Goodman Point Community Testing: 2009 Annual Report, Montezuma County, Colorado

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Report of 2009 Goodman Point Community Testing, Montezuma County, Colorado

In March 2009, the Crow Canyon Archaeological Center conducted the second year of Phase II of the Goodman Point Archaeological Project: Community Center and Cultural Landscape Study (Kuckelman et al. 2004). Phase I of the study, titled "Goodman Point Pueblo Excavations," was conducted from 2005 through 2008; it involved test excavations at Goodman Point Pueblo (Site 5MT604), the large village that served as the focal point of a large community in the late A.D. 1200s (Coffey and Kuckelman 2006; Kuckelman and Coffey 2007; Kuckelman et al. 2009). Phase II of the project, titled "Goodman Point Community Testing," involves test excavations at multiple smaller sites surrounding the large village, including a variety of habitation sites, an ancient road, and areas that might have been agricultural fields.

Introduction

The 12 sites tested in 2009 are located in the Goodman Point Unit of Hovenweep National Monument, a 142-acre parcel reserved from homesteading in 1889. This parcel is managed by Hovenweep National Monument and is part of the Southeast Utah Group of the National Park Service (SEUG-NPS). All of Crow Canyon's work in the Goodman Point Unit is being conducted in partnership with the NPS (see ARPA permit number 05-HOVE-01-ext1 for details of the agreement).

The Goodman Point Unit is located in the central Mesa Verde region (Lipe 1995; Varien 2000; Varien and Wilshusen 2002), which is the most densely settled portion of the northern San Juan archeological region (Figure 1). Goodman Point Pueblo, the focus of the first three years of work, and the smaller sites investigated through 2009 are also within the Sand Canyon locality where Crow Canyon has worked for more than 20 years (Lipe 1992; Varien and Wilshusen 2002).

The current phase of the project will test at least 15 habitation and special-use sites within the Unit (Kuckelman et al. 2004). Data gathered through this effort will complement information gained through the first phase of the project and will also help produce a more comprehensive occupational history of this large and important ancient community. Testing of the selected sites will also provide data important to understanding the social and environmental adaptations that led to the construction and abandonment of Goodman Point Pueblo.

History of the Unit

The larger "Goodman Point" landform is named after a foreman of the Lacy-Coleman Cattle Company, Henry Goodman, who drove cattle through the Cortez area in the late 1800s but never settled there. The Goodman Point Unit contains some of the first archaeological resources set aside for protection by the federal government. In 1889, Section 4, Township 36 North, Range 17 West, which contains the Goodman Point Unit, was reserved from homesteading. This action was the result of a recommendation by W. D. Harlan, a U.S. Surveyor General from Denver, Colorado. In 1951, President Harry Truman reduced the size of the protected area to 62 acres within the section and designated this area as part of Hovenweep National Monument. An additional proclamation in 1952 added additional acreage to compose the present Unit, now managed by SEUG-NPS. Because the Unit has been protected since 1889, many sites on the parcel are in pristine condition (Connolly 1992).

Despite its obvious research potential, no systematic testing had been conducted within the Unit prior to the initiation of Crow Canyon's work in 2005. During the past 50 years, NPS archaeologists have visited the Unit to monitor its condition, but research has been largely limited to surface collections at Goodman Point Pueblo, including collections by Pinkley in 1951, by McLellan and Hallisey in 1967, and by an unnamed individual in 1969 (Kuckelman et al. 2004).

Archaeologists from Crow Canyon conducted noncollection pottery tallies at Goodman Point Pueblo in 1986. The results of these tallies, combined with the results of an analysis of sherds gathered during previous NPS collections, indicate that there was a limited occupation of the site during the Pueblo II period and a major occupation during the Pueblo III period (Adler 1986). One of the main goals of our research is to refine the chronology of other sites within the Unit and to place them in a local and regional context.

As part of a larger survey of the Sand Canyon locality (Adler 1988, 1990, 1992), Crow Canyon archaeologists mapped Goodman Point Pueblo in 1987 using a plane table and alidade. In the same year, they conducted a pedestrian survey of the Goodman Point Unit. This survey focused on residential sites dating from the Pueblo II and III periods, and 17 such sites were recorded as part of this effort. Most of these sites will be tested as part of the current phase of the project.

In 2003, Crow Canyon and the SEUG-NPS conducted a detailed pedestrian survey of the entire 142 acres of the Goodman Point Unit and recorded a total of 42 sites with 56 temporal components (Hovezak et al. 2004). The site density recorded is thus one site per 3.4 acres, or 189 sites per square mile, which is one of the highest recorded densities in the northern San Juan region. The 56 temporal components identified during the survey include four that date from the Basketmaker III period, 15 that are of Pueblo II affiliation, and 23 Pueblo III components (Kuckelman et al. 2004).

From 2005 to 2007, Crow Canyon Archaeological Center compiled a total station map of Goodman Point Pueblo and conducted test excavations at that site (Coffey and Kuckelman 2006; Kuckelman and Coffey 2007; Kuckelman et al. 2009). Testing of Goodman Point Pueblo was completed in 2008 and an interim descriptive report is available online (Kuckelman et al. 2009). Work on Phase II of the project began in 2008 and continued into 2009, and that fieldwork is the subject of this report.

Research Goals and Strategies

The goals of our research in the Goodman Point Unit reflect our multi-faceted approach to historical, anthropological, and methodological issues, as well as our commitment to Native American interests. The following outline provides an overview of some of the broader questions we are addressing; a more detailed discussion of the research goals and objectives can be found in the research design created specifically for this project (Kuckelman et al. 2004).

Historical research goals we are pursuing include assessing the occupational history of the Unit and determining how, when, and why it was depopulated. Anthropological research objectives include examining the settlement ecology of Pueblo farmers in the Mesa Verde region and analyzing how aggregation affects the internal and external organization of communities. Research goals designed to provide information important to Native American interests include assessing the appropriate methods for studying the relationships between archaeological cultures and modern groups as well as examining the processes that led to migration from the Mesa Verde region. Lastly, methodological research goals include large-scale goals, such as continuing efforts to produce finegrained chronologies, and more specific goals, such as the use of petrographic analysis to produce detailed models of intercommunity exchange.

To achieve these ends, Crow Canyon Archaeological Center incorporates field methods and procedures that stress a conservation approach. The specific methods we use in the field can be found in the Crow Canyon Archaeological Center Field Manual (2001). These practices are guided by the principles of conservation archaeology as outlined by Lipe (1974); namely, that most of the deposits on the site will be left intact for future use. Following from this philosophy, the only artifacts on the modern ground surface collected were those within excavation units, and other artifacts on the modern ground surface were left in place.

We use testing strategies that aim to both address our research goals and follow the ethos of conservation archeology. The size of excavation units used in each context is intended to expose only portions of individual structures or nonstructures—like middens. These excavation units are then carefully placed to glean the maximum amount of data from this minimal impact.

The nature of the remains being investigated and the type of information desired from specific contexts also guide the size and placement of test units. To facilitate comparisons between different architectural blocks, statistically comparable data from midden contexts is desirable. Therefore, randomly selected 1-x-1-m test units are placed in areas that appear, from modern ground surface, to possess midden deposits. Additional 1-x-1-m tests units are sometimes placed judgmentally to investigate features or other anomalies present in adjacent units.

Larger units are placed judgmentally in structures and architectural features to collect specific data relevant to the research objectives. In kivas, we locate 2-x-2-m units in the southern portion of observable kiva depressions so that we can expose and document architectural features typically found in the southern part of a kiva, e.g., pilasters, southern recess, ventilator tunnel, and deflector, and sample the contents of the hearth. By placing excavation units in these locations, we hope to collect data relevant to site architectural patterns, subsistence, kiva-related activities and abandonment treatments.

