp Ranch subdivision) were mapped using a Topcon GTS-303 electronic total station surveying instrument. Maps were created for this report using AutoCAD LT and Adobe Acrobat software. We also conducted in-field artifact analysis at these sites. More than 840 artifacts were analyzed; the artifacts and architectural styles are indicative of a Pueblo I period (A.D. 750–900) occupation for Site 5MT18632 and a Pueblo II period (A.D. 900–1150) occupation for Site 5MT18629.

Electrical Resistivity Survey and Subsurface Probing

During the 2015 field season, electrical resistivity survey was conducted on five sites within Indian Camp Ranch, four of which are located on land owned by Pat and Sarah Hatch, and one of which is located on land owned by Lee Bergman, ([Figure 12](#), [Figure 16](#), [Figure 18](#), [Figure 22](#), and [Figure 26](#)). This work had two primary objectives: (1) to locate subsurface structures and activity areas, and (2) to help develop plans for future targeted excavations. The surveys summarized in this report include those for the Pasquin Site (5MT2037), the Dry Ridge site (5MT10684), the Badger Den site (5MT10686), and Sagebrush House (5MT10687). For a more detailed discussion of the geophysical work done at these sites, please refer to the electrical resistance survey report (Charles 2015).

To generate comparable data across the Basketmaker Communities Project study area, remote-sensing surveys were conducted in standard grids measuring 20-x-20 m. These remote-sensing blocks were laid out on a generally north-south axis. Anomalies that, on the basis of preliminary data, seemed most likely to indicate the presence of buried structures were probed with a 2-inch-diameter soil auger. The characteristics of cultural deposits were documented, and the depth of the reddish loess that forms undisturbed native sediment was recorded.

Remote sensing has been invaluable to our research during the Basketmaker Communities Project. Even on pristine sites, Basketmaker III structures are difficult to detect and interpret from indications on the modern ground surface. Sites in disturbed settings such as cultivated fields can be nearly impossible to decipher. With the aid of remote-sensing technology, researchers are collecting site-size and site-layout information on Basketmaker sites that are comparable to that obtained through pedestrian survey of later ancestral Pueblo sites. In addition, it has been demonstrated that multiple methods of remote sensing lead to more accurate interpretations.

Site 5MT2037

Four 20-x-20-m grids were surveyed for electrical resistivity at the Pasquin site. None of the anomalies appears to represent cultural features ([Figure 12](#)). Many of the darker anomalies seen in [Figure 12](#) represent prairie dog burrows or ant hills; however, the darker anomaly in the center of the four grids coincides with a depression observed on the modern ground surface. Construction fill was observed when the depression was probed with our 2-inch soil auger. This anomaly was selected for subsurface testing and is discussed in this report (Nonstructure 107).

Site 5MT10684

At the Dry Ridge site, we surveyed three 20-x-20-m grids for electrical resistivity. An anomaly is present in the northeastern grid ([Figure 16](#)). Construction fill was revealed by probing with a 2-inch soil auger. This anomaly was selected for subsurface testing and is discussed in this report (Structure 108).

Site 5MT10685

Five 20-x-20-m grids were surveyed for electrical resistivity at Site 5MT10685. None of the anomalies appears to represent cultural features. The area of higher resistance recorded toward the northern area of the survey area ([Figure 26](#)) was probed with a 2-inch soil auger, but no cultural material was observed. The higher resistance might have resulted from abundant prairie dog activity in that location.

Site 5MT10686

At the Badger Den site, two 20-x-20-m grids were surveyed for electrical resistivity; none of the anomalies appears to represent cultural features. However, an area of high resistance corresponds to a rubble scatter observed on the modern ground surface that is probably the remains of a roomblock ([Figure 18](#)). This anomaly was selected for subsurface testing and is discussed in this report (Structure 111).

Site 5MT10687

Four 20-x-20-m grids were surveyed in 2014 (Charles 2014); this work guided the placement of our excavation units during the 2015 field season. Excavations at Site 5MT10687 (Sagebrush House) are summarized and discussed in this report.

Additional Electrical Resistivity Surveys

Eight 20-x-20-m grids oriented north-south along the eastern ridge of sites 5MT10684, 5MT2037, 5MT10686, and 5MT10687 ([Figure 16](#), [Figure 12](#), [Figure 18](#), and [Figure 23](#), respectively) were also tested for electrical resistance. This work was conducted with the same objectives as our other electrical resistivity surveys: (1) to locate subsurface structures and activity areas not obvious on the modern ground surface, and (2) to aid in the development of plans for future targeted excavations. Unfortunately, none of the detected anomalies appears to represent cultural features. See Charles (2015) for a detailed report of this survey.

Plant and Artifact Analyses

Pollen Analysis

Eighty-three 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 analyzed by Susan Smith. During the 2015 season, Smith analyzed 32 samples from the Dillard site (5MT10647) and five samples from the Switchback site (5MT2032). Smith completed two reports in 2015 (2015a, 2015b)—one summarizes all 68 samples analyzed to date from the Dillard site and one summarizes the five samples from the Switchback site. Results from both the Dillard site and the Switchback site include a moderate representation of maize and indicate a moderate use of native resources. The following is a summary of Smith's findings.

