

Analysis and Interpretation of Block H, Mountaineer site, Gunnison, Colorado

Key Words: Archeology, Excavation, Folsom, Projectile Point, Tenderfoot Mountain, Tool

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Introduction

By 2015, Western State Colorado University's archaeological field school had completed excavations uncovering six Folsom structures at Block A, B, F, G, and H (Stiger, Block F 2016). All six structures, (Block A contains two structures), were located by placing test excavation pits at the highest concentration of surface artifacts, as revealed by the accumulation of 15 years of resurvey and recollection. The objective of Western's 2015 field school was to discover features, either duplicating the ones previously found in Block A, B, C, F, and G or features showing additional variability. Undergraduate field school students would then record lithic concentrations, protecting them from vehicle traffic on the mesa top and from natural erosion of the surface soil. Undergraduate students of Western State Colorado University, under the direction of Dr. Mark Stiger, conducted the fieldwork described here during 2015 and 2016.

Surface Area and Landscape

The Mountaineer site is located on top of Tenderfoot Mountain, near Gunnison, Colorado at roughly 2,630 m (8,600 ft.) elevation above sea level. The top of Tenderfoot Mountain is covered by welded tuff, a volcanic ash deposit from a volcanic event that took place roughly 25 mya? (Stiger 2006). The mesa top consists of shallow eolian deposits and exposed bedrock in several places. Over 100 small lithic aggregations (approximately 5-10 m across) are found across the entire mesa. Named projectile point styles found within the surface artifact clusters and the underlying excavated structures on the site include Mallory, Parman/Windust, and Folsom. Two surface clusters yielded Goshen projectile points, but they have not yet been excavated, see figure 1 (Stiger, Block F 2016).

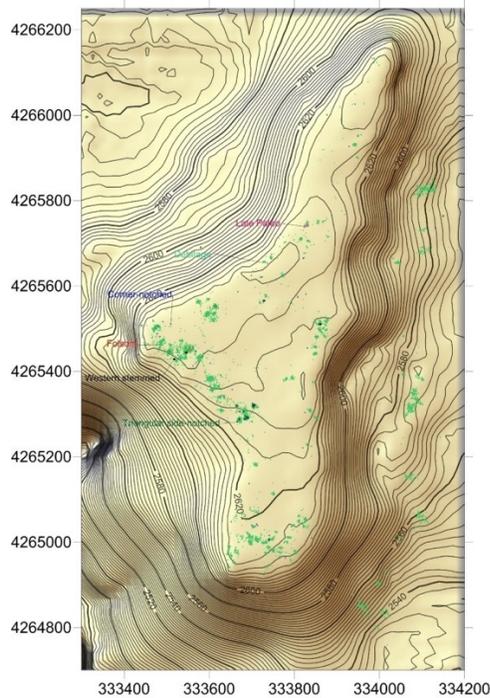


Figure 1. Tenderfoot Mountain Surface Collection. Green dots are artifacts.

Field Methods

Block H was initially located on a small aggregation of mapped and collected surface artifacts that resulted from 15 years of resurvey and recollection. Students conducted a survey crawling on hands and knees of a 25 m x 25 m area covering the mapped aggregated artifacts. Additional artifacts found during the hands and knee survey further enhanced the focus of the distribution. The initial test pits were placed in the center of the highest concentration of surface artifacts. The first excavation of test pits showed an anthropogenic deposit of bone, debitage and charcoal.

During the summer of 2015, Western's Field school students excavated a total of 22 square meters of Block H. All excavation was conducted using hand tools in 50 cm x 50 cm grid squares and 10 cm levels. During the first week of 2016 field season, an additional three 1 m x 1 m squares were excavated in the northwestern corner of Block H to determine the extent of the lithic scatter. Rocks over 10 cm in length were mapped, photographed, and removed from the quads to continue excavation. Features and tools were mapped with a total mapping station for precise location. Sediment was removed using trowels and dust pans, placed in 5-gallon plastic buckets, and dry screened on site through window screen. Sediment was then bagged, and labeled, and transported back to the lab on Western's campus. This sediment was then water screened in the wet lab through window screen and allowed to dry. Once dry, the sediment was screened through 1/8-inch mesh and hand sorted in the lab to recover any artifacts, bone or daub that remained.

Analysis and Curation

All material recovered from Block H was analyzed using standard methods. Lithic material was examined to determine rock type, platform type and percent of cortex. All material was also weighed and examined for refitting. All materials and artifacts are curated at the Clarence T. Hurst Museum, Western State Colorado University.