Kiva depressions were also systematically probed at each site prior to allocating excavation units. Probing was done with a 1-inch soil probe and individual sediment columns were analyzed and documented by site and depression. Each sample was examined for the presence of charcoal, charred wood, burned sediment, or burned adobe which might indicate significant structural burning in the kiva. Once probing was completed for the entire site, kiva depressions with the best evidence for structural burning were often given priority for testing. Not all kivas with possible evidence of burning were tested (only 10 kiva 2-x-2-m units for this phase of the project are currently defined in the research design), and overall, few structures with possible evidence of burning were documented.

Targeting burned structures for excavation could admittedly skew data collected, but obtaining tree-ring samples for dating purposes will potentially provide a highly precise means of dating particular structures, architectural blocks, and sites. These data will also probably be important for interpreting portions of the site for which no direct chronometric data are available, e.g., unburned kivas and dismantled roomblocks. In addition, even though burned kivas were given priority for testing, some kivas which produced charcoal and some evidence of burning proved not to be significantly burned upon excavation. These structures will provide data from unburned kivas despite intentionally targeting burned structures for testing.

Surface structure, room block north wall, and enclosing wall units are also placed judgmentally. These 1-x-2-m test units are used to expose a variety of architectural elements and cultural deposits. The primary purpose of north wall and enclosing wall units is to document architectural styles and patterns as well as possible occupational sequences; surface structure test units also yield important information concerning structure use and abandonment practices.

A slight strategic difference between the first three years of testing at Goodman Point Pueblo and the current phase of the project is the excavation of some north wall units to uncover a surface or floor in the interior of structures. This is done to verify that some poorly preserved wall segments exposed are in fact 'room' north walls as opposed to some other type of extramural wall—such as an enclosing or retaining wall. The decision to excavate individual north wall units to a floor is based on the preservation, architectural content, and context of each excavation unit; we do not expand north-wall units when the portion of the wall exposed is sufficient to determine that it is part of a room or other surface structure. The poorer state of preservation of walls at some sites tested during this phase of the project, compared with walls exposed at Goodman Point Pueblo, is the reason for this modification in strategy.

We use 1-x-3-m units to test architectural spaces in and around the great kiva. These 1-x-3-m test units are situated in order to provide information about the architectural style, date, construction, and use of this large and complex structure. So far, 10 of these units have been placed in the great kiva depression and in parts of the large berm surrounding the structure. These longer units should also expose continuous stratigraphic data crucial for interpreting a structure of this size.

In 2008, we began test excavations in a portion of an ancient road near the Harlan Great Kiva site, called the Goodman Point Belt Loop Road. One 4-x-.5-m test unit and one 2-x-1-m test unit were placed to examine the stratigraphy and artifact assemblage present in the downhill berm portion of the road. Though still in progress, these units will hopefully produce data concerning the construction style and age of this important landscape feature. Crow Canyon staff members Jonathan Till and Jamie Merewether have supervised all of the work related to road testing so far.

Finally, at one small habitation site, Bluebird House, we used a stratified randomsampling strategy that was first employed by Crow Canyon during the Site Testing Program, which was part of the larger Sand Canyon Archaeological Project (Varien and Kuckelman 1999). Specifically, seven sampling strata (roomblock, kiva, courtyard, midden, inner periphery, north outer periphery, and south outer periphery) corresponding to different areas of the site were defined, and 24 randomly selected 1-x-1-m units were excavated. Different sampling strata received different proportions of this overall total, and one judgemental 1-x-1-m unit was also excavated in the roomblock area. Our goal in employing a random-sampling strategy is to produce data that are directly comparable to the data generated for 13 habitation sites tested during the Site Testing Program (Kuckelman 2004). This approach should provide data useful in calculating artifactaccumulation rates, which in turn will help us address questions pertaining to the length and continuity of occupation at this site (see Varien and Kuckelman 1999).

All cultural materials and records from the Goodman Point Archaeological Project will be temporarily housed at the research laboratory until analysis and report preparation is completed. Then the artifacts and records will be transferred to the Anasazi Heritage Center near Dolores, Colorado, for permanent curation.

2009 Goodman Point Community Testing

The 2009 field season began on March 3, when field staff began mapping sites and probing kiva depressions for evidence of structural burning. Crow Canyon staff supervised participant excavations at the tested sites from April 28 until October 2, and all sites were winterized and closed for the season by November 20.

Mapping

The first task of the field season was to produce accurate maps of the sites to be tested, which is essential for selecting and setting in excavation units. We mapped each site using a Topcon GT-303 electronic total station surveying instrument and AutoCAD software. The maps produced provide an accurate visual model that we use to delineate and number architectural blocks, associated midden areas, and sampling units. Architectural blocks, as defined at Crow Canyon, are roomblocks, associated kivas, middens and extramural areas. Following a convention used for Goodman Point Pueblo, sites with multiple roomblocks were numbered from north to south.

Using numerous instrument-established datums, we mapped kiva depressions, observable wall segments, features, rubble concentrations, and the extent of roomblock rubble for each site. Excavation units were also set in using the total station.

Excavation

<u>Table 1</u> summarizes, by site and architectural block, the excavation units opened in 2008 and 2009. The table also specifies which units were completed and which will be continued in 2010. As of November 2009, 178 test pits have been started and 144 were completed.

At the close of the field season, units of significant depth that were still in progress were protected with a plywood cover and sealed with plastic sheeting. These measures were taken as safety precautions and to protect the units from damage over the winter. Each completed unit was fully documented and backfilled. A layer of moisture and vapor permeable landscaping fabric was placed against all standing architectural surfaces before backfilling. Great care was taken to place rocks gently against exposed architecture, and to fill each unit with rocks and sediment removed from that unit. The fill was tamped to reduce settling, and the top of the fill was returned as much as possible to the original appearance of the unit at modern ground surface.

In the following text, 2009 excavations are summarized by site. The quantity and location of excavation units set in during the season reflects expanded testing within the Goodman Point Unit. In the final field season, we will shift the focus of our investigations to additional areas in the unit and will focus on habitation and other special-use sites.

Rain Ridge

This site is located in the northern part of the Goodman Point Unit. Shields Pueblo, investigated by Crow Canyon from 1997 through 2000, is nearby, and it seems likely that parts of Rain Ridge and parts of Shields Pueblo were occupied simultaneously. The site appears to have four roomblocks, five kiva depressions, and four midden areas (Figure 2). Thick sage and pinyon trees cover the gentle south-trending ridge on which the site is situated, and some looting is evident in the midden areas at the site.

We started and finished 19 excavation units at the site in 2009. Included in this total were two surface structure units, two roomblock north wall units, and 15 midden units. The surface remains at the site can be divided into two parts for analytical purposes: a northern section comprised of Blocks 100 and 200, and a southern section comprised of Blocks 300 and 400.

In the northern section, five units were excavated in the Block 100 midden, and one surface structure and four midden units were excavated in Block 200. Artifact data from both midden areas suggest a primary occupation of these blocks during the early-to-mid Pueblo III period, with McElmo and Mesa Verde black-on-white pottery dominating the decorated pottery assemblage. Excavation in the surface structure in Block 200 revealed double-stone masonry which would likely reinforce a Pueblo III construction and use of that roomblock.

Two roomblock north wall units, one surface structure unit and six midden units were excavated in the southern part of the site. Preliminary observations of the pottery recovered from the Block 300 and Block 400 middens also suggest an early-to-middle Pueblo III occupation of this part of the site, with perhaps a slightly earlier Pueblo II component evident in the Block 400 area. The random placement of one midden unit immediately south of the Block 400 kiva also exposed part of a masonry-lined vent shaft that likely serviced a kiva immediately to the north—Structure 405.