Site 5MT10647

The 2015 pollen results from the Dillard site (5MT10647) document a variety of native plant resources that might have contributed to subsistence. Maize and squash are the only definitive cultigens identified. Maize is represented at relatively low levels; however, it is represented more heavily in one pit structure—Structure 220. This pattern may be evidence of specialized use of this structure for processing and for storage of harvests. A floor sample from Structure 508 yielded the only squash pollen from the site. The samples from this structure also have a high maize count, suggesting that this structure was a locus for harvest processing or storage for both maize and squash.

The presence of several pollen types may reflect the former existence of local wetland or riparian environments where none exists today. The wetland indicators include birch (three samples), cattail (four samples), and possibly carrot family (more than 10 samples). Buffaloberry, identified in four samples, is another possible wetland plant, because one native species (*Shepherdia argentea*) is restricted to stream banks or moist meadow soils. If the inference of local wetland is correct, then climatic conditions must have been wetter at approximately A.D. 700 than they are today.

Twenty-two of the 68 samples analyzed were collected from Structure 102 (great kiva). The palynological results from this structure are characterized by a greater variety of plant resources, including cattail, large grass, beeweed, carrot family, and mustard family. The samples from this structure also contained the highest project expression of Chenopodiaceae. The pollen diversity captured in samples from the great kiva suggests a broader spectrum of subsistence resources and/or different cultural activities inside the great kiva than in other sampled contexts.

Twenty-one of the 68 samples analyzed were collected from structures in Blocks 300 and 500, which are north of the great kiva. Pollen from the carrot family and cholla occur more frequently in Block 300 than in the great kiva and Block 200. Cacti may have been used as a food resource. Cacti pollen is present in three of the seven samples collected from roof fall in the project area, including samples from Structure 313. This presence suggests the storage or drying of cacti on roofs.

Twenty-five of the 68 samples analyzed were collected from Block 200, which is south of the great kiva. In general, there is less evidence of economic pollen taxa in this block than in Block 300 and in the great kiva, even though maize was documented in Block 200. The presence of maize pollen in roof samples from Structures 220 and 228 suggests that maize was stored on the roofs or hung from the interior roof beams of these structures.

Site 5MT2032

The palynological results for the Switchback site (5MT2032) are similar to those for the Dillard site, with maize identified as a cultigen in four of five samples. Other possible economic plants identified include beeweed and carrot family, and possibly grasses, chenopodiaceae, juniper, and sagebrush. Samples from Structure 113 yielded a greater abundance of grass pollen than did

samples from Structure 110, which suggests a grass-thatch roof or the harvesting and processing of grass grains for food in Structure 113.

Macrobotanical Analyses

In 2015, analysis of macrobotanical samples from the Dillard site (5MT10647) and the Switchback site (5MT2032) was conducted by Karen Adams and Anna Graham. Graham analyzed 60 flotation samples from the Dillard site and 14 samples from the Switchback site. Additional flotation samples from five contexts—four at the Dillard site and one at the Switchback site—were sorted for radiocarbon specimens. A total of 135 macrobotanical samples were examined for all charred non-wood specimens. Graham identified one-half of a *Phaseolus vulgaris* bean in a sample from a pit feature in Structure 110 at the Switchback site. This bean is the first recorded of that taxon for the Basketmaker Communities Project.

Basketry Analysis

In 2015, a fragment of a carbonized coiled basket was found on the floor of a pit structure at Site 5MT10709 (no name assigned). This basketry was analyzed by Laurie Webster (Webster 2015), who identified the fragment as a portion of a close-coiled basket with non-interlocking stitches and a two-rod-and-bundle bunched foundation. The basket stitches and rods were made of sumac and the bundle is yucca fiber. This type of basket construction was common in the northern Southwest during the Basketmaker and Pueblo periods, although examples are sparse because of poor preservation (Webster 2015).

Obsidian Analysis

Six obsidian artifacts—five from the Dillard site (5MT10647) and one from the Switchback site (5MT2032)—were analyzed for elemental concentrations through energy-dispersive X-ray fluorescence by Steve Shackley (2015). 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: El Rechuelos in the Jemez Mountains as well as Horace/La Jara Mesa and Grants Ridge sources at Mount Taylor. These results are similar to those of earlier studies of obsidian artifacts for the Basketmaker Communities Project (Shackley 2013, 2014).

Artifact Analysis

In-house artifact cataloging and analysis for the Basketmaker Communities Project is ongoing. More than 26,000 flaked-lithic artifacts and 23,300 pottery sherds have been analyzed for the Basketmaker Communities Project thus far, and 1,300 flotation samples have been processed. Of the 26,000 pieces of chipped stone, 9,300 pieces were analyzed in 2015, and 600 of these artifacts were collected from sites in the Hatch group (Sagebrush House, the Pasquin site, the Badger Den site, and the Dry Ridge site). Of the 23,300 pottery sherds analyzed, 15,000 sherds were analyzed in 2015, and 3,400 of these sherds were collected from sites in the Hatch group. Of the 1,300 flotation samples processed, 40 were collected from sites in the Hatch group.