Feature

Excavation of the first 10 cm level of block 431N 533S revealed a dark stain, which is in the center of the concentration of surface artifacts. This stain is thought to be the remains of a prehistoric hearth. Although many rocks were mapped across Block H, overhead photography and a plot of the mapped rocks show a roughly circular area about 3 m in diameter, largely devoid of rocks was centered on the hearth. Arching across the northeastern side of the excavation area, rocks of 10-15 cm in size were found to be clustered together in a wide strip, which is postulated as the boundary of the structure (figure 2). Larger rocks are absent in the center of the structure and around the hearth.

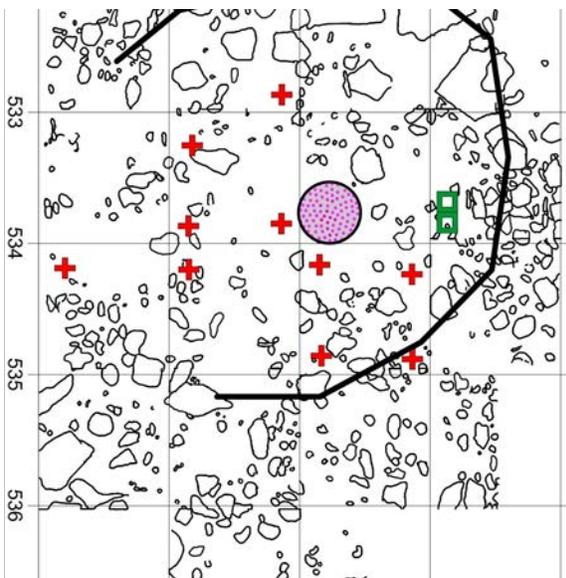


Figure 2. Block H site map

Artifact and Faunal Remains

Out of 628 pieces of debitage and 4,140 pieces of bone, all tool and tool fragments collected are stone except for one bone piece that appears to have been worked. The artifact assemblage consists of 1 flaked scraper, 7 utilized pressure flaked fragments, one channel flake, 2 pieces of Opal CT, and a Windust projectile point base fragment. Fifty two percent of the lithic material recovered is chert, and the other 48 percent is quartzite.

Large chert sources in the Gunnison Basin are rare, compared to quartzite sources. A few known sources consist of poor-quality chert are located between 5 km and 10 km from Mountaineer (Stiger 2006). However, more likely the chert artifacts or raw material used to make

the chert artifacts were brought to the site by the occupants from more distant sources. Houses with assemblages that are over half chert are very rare in the low valley. When excavated they reveal small structures like Block G and H, both of which are more than fifty percent chert.

The quartzite material recovered from the block appears to be predominantly from local sources. The variety of colors and grain size of the artifacts are very similar to what is found in other areas of Mountaineer. Quartzite is abundant in the Gunnison Basin area in large outcroppings and there are cobble deposits within 1 km of the Mountaineer site (Stiger 2006). Many more outcroppings of higher quality quartzite occur within a 25km radius of the site. It is assumed that the raw material of quartzite used to manufacture the artifacts found in Block H is from the numerous nearby sources. Yet, some of the material could have been brought into the basin from other areas. Currently there is no adequate method to determine the source of chert and quartzite material (Stiger 2016).

Windust Projectile Point

A base fragment of a pressure flaked stemmed projectile point was in Block H, see figure 4, artifact in the bottom left corner of picture. While there is no indication of shoulders, the base appears to be from a Great Basin, or Western Stemmed Projectile Point, and appears to be very similar to the base of the “Windust” stemmed projectile point found associated with the Buhl burial (Green, et al. 1998). A second Windust projectile point was found in the structure excavated in Block G (Stiger, Block F 2016). Stemmed projectile points have been given many names by different people. Most are specific to the region of their discovery like Great Basin Stemmed points. Few stemmed points have been found in the Rocky Mountains, and even fewer people believe that they were used by mountain people at all. Until further research and dating can be completed on the stemmed points located in mountain sites, I will refer to the stemmed point found in Block H, as a Windust stemmed point.

The majority of Windust or Great Basin stemmed points in the Intermountain West (between the Sierra Nevada Mountains and the Rocky Mountains), have been found on the surface of sites and have not been dated. But a few have been found associated with some of the earliest radiocarbon dated human occupations in the Intermountain West, ranging between 11,000 and 10,500 BP (Beck and Jones 2010). Most notably a “Windust” projectile point was found below the head of the female interred at the Buhl site. Radiocarbon analysis of skeletal material date the burial to 10,675 RYBP (Green, et al. 1998).

Tools

Seven tool fragments and 2 complete tools were found in Block H. The complete tools are a quartzite scraper, and a small sandstone rock, which appears to be worked with sides flattened into a rough cube shape. The sandstone material is not local to Tenderfoot Mountain but can be found within a kilometer of the site. The other tool fragments are comprised of pressure flaked quartzite and chert (see figure 3 and 4).