Both north wall units excavated in Block 300 uncovered the remains of extensively dismantled double-coursed walls, and in both cases only the bottom one or two courses of the wall was found under approximately 20 to 40 cm of post-occupational fill. The paucity of construction stone and other fill overlying the wall bases would seem to argue for extensive reuse of the materials used to build the respective roomblocks. In Block 400, only the south, interior face of a roomblock north wall was exposed in the surface structure unit excavated there, but this room also appears to show evidence of dismantling (Figure 3). The floor surface rested under approximately 43 cm of post-occupational fill, and only approximately .35 m³ of stone was removed from the room interior above the floor surface. More fill and construction stone would probably be expected if the roomblock masonry continued to full single-story height.

At present there are no plans to test this site further. From the work completed in 2009, however, it seems the site was occupied extensively during the Pueblo III period and was likely part of the larger A.D. 1150–1250 Shields Pueblo community. At some point in the past, the stones and materials used to build the surface structures at Rain Ridge were extensively salvaged and used to build other structures—potentially structures at the nearby village site of Goodman Point Pueblo.

Thunder Knoll

This site is also located in the northern part of the Goodman Point Unit near Rain Ridge. As at Rain Ridge, it seems likely that parts of Thunder Knoll and parts of Shields Pueblo were built and occupied during the Pueblo III period. The site has at least five discrete roomblocks, six kiva depressions, and four midden areas (<u>Figure 4</u>). Thick sage covers the south-trending ridge on which the site is situated, and some historic looting is evident in the midden areas.

We began testing this site in the last two weeks of the 2008 field season, and we continued through 2009. The five units started in the southern part of the site in 2008 were all finished in 2009, and all but one of the other 16 units set in at the site were also finished. Only the single kiva unit at the site is currently in progress and it will be finished next year.

One roomblock north wall and four midden units were excavated in Block 100. Excavation in the midden area revealed approximately 20 to 60 cm of cultural deposits which appear to contain primarily late Pueblo II and Pueblo III decorated pottery. The north wall unit uncovered parts of two double-coursed masonry walls which were covered by approximately 20–25 cm of post-occupational fill and sandstone debris. The roomblock north wall, the only wall to be fully exposed down to sterile sediment, displayed the basal course, and it was two courses high at its highest. Approximately .13 m³ of stone was removed from the unit, again likely suggesting extensive reuse of building stone after the structure was abandoned.

In Block 200, one roomblock north wall, one surface structure, and four midden units were excavated. The roomblock north wall unit revealed the presence of a double-coursed masonry wall resting under approximately 26 cm of post-occupational fill. A maximum of two horizontal courses of the wall remained intact, and approximately .1 m³ of rubble fill was removed from either side of the wall. The surface structure excavated along the north wall of a possible tower did not expose a tower, but rather two compacted use surfaces and a poorly preserved masonry foundation. It appears that at least two structures were built in this location, and that the latest masonry structure was almost completely dismantled after abandonment.

The midden units excavated in Block 200 contained some of the deepest refuse deposits found so far. Two of the four units displayed ashy, cultural refuse 80–90 cm in depth, and they also contained a relatively wide range of pottery types. Though McElmo Black-on-white appears most prevalent in the painted pottery assemblage, other types, including Mancos Black-on-white and some red ware pottery were also recovered. Varying amounts of disturbance were also noted in the midden, with some portions of the area heavily impacted by looting.

The only unit excavated in Block 300 was a kiva unit. Though still in progress, this unit is approximately 2 m in depth and displays little evidence of structural burning. The upper fill of the structure does contain a moderate number of sherds and flakes, although the density of artifacts and the nature of the fill do not suggest the collapsed structure was used extensively for residential refuse disposal after abandonment. Detailed analysis of this structure will have to wait until the floor and associated features are uncovered next year.

Block 400 in the south-central part of the site was tested using one roomblock north wall and four midden units. The midden units excavated here were relatively shallow compared to those in Block 200, but several large, burned slabs were exposed as was a relatively large amount of burned adobe. These observations may suggest the removal or remodel of an earlier structure subsequently replaced by visible Block 400 architecture. Temporally diagnostic artifacts collected from the midden include McElmo Black-onwhite sherds, as well as a variety of other types of secondary refuse.

The architecture uncovered in the roomblock north wall unit of Block 400 might reinforce a McElmo phase or early-to-middle Pueblo III use of this block. Excavations here exposed a double-coursed masonry wall base covered by about 20 cm of post-occupational fill, and the portion of the wall exposed ranged from one course to three courses high. In all, .11 m³ of sandstone debris was removed from the unit. Fitting a pattern observed at this site and at Rain Ridge, it seems that the surface architecture was likely almost completely dismantled upon abandonment, and those materials were then used to build later structures in the area.

One roomblock north wall and three midden units were used to test Block 500. Cultural deposits in the midden area were again shallower than those observed in Block 200, and Pueblo II and Pueblo III decorated sherds were present in the assemblage. The roomblock north wall unit revealed the presence of a curving wall base, one to two stones in height, angling from north to south with a semi-rounded corner on the northwest (Figure 5). Only .14 m³ of sandstone rubble was removed from either side of the wall even though approximately 2.13 m of wall length was exposed. It seems likely this wall segment was part of a D-shaped surface structure of some kind that was almost completely dismantled after use.

Currently there are no plans for additional testing at Thunder Knoll, but an interesting picture is beginning to emerge from our excavations. All of the roomblock north wall units excavated at the site appear to show evidence of room dismantling after they were abandoned. One surface structure at the site displays at least two use surfaces separated by secondary refuse, and the midden area of Block 400 contains a high density of burned adobe and large slabs. At this point, it seems that the site was occupied extensively during the Pueblo III period (perhaps with earlier structures being removed or remodeled), and then the building materials from these structures were subsequently recycled on a large scale. Given the proximity to Shields Pueblo, and artifact and architectural similarities to that site, it seems likely that most of the Thunder Knoll site was built and occupied by people participating in the larger Shields community during the A.D. 1150–1250 period. It is also likely an earlier component will be recognized when the collected artifacts are analyzed.

Lightning Terrace

This site is also located in the northern part of the Goodman Point Unit, near Thunder Knoll and Rain Ridge. Like at Rain Ridge and Thunder Knoll, it seems that part of Lightning Terrace and parts of Shields Pueblo were built and occupied at the same time—sometime in the Pueblo III period. The site has at least three discrete roomblocks, four kiva depressions, and one large midden area (Figure 6). Sage covers the ridge on which the site is situated, and grass and three amorphous rubble concentrations complicate surface interpretations of the site.

We completed eight excavation units at this site in 2009. In all, three surface structures and five midden units were excavated at the three architectural blocks defined at the site.

Only one surface structure was tested in Block 100. In this unit, parts of the north, east, and south walls of a room, Structure 102, were uncovered (Figure 7). Differing from the walls exposed at Thunder Knoll, six to seven courses of small, shaped stones were still intact leaving a standing wall 22–43 cm in height. A total of .18 m³ of sandstone rubble was removed from the room interior, and all exposed walls appeared to be double-coursed masonry.

In Block 200, one surface structure unit and five midden units were excavated. Midden deposits were relatively shallow overall, and preliminary observations suggest the primary decorated pottery type in the assemblage is McElmo Black-on-white, although some potentially earlier and later sherds were also collected. The surface structure unit excavated in this block was very similar to that recorded in Block 100, with two walls exposed which displayed a preserved height of 39–49 cm. At least one of the walls is double-coursed masonry, and .4 m³ of rubble was removed from the entire unit.

