

**A REEXAMINATION OF THE UNCOMPAHGRE COMPLEX:
A RE-ANALYSIS OF THE MOORE SITE (5MN863),
MONTROSE COUNTY, COLORADO**

STATE HISTORICAL FUND PROJECT #2016-AS-007



JULY 2017



D A R G

Dominquez Archaeological Research Group

FRONTISPIECE:

Marie Wormington during the excavations at the Moore Shelter in 1938.

(Image used with permission of the Bailey Library and Archives,
Denver Museum of Nature and Science, catalog number 0094-0088.)

**A REEXAMINATION OF THE UNCOMPAHGRE COMPLEX:
A RE-ANALYSIS OF THE MOORE SITE (5MN863),
MONTROSE COUNTY, COLORADO**

STATE HISTORICAL FUND PROJECT #2016-AS-007

OAHP Document No. MN.SHF.R46
DARG Project No. D2016-4

12 July 2017

PROJECT AUTHORS AND CONTENT CONTRIBUTORS

Principal Investigator: Michael Piontkowski
Faunal Analysis Specialist: Holly Shelton
Lithic Materials Specialist: Courtney Groff
Graphic Artists: Masha Conner and Thuong Pham
Administrative Staff: Nicole Inman
Editors: Carl Conner and Barbara Davenport

SUBMITTED TO

**History Colorado
State Historical Fund
1200 Broadway
Denver, Colorado 80203**

ACKNOWLEDGMENTS

The Moore site re-analysis project could not have been accomplished without the effort of a number of individuals. Sincere appreciation is extended to the Dominquez Archaeological Research Group (DARG) staff, and Carl Conner, President of DARG.

The staff at the Denver Museum of Nature and Science provided exceptional assistance in locating, retrieving and copying records and artifacts. They include Steve Nash, Department Chair and Curator of Archaeology, who answered many questions and inquiries; Melissa Bechhoefer, Anthropology Collection Manager, who located, packaged and was instrumental in making the collection available; Heather Thorwald, Registrar; Rene O'Connell, Image Archivist, who helped locate photographs and provided copies; and Sam Schiller, Archivist, who located and provided copies of files and notes.

Harold Huscher deserves to be recognized for realizing the research potential of the site, bringing the site to the attention of Dr. Wormington, keeping meticulous field records, laying out the site grid system, and drawing the profiles. It is clearly evident from his correspondence that he was very familiar with the current research of that time. He recognized that some of the projectile points were similar to the Pinto Basin/ Gypsum Cave types, which had been recently discovered and described. Harold Huscher was ahead of his time, and brought a high level of professional work to the Uncompahgre Plateau.

Carlyle (Squint) Moore, and his sister Ruth Moore, are credited with finding the site, bringing it to Harold Huscher, and subsequently to Dr. Wormington's attention. The Moore's relentlessly scoured the country side, and kept records of the location of the artifacts that they collected. Squint also assisted with the excavation. This report is dedicated to Squint Moore.

It is an honor to be able to followup on Dr. Wormington's work. She set the standard for her time in identifying and defining the prehistoric record, before radiocarbon and other chronometric analysis were readily available.

ABSTRACT

This is a Colorado State Historic Fund grant (2016-AS-007) related project undertaken by Dominquez Archaeological Research Group for the purpose of conducting a re-analysis of the Moore site (5MN864), located on the Uncompahgre Plateau, west of Olathe. The site was excavated in late 1930's by Dr. Marie Wormington of the Denver Natural History Museum. During those excavations, a number of artifacts were recovered, which were the topic of this project and were subjected to typological, lithic source, and tool use analysis.

This project entailed the transportation of the Moore site collection, stored at the Denver Museum of Nature and Science (DMNS) to Grand Junction for inventory and description. A portion of time was spent separating Moore site artifacts from that of the Taylor, Alva, and Casebier sites, which were curated with them because of the catalogue numbering method that grouped artifacts by the illustrations in the DMNS report (Wormington and Lister 1956). Although the project's focus was the examination of artifacts held in collections of the DMNS, some field work was involved for the remapping of the site to determine the location of the 1937-1939 excavations and to record the rock art panel locations.

Temporally diagnostic artifacts that were identified in the collections indicate occupation from as early as the Middle Archaic through Late Prehistoric times. Based on the mapping and reconstruction of the 1937 through 1939 excavations of the site, it is evident that research potential remains for defining local chronology, subsistence, seasonality, and paleo-environmental conditions through additional excavation at this site.

TABLE OF CONTENTS

1.0 Introduction	1
1.1 Institutional Background	1
2.0 Site Location	2
3.0 Description of the Moore Site	4
3.1 History of Investigations at the Moore Site	4
3.2 Method of Excavation	7
3.3 Description and Evaluation of the Stratigraphy	11
3.4 Rock Art	12
3.5 Summary	12
4.0 Statement of Objectives and Methods	13
5.0 Retrieval and Transporting the Collection	13
6.0 Artifact Sorting and Labeling Issues	14
6.1 Artifacts Recovered During Excavations	14
6.2 Assessment of the DMSN Collection	20
7.0 Lithic Tool and Ornament Analysis	25
7.1 Projectile Points	26
7.2 Uncompahgre and Adz-like Scrapers	31
7.3 Perforators and Gravers	31
7.4 Ornamental Stone	33
7.5 Ground Stone	34
8.0 Lithic Source Materials	34
9.0 Bone Artifact Analysis	36
10.0 Basketry Fragment Description	41
11.0 Rock Art	43
12.0 Hearths	45
13.0 Botanical Remains	45
14.0 Faunal Remains	45
15.0 Data Gaps	46
16.0 Evaluation and Recommendations	49
17.0 Resource Management Recommendations	50
17.1 Further Archival Research	51
18.0 Summary and Conclusions	52
19.0 References Cited	54
Appendices A-D	