Figure 3. Tools found in Block H.



Figure 4. Block H Chert (right) and Quartzite tool fragments (left).

Debitage

Fifty-two percent of the debitage from Block H is chert. The other 48% of the debitage is quartzite. Only 10% of the debitage were complete flakes, and only 30% had platforms, which were normal core platforms. Cortex on the debitage was very rare, only 6.6% of the debitage had cortex.

The majority of debitage found in Block H is very small. The total weight of the debitage was only 37.8 gm; the mean weight is 0.07 gm.

Bone Distribution

Faunal remains are concentrated inside the postulated structure. The count of bone fragments is highest immediately north of the hearth (see figure 5). Slightly lower counts extend south along the eastern side of the hearth. Another concentration is northwest of the hearth. The bone fragments then spread north and northeast, away from the hearth area to the back wall of the structure parallel to the entrance.

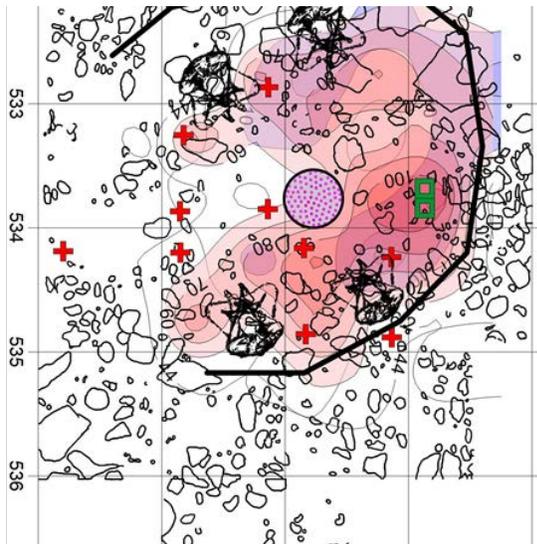


Figure 5. Block H distribution of bone fragments.

Among the bone fragments, an elk occipital condyle was identified and processed for radiocarbon dating. Unfortunately, the elk bone was too poorly preserved to be dated. Additional large mammal long bone fragments have been sent for dating.

Lithic Distribution

Debitage counts are highest inside the boundary of the postulated structure. The highest concentration of debitage is in the northeast corner of block 431N 532E, just west of the hearth (see figure 5). This concentration spans north and northwest away from the hearth to the corner of the block to the back wall of the structure. Another of debitage concentration occurs in block 431N 534E in the same location as the densest concentration of bone, which is east of the hearth. These concentrations are most likely from retouching, because of the very low average weight 0.07 gm of debitage. If tool manufacturing had taken place in the postulated structure, the average weight of debitage assemblage would be much higher, and the percent of material with cortex would be greater than 7 percent.

The western side of the hearth might have been a designated area for tool retouching, because most artifacts found on the western side are lithic materials as opposed to bone, which suggest tool retouching not food processing. Although the debitage was concentrated inside the structure the small assemblage size suggests a short occupation, as was argued for the structure at the Agate Basin Site located in Wyoming (Frison and Stanford 1982). No core or biface

reduction sequences were discovered during the excavations in Block H. The lack of bifaces and cores could indicate that the people of Block H brought finished tools to Mountaineer that were manufactured elsewhere, hence the high frequency of non-local chert in the assemblage.

Distribution of Tools

The tool and tool fragments were all found inside the structure. The tool fragments circled the hearth from the south to northeast of the hearth. The quartzite scraper was located close to densest concentration of bone fragments. The eastern side of the hearth might have been a designated food processing area, or the same person with the same job always sat in that particular spot. Most of the material on the eastern side of the hearth is bone fragments as opposed to lithic debitage, which suggest food processing as opposed to flintknapping.

Interpretation of Distribution

All prehistoric material in Block H is related to the short occupation of a Folsom age residential structure. The debitage and bone distribution counts per square show two separate obvious patterns.

When examining the bone distribution map several high concentration areas are clear (see figure 5). When looking at the debitage distribution map (figure 6), the map shows a similar pattern. Overlaying both distribution maps on the site presents a whole different perspective. South of the hearth bone and debitage counts are minimal. When looking at the map, the hearth must be the primary source of light in the structure. All activities in the structure are centered on the hearth. The lack of debitage and bone fragments south of the hearth could indicate that this was the entrance to the structure. The entrance would act as a secondary light source, and most likely a person would not block the light by sitting in front of the door. Alternatively, the lack of debitage and bone fragments could indicate this area was periodically cleaned and served a different purpose.