One surface structure was excavated in Block 300. This unit uncovered a complex stratigraphic and structural profile that suggests the presence of at least two structures, one a subterranean room or pitstructure and the other a masonry structure built on top of the earlier earthen-walled structure. Above both of these structures, another surface associated with two possible postholes was exposed that may represent yet another episode of building in that location. Detailed artifact analysis will have to precede accurate estimates of the temporal relationships between the structures, but some McElmo Black-on-white sherds found very near the lowest surface may suggest intensive remodeling of this area, and perhaps the site, during the Pueblo III period.

No additional testing is scheduled for Lightning Terrace at present, but this site provides an interesting comparison for the sites nearby. The artifact and architectural data gathered from the site suggests a contemporary, or near contemporary, occupation of Thunder Knoll, Rain Ridge and parts of Shields Pueblo during the early-to-middle Pueblo III period. Surface structures uncovered at the site show some evidence for recycling but appear not to have been dismantled as completely as the rooms at Rain Ridge and Thunder Knoll. Trying to determine the reasons for this observation will be an important focus of future analyses.

Trail Terrace

Trail Terrace is an expansive site situated on a south-trending slope between Goodman Point and Shields pueblos. A site recorded as an ancient trail bisects Trail Terrace and

appears to run between the two pueblos (Figure 8). We have started 11 of the 13 units set in at the site, but five are still in progress—so impressions are perhaps more preliminary than those mentioned for the sites above. That said, from surface observations, the spatial location of the site, and artifact data collected so far, it seems that much of this site likely corresponds to the Pueblo III period. At this point it is still questionable if this site dates more closely to the slightly earlier Shields Pueblo or slightly later Goodman Point Pueblo communities. That determination will be an important topic for future research.

There are four architectural blocks present at the site, but we only worked in the southern three during 2009. In Block 200 we excavated in six midden units, in Block 300 we excavated in a roomblock north wall and one midden unit, and in Block 400 we excavated in one roomblock north wall and two midden units. At present, we have not started the roomblock north wall units in either Block 100 or Block 200.

The midden units excavated in Block 200 have so far displayed relatively dense cultural deposits of moderate depth, and McElmo Black-on-white appears to be the most prevalent decorated type in the pottery assemblage. Only two midden units in this block have been completed at this point, and both displayed cultural deposits of about 40 cm.

Only one midden unit has been completed in Block 300, and the random placement of this unit resulted in it being located in a kiva berm (a large deposit of excavated material from the kiva) southeast of the Block 300 kiva. The artifact density was resultantly low, but some Pueblo III pottery was recovered, and no midden deposits were located under the berm material. This may suggest that the associated kiva and architectural block have a relatively short period of occupation dating to the Pueblo III period.

The units excavated in Block 400 would also seem to suggest a Pueblo III construction and occupation of that block. One midden unit here was set in the kiva berm and again McElmo Black-on-white ceramics were recovered from on top of the berm with no earlier diagnostic pottery underlying excavated material from the kiva. The other midden unit, excavated east of the roomblock area, also produced Pueblo III pottery and exposed a robust wall foundation that could either be the eastern extent of the associated roomblock or some type of retaining wall built around the kiva courtyard.

The roomblock north wall unit excavated in Block 400 was potentially very important for interpreting ephemeral roomblock mounds located at small sites within the Goodman Point Unit, e.g., the north wall of Structure 407 (Figure 9). Though perhaps the lowest and least well-defined architectural block at the site from surface remains, excavation here revealed the remnants of a finely shaped, double-coursed masonry wall base that looks very similar to late Pueblo III architecture recorded at Goodman Point Pueblo. This north wall rested under 12 cm of post-occupational fill and .01 m³ of sandstone rubble was removed from the entire unit during excavation. This rubble likely represents building material left from two walls which were exposed in the unit. Clearly artifacts collected from the block need to be analyzed for a more accurate interpretation, but it seems that this potentially late architectural block could have been dismantled and salvaged to a greater degree than blocks upslope which might date slightly earlier.

Excavations at Trail Terrace are still in the early stages, but evidence collected so far suggests a Pueblo III occupation. At least the southern two blocks appear to suggest a Pueblo III occupation, and architectural evidence from Block 400 suggests very extensive dismantling of potentially one of the latest roomblocks found during Phase II. Artifact data collected from the site may point to an intensive A.D. 1150–1250 occupation of the site, suggesting it might correlate more closely with the earlier Shields community than the later Goodman Point Pueblo community. These interpretations are tentative, however, and more precise interpretations will require additional work.

Mountain View

This small habitation site lies near the northern boundary of the Goodman Point Unit on a small sage-covered ridge. Two judgmental 1-x-1-m units were excavated in the northeast part of this site to determine the depth of cultural deposits present in a proposed parking lot location. This was done in partnership with the NPS, and these units are additional to the original research design. A complete surface collection of the proposed area was also undertaken as part of this project. In both excavation units, cultural material was confined to within 10 cm of the modern ground surface, and in general, this portion of the site appears to contain a limited historic and ancient artifact scatter. We will test this site more extensively next year to gather information specifically related to the research design.

Lupine Ridge

This relatively large and complex site lies near Goodman Point Pueblo, and it seems likely that portions of Lupine Ridge could have been occupied at the same time as the larger pueblo. Understanding how these two sites relate temporally and culturally will be important in interpreting developments in the late Pueblo period occupation of the Unit. Lupine Ridge is an expansive site with approximately 10 to 12 roomblocks, 19 kiva depressions and at least 10 midden areas spread across a gentle, south sloping ridge (Figure 10).

None of the four units left unfinished from the 2008 field season were completed in 2009. This was done because we plan to pursue a broader regime of testing at the site in 2010, which will be facilitated, in part, by the completion of those units. This testing strategy will likely entail excavation in some or all of the four untested architectural blocks at the site, using information gathered so far to guide the placement of those units.

Meadow View

This site lies west of Goodman Point Pueblo and overlooks a grassy meadow to the north. The surface expression of the site is fairly compact, with only one architectural block presently defined. Included in this block are at least four kivas and an arching roomblock rubble mound that appears to curve around the central kivas on the north and west sides to another row of rooms framing the kivas on the south (Figure 11). One poorly defined

midden is present just southeast of the rubble mound, although this area is somewhat obscured by heavy vegetation.

We started six excavation units at the site near the end of the 2009 field season and only two midden units have been completed. The other four excavation units at the site consist of two surface structure units, one kiva unit, and one north wall unit—all of which should be finished in 2010.

Although, at this point, all inferences about the site are tentative, some interesting observations have been made. At the modern ground surface this site displays a higher quantity of very large building stones than any other site we have tested as part of Phase II. In fact, the surface signature of the site appears more consistent with that of Goodman Point Pueblo that any other site within the Unit. This is not surprising given the site's spatial proximity and orientation to the larger village.

Artifacts recovered from the two completed midden units also seem to reinforce the idea that the site was built and occupied at roughly the same time as Goodman Point Pueblo. Almost all the decorated pottery recovered from the midden units appears to be Mesa Verde Black-on-white, and the overall depth of midden deposits appear fairly shallow— approximately 18–30 cm deep. Dense wall fall was also removed in the upper fill of these units, suggesting that nearby structures were not extensively salvaged prior to their collapse. This pattern is very similar to what was recorded in some midden areas at Goodman Point Pueblo (Kuckelman et al. 2009).

Architecture exposed in ongoing test units also appears to support a late Pueblo III construction of much of the site. The north wall unit situated in the northwest part of the roomblock rubble has exposed a curving, double-coursed wall that appears to frame an arcing room on the northwest corner of the roomblock. The exposed portion of the wall is thick, and the faces appear to be well-shaped. Though more excavation is needed to better define the wall, it is possible that it could be part of a bi-wall room complex similar to those recorded in parts of Goodman Point Pueblo (Kuckelman et al. 2009).