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 that can yield absolute dates from habitation and ancillary structures. Three methods are being applied: dendrochronology, radiocarbon accelerator mass spectrometry, and archaeomagnetic dating. Fifty-nine dendrochronological samples were submitted to the Laboratory of Tree-Ring Research at the University of Arizona in the fall of 2014, and 28 samples were submitted in the spring of 2015. Dating results are not available as of November 2015. The results of radiocarbon and archaeomagnetic dating are discussed below. [Table 2](#) provides all radiocarbon accelerator mass spectrometry dates, and [Table 3](#) presents archaeomagnetic dates received as of October 2015; however, only those dates received during the 2015 field season will be discussed in this report.

Radiocarbon Accelerator Mass Spectrometry Dating

Twenty-two radiocarbon accelerator mass spectrometry (AMS) samples were analyzed for the Basketmaker Communities Project in 2015. All samples were processed by Darden Hood of Beta Analytic, and the results were reported in a two-sigma, 95-percent probability range.

Nineteen radiocarbon samples were recovered from the Dillard site (5MT10647), two were recovered from the TJ Smith site (5MT10736), and one was recovered from the Shepherd site (5MT3875). The resulting dates indicate that the Dillard site was occupied from the late A.D. 500s through the 600s, that the TJ Smith site was occupied from the A.D. 500s through the 700s, and that the Shepherd site was occupied from the A.D. 1000s through the 1200s ([Table 2](#)).

Archaeomagnetic Dating

Five archaeomagnetic samples were analyzed from hearth or burned-floor contexts during the 2015 field season. Four of these samples are from the Dillard site (5MT10647), whereas the fifth sample was collected from the Switchback site (5MT2032). These samples were analyzed by the Archaeomagnetic Laboratory at the Illinois State Museum (Lengyel 2015). At the Dillard site, three samples were collected from hearth collars in Structures 220, 311, and 312, whereas one sample was taken from a firepit (Feature 2) excavated into the surface of Nonstructure 227. At the Switchback site, one sample was collected from the hearth in Structure 110. The Archaeomagnetic Laboratory reported that the sampled features at the Dillard site predate the sampled feature at the Switchback site, and that there are a minimum of two temporal groups within the Dillard site dataset ([Table 3](#)).

Human Remains

Isolated human remains, defined as fewer than five disarticulated elements (Crow Canyon Archaeological Center 2001), were found in 22 excavation units at the four sites in the Hatch group during the 2015 season ([Table 4](#)). All isolated remains were analyzed in the field by bioarchaeologist Kathy Mowrer. [Table 4](#) provides information on the site designation, element identification and characteristics, and age of the human remains found in 2015. Following

analysis, in accordance with Crow Canyon's Policy on the Treatment of Human Remains and Associated Funerary Artifacts (Crow Canyon Archaeological Center 2001), all remains were reburied in the locations in which they were found.

Curation

The Crow Canyon Archaeological Center has an executed agreement with the Anasazi Heritage Center for the curation of collected materials and associated documentation. The Anasazi Heritage Center will curate all materials generated from the Basketmaker Communities Project generated during the 2011–2016 field seasons.

Summary and Work Plan for 2016

The goals of the fifth year of the Basketmaker Communities Project were to complete all excavations at Sites 5MT10709 (no name assigned) and 5MT3875 (the Shepherd site) and to initiate field testing at the four sites in the Hatch group (5MT10687, 5MT10686, 5MT2037, and 5MT10684). We utilized several methods in our investigations including surface documentation, geophysical survey, targeted soil probes, and excavation. Several analyses were completed, and the resulting data have provided us with a greater understanding of the ancestral Pueblo community that inhabited the landscape of Indian Camp Ranch. The Basketmaker Communities Project continues to shed light on the nature of community formation and change through time, the identities of the first farmers in the central Mesa Verde region, how growing Pueblo populations impacted environmental resources through time, and resource sustainability.

Crow Canyon researchers will continue to conduct remote-sensing surveys and excavations across Indian Camp Ranch in 2016 as part of the Basketmaker Communities Project. We will continue excavations on the multicomponent sites in the Hatch group that contain deposits dating from the Basketmaker III and Pueblo II periods. As noted above, remote-sensing surveys have been completed for those sites. Several special analyses are planned for 2016. Pollen samples, faunal remains, archaeomagnetic samples, accelerator mass spectrometry samples, petrographic thin-sections, and obsidian samples have been selected and will be submitted to specialists for analyses.

Two research designs (Ortman et al. 2011; Ryan and Diederichs 2014) will guide field and laboratory work during the 2016 field season. These documents contain contracts executed between Crow Canyon and the Indian Camp Ranch Homeowners Association, Pat and Sarah Hatch, Galen Larson, and the Anasazi Heritage Center. The 2016 field season of the Basketmaker Communities Project will be funded, in part, by a History Colorado State Historical Fund grant (#2016-01-005) and an Earthwatch Institute grant. Crow Canyon is grateful for these continued partnerships.

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