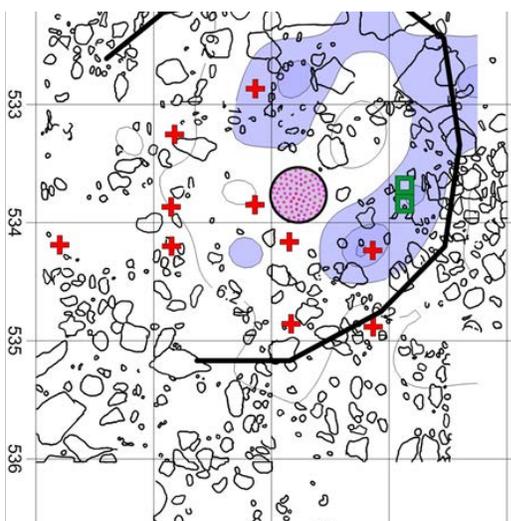


Figure 6. Block H distribution of debitage

Summary

The remains of a structure were discovered in Block H. The bone and debitage concentrations indicate the fallout of activity conducted by four seated individuals (Stiger, Block F 2016). The material counts are different at each position, which seem to have been used habitually for separate tasks. The eastern side of the hearth is mainly bone, and the distribution of bone indicate the fallout activity of a seated individual processing food. Similarly, on the western side of the hearth where the material is primarily lithic debitage, the distribution of debitage indicated the fallout activity of an individual flintknapping and re-sharpening stone tools.

Block H was a short occupation, see figure 7. It is not clear yet if it was a residential house or a seasonal hunting lodge used when the inhabitants hunted for elk in the Gunnison Basin area.

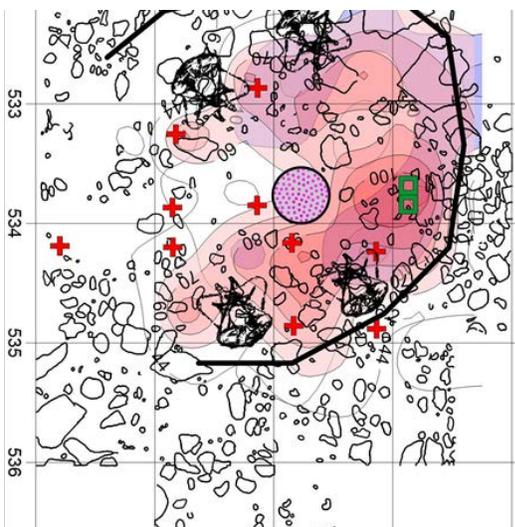


Figure 7. Block H activity model for projectile point retouching and food processing.

The higher percentage of chert to quartzite in Block H is rare compared to other sites found in the Gunnison Basin area. Block A, B, C, and F are all located between 18-36 m off Block H, see figure 8, yet the percentage of chert in these sites is only 11 – 35 percent (Stiger 2016).

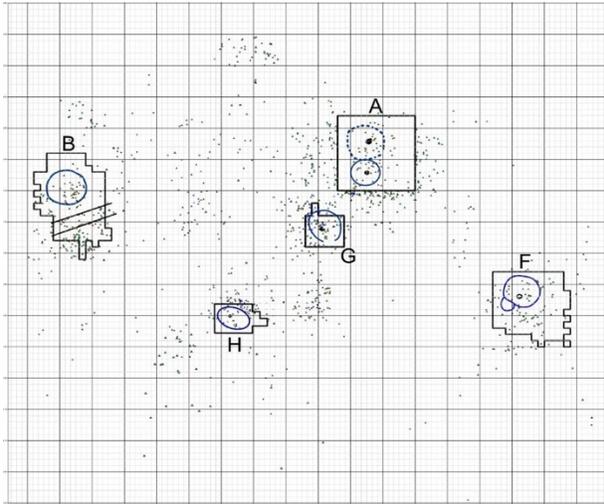


Figure 8. Block A, B, F, G, and H. Colored dots are surface collected artifacts. Black lines are excavation block boundaries and blue lines are structures.

This indicates the people who inhabited Block H came from a different area than the people that inhabited Block A, B, C and F. Alternatively, it could simply mean the inhabitants preferred chert and did not mind the extra effort to locate and acquire the rare material.

According to Beck and Jones, Western stemmed site assemblages in the Intermountain West, are primarily comprised of chert. This with the identification of the Windust projectile point base supports the theory that the inhabitants of Block H, pre-date the residents of the other Folsom structures on Mountaineer and implies a connection to the Great Basin. Further bone and fauna analysis and dating is planned for next year, 2017, and the results will hopefully provide answers and information to arrive at a more definite conclusion.

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