Excavations in the two surface structure units near the center of the block appear to have exposed a portion of at least one kiva as well as some other type of surface structure. From the masonry exposed, it seems one kiva pilaster and portions of what might be a kiva cell wall (a square or rectangular masonry wall enclosing the kiva) were uncovered. The structure on the other side of this possible cell wall has not yet been well defined, and inferences about the entire complex will have to wait until the excavation units are finished next season.

One kiva unit at this site has been excavated down to a dense layer of wall fall, and sediments underlying this stratum hint at the possibility of some structural burning. Though no interior features have yet been defined, the fill sequence, including a dense layer of wall fall and perhaps some burned structural material, is characteristic of kivas tested at Goodman Point Pueblo.

A late Pueblo III construction and use of the Meadow View site is suggested by the data collected so far. Tantalizing evidence, including the possibility of bi-wall architecture, Mesa Verde Black-on-white pottery, and intact collapsed surface structures, all seem to suggest this site was a contemporary of Goodman Point Pueblo. If true, the position and layout of the site may suggest an extra-domestic or special function for the site related to the larger pueblo—perhaps a function similar to that served by Block 1600 at Sand Canyon Pueblo (Kuckelman 2007).

Pinyon Place

This site lies in the western part of the Goodman Point Unit near the Harlan Great Kiva site. Three different architectural blocks, five possible kiva depressions, and four midden areas comprise the primary cultural remains at the site (Figure 12). Two other sandstone concentrations of unknown age or original function are also located to the southwest of Block 200. The site is situated in fairly dense pinyon and juniper woodland on a slight, southerly trending ridge.

In all, 16 excavation units were started in the three architectural blocks in 2008. All but four of these units were finished in 2008, and in 2009 one roomblock north wall unit and two surface structure units were also completed. All of these completed units produced data critical to interpreting Pinyon Place and its relationship to other sites. At this point only, a kiva unit remains to be finished in 2010.

The roomblock north wall unit in Block 100 revealed the presence of two different single-coursed structures apparently built at different times and in different styles (Figure 13). The latest single-coursed structure, Structure 108, is defined by a wall juncture representing what appears to be the northeast corner of the original room. The walls defining this corner were 14–15 cm wide, two to four courses high, and they incorporate larger stones in the upper portion of the preserved wall and smaller sandstone chunks, set in heavy mortar, at the base. All of the masonry stones were small and tabular relative to the large basal stones observed in sites to the north (e.g., Thunder Knoll and Rain Ridge), and the base of both walls comprising this corner rests on a surface which served as the floor of an earlier room—Structure 107.

Only a segment of the north wall of Structure 107 was exposed, but it was apparently built earlier, with the wall foundation and associated floor surface underlying the walls of Structure 108. This north wall also displays single-coursed masonry but is built in a slightly different fashion. The single horizontal course is broader than that displayed by Structure 108, approximately 20 cm wide, and rested on a footer made of two rows of vertical sandstone slabs set in a trench, dug into native sediment, with these slabs mortared together. The preserved wall sections of both Structure 107 and 108 were covered by 4–5 cm of post-occupational fill, and a total of .08 m³ of sandstone debris was removed from the entire unit. This fill pattern, combined with the absence of any remnant roofing wood or sediment, may suggest both structures were dismantled in ancient times with the building materials reused for other construction.

The type of wall construction observed for Structure 107 is almost identical to that observed in the surface structure unit excavated in Block 200. Here, the basal course and footer were uncovered for two structures: Structure 206 and 207. These structures appear to be two consecutive rooms in the same roomblock and, like Structure 107, display one horizontal course of broad, tabular sandstone, 30–33 cm wide, resting on a vertical sandstone footer (Figure 13). The preserved portion of the north wall framing both structures rested only 6 cm below the modern ground surface, and approximately .08 m³ of sandstone debris was removed from the entire unit during excavation. A small bin feature was also exposed in the southwest corner of Structure 206, and on the bottom surface of that feature a number of artifacts, including a Cortez Black-on-white bowl sherd, were mapped and collected.

The surface structure unit in Block 300 also produced interesting architectural data. In all, three different structures were defined in this unit: Structures 306, 307, and 308. The earliest and stratigraphically lowest structure, Structure 308, is represented by two large postholes and a compacted use surface which displayed a number of associated artifacts. The largest posthole is 23 cm in diameter and contained sandstone supports in the base—likely intended to shore up the original post. No post remnants were found in these features and both had other, secondary cultural fill inside them which was likely deposited once the post was removed. The presence of this fill probably suggests that the posts were removed prior to the construction of the later rooms.

The two other rooms that were apparently constructed on top of Structure 308 were built in a very similar fashion to Structures 107, 206, and 207. Structures 306 and 307 appear to be consecutive rooms in the same roomblock built using a horizontal course of large, tabular sandstone on top of a vertical sandstone foundation. The only major difference is that in Structure 307 the south wall incorporates a very large vertical sandstone slab—at least 47 cm by 41 cm. Numerous artifacts were collected from the floor surface of Structure 307, including one plain gray ware sherd (not corrugated).

Taken as a whole, the architectural and artifact data collected so far from Pinyon Place is quite different from that observed for much of the Goodman Point Unit. Roomblocks made using post and single-coursed masonry construction, as well as early Pueblo II pottery recovered from on or near the associated floor surfaces, likely suggests Pinyon Place may have been one of the earliest habitations built in the unit after a regional migration from the area in the A.D. 900s (Lipe and Varien 1999). In fact, structures of similar age and construction have been recorded in the region (Martin 1938; Robinson and Harrill 1974), and this building pattern may point to the establishment of an early pioneer settlement in the southwest part of the unit. Better defining this early community would be important in understanding the initial construction of the Harlan Great Kiva site, other nearby sites with similar attributes (like Bluebird House), and subsequent cultural developments at both Shields and Goodman Point pueblos.

Harlan Great Kiva

The Harlan Great Kiva is the largest single structure to be tested so far. The surface signature of the site is complex and expansive, displaying one large depression, an extensive berm around that depression, and concentrations of rubble that are likely the remains of surface structures adjacent to the great kiva itself (Figure 14). Ten 1-x-3-m units, two surface structure units, and one north wall unit have been used to test architectural portions of the site, and 10 midden units have been placed in a midden area to the southwest of the great kiva.

By the end of 2009, the last of three midden units set in in 2008 were finished, as were two other 1-x-3-m units placed in surface structures around the great kiva main chamber, Structure 101, as well as one 3-x-1-m unit in the northern berm area. The three 1-x-3-m units were provided for in an addendum to the research design submitted to and approved by the NPS in the early part of 2009. The other excavation units placed in the great kiva main chamber and in the southern berm area will be completed in 2010, as will any additional units placed at the site next season.

More work in the great kiva interior has revealed a somewhat complex construction for the masonry column uncovered in the southeast part of great kiva depression in 2008. A new excavation unit extending north from the large east-west trench, which was started in 2008, exposed an additional part of the column. This part of the column is constructed in a narrower fashion than the broad southern end of the feature exposed in 2008. In fact, a finished northwest corner and western side of the feature uncovered in the new unit suggests the column would have built in a "T" shape when viewed from above, with the broad end of the feature to the south and a narrow, finished protrusion extending to the north. The shape of this column is very unusual compared to exposed columns in other excavated great kivas in the region (Kuckelman 2007; Kuckelman et al. 2009; McLellan 1969; Martin 1936).

Another important masonry feature was recognized on the interior of the great kiva in 2009. This was a low, dry-laid masonry wall built on top of collapsed structural material (Figure 15). It appears that this wall is part of a larger structure, Structure 128, built shortly after Structure 101 was decommissioned. First recognized in the large, east-west trench in the southern part of the depression, other parts of this same structure were recognized in the unit to the north of the masonry column and in a unit near the southern upper-lining wall of Structure 101. Overall, the remains of this structure suggest an ovoid and slightly meandering wall that roughly follows a topographic contour within the great kiva depression. Though apparently never roofed or possessing a formal floor, the portion of the structure exposed seems to define an interior space or structure near the center of the depression. The structure wall rests directly on burned wood and sediment that likely represents the remains of roof fall, with very little post-occupational sediments separating the basal stones of the wall and the burned fill below. Overall, it seems that the wall defining the structure was never more than four courses high and was built soon after some burned roof fall collapsed.

In the southeast part of the great kiva, the wall framing this dry-laid structure angles, apparently to avoid a preserved section of the masonry column exposed on the interior. This may reinforce the idea that the wall was built shortly after at least part of the roof collapsed, and, in order to avoid a hump left by the interior column in the roof fall debris, the wall was built around the preserved upper portion of the column. Broadly similar but smaller structures have been recorded in domestic kiva depressions at Shields Pueblo where they were interpreted as shrines (Duff and Ryan 2001), and while the purpose of this structure is unclear at present, its location in the great kiva depression suggests the site continued to serve an important role to the surrounding community even after Structure 101 was decommissioned.

In 2009 a floor surface, which appears to be the uppermost and latest floor surface used in the great kiva, was exposed. This surface has been defined on two sides of the interior masonry column and in excavation units extending south of this feature to the southern upper-lining wall. There is relatively little burned wood and sediment overlying this latest floor surface, perhaps suggesting a robust, earth-covered roof never spanned the entire structure in this location or alternatively that such a roof was almost completely removed prior to burning the remnant material. The burned structural material in contact with the floor surface would seem to suggest a less substantial, and perhaps partial, roof over the great kiva at the time it was decommissioned. It is important to note that this surface represents only the final floor surface on the interior the structure, and that earlier floors, with different overlying fill patterns, may be present under this surface.

Situated north of the masonry column in the southeast part of the structure, we also recognized a floor vault built into the latest floor surface. This feature is roughly flush with the latest floor surface, not extending upward from floor level significantly. It has not been excavated at this point, but it appears that the western and southern margins of the rectangular vault are a combination of masonry and adobe. Examining the contents of this vault next year will help us better interpret its function in relation to Structure 101.

Perhaps as significant as uncovering interior masonry elements of the kiva was the stratigraphic information provided by testing the large berm that surrounds the depression. Excavations in 2008 revealed discrete deposits in the eastern berm area, including an early midden deposit on the prehistoric ground surface, an extensive stratum of redeposited native sediment on top of that, and a thick deposit of midden material that likely represents the final, extensive use of the structure over that. A very similar profile was exposed in the berm area south of Structure 101 in 2009, where stratigraphic information likely suggests at least two periods of intensive use of the site separated by the large-scale excavation and deposition of native sediment from near the berm (probably spoil sediment excavated from the great kiva interior). More detailed analysis of the stratigraphic profile and associated artifacts will help clarify the cultural time depth represented in the berm, but overall, a fairly complex temporal use of the structure is emerging.

A similar but slightly different stratigraphic signature is present in the berm area on the north side of Structure 101. The test unit placed here did not expose a layer of midden on

the prehistoric ground surface low in the profile, but instead displayed a thick stratum of redeposited native sediment resting on undisturbed sediment. On top of this stratum at least two layers of charcoal, small burned sandstone chunks, and burned adobe were observed. The contents of this upper fill may suggest some type of extensive remodel of the great kiva itself or other structures nearby. The absence of a midden layer under the redeposited native sediment (which was observed in the southern and eastern berm areas) may suggest that the relatively early cultural activity at the site responsible for this lowest midden deposit is not evident in the northern area. These observations could be important for interpreting how the site changed through time.

Architectural units excavated in 2009 in the northern and eastern margins of the great kiva main chamber provide additional evidence concerning the surface structures partially ringing Structure 101. The surface room tested north of the great kiva main chamber displayed at least two compacted floor surfaces and a preserved portion of the structure's eastern wall. This eastern wall, framing Structure 130 on the eastern side, is built of single-coursed masonry, and the foundation of the wall is set in an excavated trench, at least 30 cm deep, dug into undisturbed native sediment. Several artifacts were recorded on both interior surfaces of the structure which were separated by about 20 cm of fill. These artifacts will tell us a great deal about the time depth separating the use of the two floors, and will help us interpret the longevity of the structure itself.

The surface structure tested in the eastern berm area, Structure 127, shared many architectural attributes with Structure 130 (Figure 16). That room was also built using single-coursed masonry and the eastern wall of the room was set in a trench excavated approximately 50 cm into redeposited native and midden fill. A part of the northern wall of the structure was also exposed, and the base of this wall appears to be constructed in a similar manner— with the basal stones resting in the earliest midden fill. This structure also displayed at least two floor surfaces separated by about 14 cm of fill, and the lowest surface contained a small pit feature containing a worked bone tool and at least one bead. Several artifacts were recorded in contact with both of the surfaces, and these artifacts will also help interpret the longevity of this room.

Excavations beneath the second floor of Structure 127 revealed the presence of another post-supported structure that predated the later masonry building in this location, Structure 140. Elements defining Structure 140 in the excavation unit include one large posthole, a preserved, compacted use surface, and least three other pit features on the room interior. Approximately 50 cm of the largest pit feature was excavated and it contained secondary refuse including a Cortez Black-on-white bowl sherd and a Mancos Corrugated rim sherd. This pit lies directly under the north wall of Structure 127 and appears to have been purposely filled prior to the construction of that building. Documenting an earlier, post-supported structure underneath Structure 127 will likely prove very important to interpreting early midden deposits observed in the eastern and southern berm areas.

No further work was completed in Structure 120 immediately south of great kiva in 2009. A part of this structure was exposed in 2008, and further work is planned for this plaster-

walled structure situated south of the Structure 101 southern upper-lining wall. In fact, one additional unit will likely be placed in or near this structure next year to help determine the shape of this structure and how it relates to the great kiva.

So far we have point located, or mapped in three dimensions, at least 95 objects from the interior fill of the great kiva itself. All but four of these objects are pieces of burned wood, or tree-ring samples, which will hopefully produce dates critical for interpreting when Structure 101 was built and used. In Structure 120, immediately south of the great kiva, another 35 tree-ring samples have been collected. We have also collected 13 other tree-ring samples from the excavation unit in the northern berm area, from sediment that appears to represent at least one remodel of architecture at the site. Though certainly not all of these samples will yield a date since most are very small, hopefully some of these 139 samples, as well as those gathered next year, will produce dates that will help us better understand the construction history of the great kiva and nearby structures.

Other artifacts collected in and around Structure 101 are also helping us understand the types of activities that occurred there. Probably one of the most interesting artifacts was a fragment of copper collected from the upper fill of Structure 101. Though more work needs to be done on this object, it could be part of a copper bell or tinkler that was likely part of ritual or ceremonial regalia, potentially traded up from northern Mexico. Other pieces of turquoise, azurite "balls," numerous beads, a ring fragment, and a possible piece of crystal, may help us understand trade patterns in place at the time the great kiva was in use, and they may also be helpful for determining what types of activities took place in the structure.

Bluebird House

Bluebird House is a small unit pueblo north of the Harlan Great Kiva site. This site was selected for stratified random sampling similar to that used in the Site Testing Program, part of the Sand Canyon Archaeological Project (Varien and Kuckelman 1999). Using this strategy, the entire site was mapped and divided into seven different sampling strata, and then these strata were tested randomly, at different rates, to gather data comparable to that collected through the Sand Canyon Project.

At the end of the 2008 field season all but five of the 25 units set in at the site were finished, and these remaining units were completed in 2009 (Figure 17). Three of the units were in the roomblock area, and two were located in the only kiva depression recorded at the site.

The three excavation units completed in the roomblock area exposed the remains of three surface structures: Structures 109, 113, and 114 (Figure 18). Structures 113 and 114 are the earliest and stratigraphically lowest of these structures, and they appear to be consecutive rooms in the same roomblock. Both were built in a style very similar to Structures 107, 306 and 307 at Pinyon Place, with the footer for the north wall defining both structures built using two rows of vertical sandstone slabs mortared together in a trench dug into undisturbed native sediment. The wall extending south of the north wall,

separating the two structures, did not display a vertical sandstone footer but instead had numerous sandstone chunks set in heavy mortar at the base of the wall—a basal construction style similar to Structure 108 at Pinyon Place. The footer of the north wall rested under approximately 22 cm of post-occupational sediment, and it lacked the broad single course of horizontal masonry recorded in the other structures at Pinyon Place. Also, very little sandstone debris was recovered from the 8–10 cm of fill overlying the surface and wall bases of these structures, and under the wall of a later structure. This likely suggests extensive remodeling or dismantling of these early rooms prior to the construction of the later building.

Overlying these two lower structures, another room, represented by a floor surface and a partial wall, was recorded. This structure, Structure 109, displayed single-coursed masonry, and both the wall and the associated surface rest above the remaining portion of the other rooms. The tallest preserved section of the west wall of Structure 109 is three courses high, with a preserved thickness of about 22 cm. Only a stub of this wall was exposed, and part of the associated floor surface to the east was formed by the top of the dismantled north-south wall separating Structures 113 and 114. Thirty-five point located artifacts rested on this upper surface and most of the white ware pottery collected appears to correspond to the Late Pueblo or Pueblo III period. In all, .27 m³ of sandstone debris was removed from all three excavation units, and this, combined with the remaining architecture exposed, suggests that all three structures were dismantled at some point in the past.

Structure 110, the kiva exposed by two excavation units at the site, displayed both interesting architecture and a rich artifact assemblage. The randomly placed units excavated in the kiva exposed a part of the southeastern portion of the structure, including parts of one pilaster, the bench face, the bench surface, and the floor. The exposed pilaster was made primarily of undisturbed native sediment on which a masonry facing was placed in a groove excavated around the margins of the native sediment. The bench face was a composite of plastered masonry and plastered earth, with the stones comprising the masonry portion set in a similar manner to those in the pilaster. The groove cut for laying the masonry section did not extend quite to the floor surface, perhaps suggesting the original face in this location was all earthen. The floor was leveled and compacted native sediment and no evidence for multiple floor surfaces was observed. The composite earth and masonry construction of the kiva is different from other kivas tested so far and may point to a relatively early construction, and possibly later remodel, of this structure.

The floor assemblage of Structure 110 included two complete vessels and large portions of four other reconstructible vessels. The two complete vessels were a white ware ladle and a small white ware jar displaying a corrugated neck and two small lug handles on the sides. The small jar is an unusual form and may be some type of canteen or small water jar. All of the other reconstructible vessels on the floor are white wares, and most appeared to be finely made Mancos or McElmo black-on-white jars and bowls. The number and type of vessels on the small part of the floor exposed is atypical of kivas

excavated elsewhere in the unit, and the types of pottery observed may suggest a terminal use of the structure in the late Pueblo II or early Pueblo III periods.

Monsoon House

Monsoon House is a relatively large and architecturally complex site in the western portion of the Goodman Point Unit. The site is comprised of four different architectural blocks with eight or nine kiva depressions, at least seven midden areas, and four rubble scatters (Figure 19). In the research proposal this site was selected to receive six 1-x-2-m units to investigate the architectural style present in Block 200—a substantial roomblock rubble mound that appears not to have been extensively dismantled in the past, and which might display a central plaza area defined by enclosing walls.

Only two of the units remaining from 2008 were finished in 2009. Both units were surface structure units, placed end to end in the eastern part of Block 400. In the eastern excavation unit the remains of a compacted use surface and some decomposing wood and sandstone debris suggests that some type of structure once stood there, although no standing architectural elements were exposed through excavation. The western unit yielded only sparse wall fall and thin deposits of cultural refuse. Overall, it seems likely a structure was present in the eastern of the two units but was almost completed dismantled at some point in the past.

The other units at the site will be finished in 2010, and their completion will probably be part of a more extensive testing regime planned for next year. At present, at least two midden areas at the site have yet to be tested, and excavation units placed in those areas will help facilitate completion of the other units left from 2008.

Additional Fieldwork

Fieldwork in 2009 entailed the continuation of two important additional field studies. These studies, outlined in the following sections, should produce data that will complement and enhance information gathered through our test excavations. Hopefully, these studies will help examine archaeological, environmental, and ecological variables relevant to understanding the communities that once resided in the Goodman Point Unit.

Remote Sensing

In April 2009, remote sensing was conducted at potential landscape features within the unit. William Volf, of the Natural Resources Conservation Service (NRCS), volunteered his time, equipment, and expertise to conduct several remote-sensing transects and one large remote-sensing grid using two highly sophisticated instruments. The primary tools used in this effort were an electrical resistance meter, the RM-15 Resistance Meter, and a device called a magnetometer, the FM-256 Fluxgate Gradiometer. These high-tech instruments locate subsurface archaeological remains by shooting a low-voltage electrical current through the ground and by recognizing magnetic anomalies that could indicate the presence of buried structures and features.

The remote sensing done in 2009 had two primary objectives. First, we wanted to look for subsurface anomalies in potential agricultural fields as well as other areas, which might suggest the presence of buried check dams or other types of agricultural features. Second, we wanted to use this information to place excavation units aimed at investigating any anomalies identified.

Most of the remote-sensing work done in 2009 focused on a relatively open area just west of Goodman Point Pueblo. This tract of land is part of a larger expanse located in the center of the unit which displays relatively few habitation sites—perhaps because it was used as a field location for extended periods in ancient times. In all, we completed three 20 m transects across linear landscape features as well as one 20-x-40-m grid in an open meadow that might be a potential field location.

Though several potential agricultural features were recognized through this effort, only two excavation units were started based on this work in 2009. Both units were placed in the field area near the confluence of two linear anomalies that were recognized both from the modern ground surface and through analysis of the resistance and magnetometer data. These excavation units are not finished, but both linear features appear to have interesting fill patterns, suggesting some change in deposition through time. Both are also associated with some type of sandstone concentration. Some of the sandstone is also fire-reddened. Buried artifacts and numerous soil samples were collected from these units, and though it is too early to say with any degree of confidence, the sandstone concentration uncovered may be some type of buried cultural feature. Next season we hope to contract with a geoarchaeologist to help us interpret the sediments and other deposits encountered in these units.

Additional excavation units placed through the remote-sensing study will probably be completed next year. The results so far indicate the use of these devices will prove helpful for selecting and interpreting excavation units placed in agricultural fields or other landscape features. None of the remote-sensing work completed in 2009 would have been possible without the generous support of the NRCS and William Volf.

Temperature Monitoring

In 2009, a series of monitors continued to collect temperature data in various locations within the Goodman Point Unit. These electronic monitors record very precise temperature data and can operate unaided for months at a time. In 2008, the monitors were placed on both upland north and south slopes, on drainage hillsides, and in drainage bottoms, to collect data reasonably representative of the topographic variability present on the landscape.

The purpose of these monitors is to collect long-term temperature data for various parts of the unit that could have once been agricultural fields. The goal is to have them in place for at least three years. Data collected will be studied for patterns of temperature variation which might point to certain areas of the unit being more or less favorable for agriculture. Length of frost-free periods and the number of corn growing-degree days will likely be some of the variables studied in order to examine the agricultural potential of different locations within the unit. This temperature data will hopefully be combined with other environmental and ecological data to study potential agricultural productivity in areas where ancient farmers may have grown crops.

Summary and Interpretations

The second season of Phase II field research in the Goodman Point Unit was very productive in obtaining data relevant to research goals. The construction of high resolution maps of the tested sites, the documentation of individual excavation units, artifact data, photos, and stratigraphic information recorded provide a solid foundation for interpreting the occupational history and chronology of sites tested this past field season.

Some important observations relating to our research goals were made at the Harlan Great Kiva site in 2009. The three surface structures we recorded in the north and east parts of the berm appear to demonstrate a relatively lengthy use of the site, with at least two episodes of construction evident. The earliest post-supported structure uncovered in the eastern berm area, Structure 140, will also likely prove important for interpreting early midden deposits which appear to possibly predate some large-scale excavation of Structure 101.

Uncovering the latest floor surface and some associated features, including part of a floor vault and a masonry column, in Structure 101 was also an important development in 2009. The atypical construction of the masonry column exposed in the southeast quarter of the structure may point to an interesting building tradition that can be compared to contemporary and later great kivas in the region, e.g., the Morfield Great Kiva at Mesa Verde and Structure 1213, the great kiva at Goodman Point Pueblo (Kuckelman 2007; McLellan 1969). Thin, burned deposits overlying the exposed portion of the column and the associated surface seem to suggest a robust roof was not covering Structure 101 when it was decommissioned. This might argue for a partial, or perhaps almost completely dismantled, roof during the latest use of the great kiva, and this roofing style might also serve as an additional point of comparison to other great kivas in the area.

Tree-ring samples collected from the thin deposits inside the great kiva itself, and from nearby contexts, should help clarify when the structure was built and used, and how architecture associated with the great kiva changed through time. Completing the 1-x-3-m units in the great kiva interior will provide uninterrupted 12 m and 10 m profiles that should produce solid inferences concerning the construction style and use life of Structure 101. Artifacts collected so far, including a fragment of copper, turquoise, and other potential trade items, will also enhance our understanding of possible trade networks in place at the time the great kiva was in use. These artifacts might also help us better understand what kind of activities took place in the structure. It is also likely that

additional units will be placed next year to help refine our understanding of nearby structures and their relationship to the great kiva, as in the case of Structure 120 south of the great kiva.

The recognition of an architectural building pattern at sites around the great kiva may also help us understand an early community that may have been the first to reoccupy the region after an apparent A.D. 900s hiatus (Lipe and Varien 1999). Roomblock foundations at Bluebird House and Pinyon Place display a construction style different than that observed for roomblocks at Goodman Point Pueblo or at sites tested in the northern portion of the unit near Shields Pueblo. The single-coursed masonry construction of the roomblock walls at these sites, which incorporates a vertical sandstone footer, may be a marker of early-to-middle Pueblo II construction in the area. Roomblocks displaying these qualities may be related to deposits of similar age uncovered at the Harlan Great Kiva site, which are some of the earliest noted there. This suggests that this community may have been responsible for building the earliest parts of the great kiva itself.

Potentially important observations regarding material reuse were also made in 2009. Several of the roomblock north walls and surface structures tested revealed the presence of very little building stone, shallow cultural deposits, and, in some cases, formal, prepared surfaces associated with remnant wall foundations. The amount of rubble recovered from these test units, and the height of preserved architecture, seems to vary by site, perhaps suggesting differing degrees of material reuse through time. This could suggest that extensive salvaging did take place at very precise times in the ancient past likely occurring on a large scale at least during the Pueblo III period.

We also noted differences in the depth and content of midden areas tested in 2009. So far, the deepest midden deposits discovered are those present in parts of Thunder Knoll and Rain Ridge. Both of these sites are near Shields Pueblo and display midden deposits that are about 1 m in depth. These deposits are over twice as deep as many of the midden areas tested elsewhere in the unit. The middens at Rain Ridge and Thunder Knoll have also produced a wide variety of pottery types which seem to date to different periods, and this may suggest these sites were occupied for a relatively long period of time compared to many of the other sites tested so far.

Public Involvement

In 2009 a large and diverse segment of the interested public benefitted from Crow Canyon's research as part of Goodman Point community testing. The excavation portion of the project involved 480 participants, including school age children through adults. Numerous formal tours given as part of single-day programs, as part of non-excavation school curriculum, or as part of other Crow Canyon sponsored activities, resulted in at least 800 other individuals learning about sites within the Goodman Point Unit. In all, at least 1,280 people learned about the prehistory of the Goodman Point Unit during the 2009 field season.

This figure reflects Crow Canyon's commitment to involving diverse segments of the interested public in our research and also demonstrates public interest in the ancient past of the Mesa Verde region. This research and education effort could not have been possible without the cooperative partnership between Crow Canyon and the NPS.

American Indian Involvement

American Indian involvement in the Goodman Point Archaeological Project continued in 2009. On June 2, a Pueblo Educator Workshop toured Phase II sites within the unit, and the Native American advisory group came out to tour our excavations and view the sites we were testing on June 6. Both groups were participating in other educational and consulting activities at Crow Canyon at the time of their visits.

As part of a continuing cooperative effort between Crow Canyon and American Indian consultants, the Pueblo Farming Project continued in 2009. Meetings held in May and October served as venues for planting and harvesting crops which were located in various fields on the Crow Canyon Campus. This cooperative effort was initially outlined in the research proposal for the Goodman Point Unit (Kuckelman et al. 2004), and information gathered will hopefully result in both educational curriculum for native students and data which can be used to model agricultural productivity in the area. Crow Canyon staff members Ben Bellorado, Paul Ermigiotti, and Mark Varien have worked closely with representatives of several tribes on this project. The continued consultation and involvement of American Indian groups throughout the Goodman Point Archaeological Project demonstrates Crow Canyon Archaeological Center's dual commitment to archaeological field research and its concern with facilitating communication and input from American Indian peoples regarding the study of the region's past.

Plans for the 2010 Field Season

Plans for the final 2010 field season include completing ongoing excavation units as well as setting in and excavating additional ones. In 2010 we will likely work at habitation sites surrounding Goodman Point Pueblo, testing additional portions of the Lupine Ridge site and four other small habitation sites not tested so far. Work will also continue in the western part of the Goodman Point Unit with additional excavation units being placed in both Monsoon House and the Harlan Great Kiva site. Other habitation sites in the northern part of the unit will also be tested in 2010. We hope to continue the temperature and remote-sensing studies and complete our environmental and ecological studies.

Research Field Personnel, 2009 Field Season

Grant Coffey, supervisory archaeologist Steve Copeland, research archaeologist Kathy Mowrer, osteological consultant William Volf (NRCS), remote sensing consultant Kathryn Copeland, research intern Laura Heath, research intern Molly Englert, research intern Sarah Sticha, research intern

Education Staff Personnel, 2009 Field Season

April Baisan Jill Blumenthal Josephina Chang-Order Paul Ermigiotti Rebecca Hammond

Others Who Worked or Volunteered, 2009 Field Season

Fumi Arakawa Ben Bellorado Chris Goetze (NPS) Corky Hays (NPS) Ted Kieffer Laura Martin (NPS) Jamie Merewether Chris Nickel (NPS) Dale Pratt Hannah Russell (NPS)

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