LIST OF FIGURES, TABLES AND PLATES

Figure 1. General location map of the Moore Shelter	3
Figure 2. Moore Shelter plan view map showing the excavation grid pattern and locations of the rock art panels	5
Figure 3. Temporal chart emphasizing the overlap of the subsistence strategies employed by the diverse cultural groups over the past 16,500 years	28
Figure 4. Drawing of bear track rock art from Panel 2 at the Moore Rockshelter	44
Table 1. Tally of artifacts excavated, by year	24
Table 2. Uncompahgre Scraper Provenience	32
Table 3. “Adz-like Scraper” Provenience	32
Table 4. List of artifacts collected by Squint Moore	46
Plate 1. 5MN863, Moore Shelter situated in sheltered area beneath ledge	2
Plate 2. Historic photograph of the undisturbed alcove area	9
Plate 3. Modern image of the alcove area at 5MN863	9
Plate 4. Historic photograph of the 1939 trench at 5MN863	10
Plate 5. Modern image of the location of the 1939 trench at 5MN863	10
Plate 6. Stratigraphy exposed during 1938 excavation at 5MN863	11
Plate 7. Late Prehistoric/Early Historic, small point	27
Plate 8. Middle Formative, corner, basal (or stemmed) and side-notched type points	27
Plate 9. Early-Middle Formative corner-notched arrow points	29
Plate 10. Late Archaic, medium to large, corner-notched dart points and hafted knives	29
Plate 11. Middle-Late Archaic, including Sinbad Side-notched variants	30
Plate 12. Middle Archaic stemmed types including serrated Sinbad Side-notched variants and Uncompahgre Complex Roubideau Phase type	30
Plate 13. Middle Archaic stemmed types including San Raphael Stemmed	30
Plate 14. Middle Archaic types with bifurcated stems including Hanna type	30
Plate 15. Uncompahgre (m29-m31) and Adz-like (m34) scrapers	32
Plate 16. Artifact m42, obsidian graver	33
Plate 17. Three artifacts that are categorized as ornamental stone	34
Plate 18. Artifact M52, apparent gaming piece	37
Plate 19. Artifact M94, fragment of a long bone crafted into a bead	38
Plate 20. Artifact M97, bone perforator tool	39
Plate 21. Antler tips used as tools from the Moore Site collection	40
Plate 22. Perforator and manipulator tools	40
Plate 23. Basketry fragment from 5MN863	41
Plate 24. Unprovenienced artifacts from the Squint Moore collection	47

1.0 INTRODUCTION

Dominquez Archaeological Research Group (DARG) received an Archaeological Assessment Grant (#2016-AS-007) from the Colorado Historic Society State Historical Fund (SHF) on 29 August 2016 to re-analyze artifacts recovered from the Moore site (5MN863). This site is one of the most important in Western Colorado as it is one of the four type sites defined by Marie Wormington as the Uncompahgre Complex (Wormington 1953; Wormington and Lister 1956). No fieldwork was involved, as the project's focus was the examination of artifacts held by the Denver Museum of Nature and Science (DMNS). Information gained through this project has provided a baseline for interpreting this and other sites in the region by researching and correcting outdated information.

Michael Piontkowski served as Principal Investigator. He was assisted in the analyses of the artifacts by Courtney Groff, Holly Shelton, and Lucas Piontkowski. As well, the database was designed by Lucas Piontkowski and Groff. Groff also separated the Moore site artifacts from those in the overall collection, determined the provenience of each artifact, and created a record of the provenience of each artifact. The artifacts were individually photographed by Masha Conner. Nicole Inman created the artifact tracking system so that the Moore site materials could be analyzed separately from the other artifacts in the collection thereby assuring they be returned in the original curation arrangement. Gabrielle Aterburn and Robbyn Ferris provided an invaluable service by formatting the Excel spreadsheet tables. Inman and Barbara Davenport assisted in the document editing.

1.1 Institutional Background

DARG is a 501(c)(3) non-profit corporation established in 2003 to serve as a catalyst for innovative and collaborative archaeological and anthropological research, preservation, and education in the northern Colorado Plateau. Functioning as a consortium of research associates and technical advisors, DARG's operational focus is to coordinate research, raise and administer funding, and manage projects that advance our shared values and mission. DARG receives funding from the State Historical Fund (SHF), various offices of the Colorado Bureau of Land Management (BLM), and through private contributors. Several of DARG's larger projects include the Colorado Wickiup Project, the Radiocarbon Database Project, the Ute Ethnohistory Project, the Colorado Rock Art Database Project.

Our preservation goals are targeted foremost on improving the scope and quality of archaeological data, and on development of information systems that facilitate efficient, parity access across the professional research community, Native American stakeholders, and cultural resource managers. We proactively seek opportunities for collaborative public outreach and education, and have established on-going working relationships with numerous local, regional, and state-wide organizations supporting preservation and appreciation of cultural resources and heritage landscapes.

2.0 SITE LOCATION

The Moore Site/Shelter (the terms site and shelter are used interchangeably in publications), 5MN863, is located on the northeastern margin of the Uncompahgre Plateau in Montrose County, west-central Colorado. It is situated 8.25 miles west of the town of Olathe (Figure 1).

The Uncompahgre Plateau has been cut by many small intermittent streams leaving a rugged canyon with step-like canyon walls with many benches. An intermittent stream occurs to the south of the site and joins another drainage 250m to the northeast (Plate 1). The site's shelter is situated 35 feet above the stream bed, and faces south-southeast. The predominate vegetation in this semi-arid climate consists of a sparse pinyon-juniper forest with a low understory of grasses, forbs and cactus.

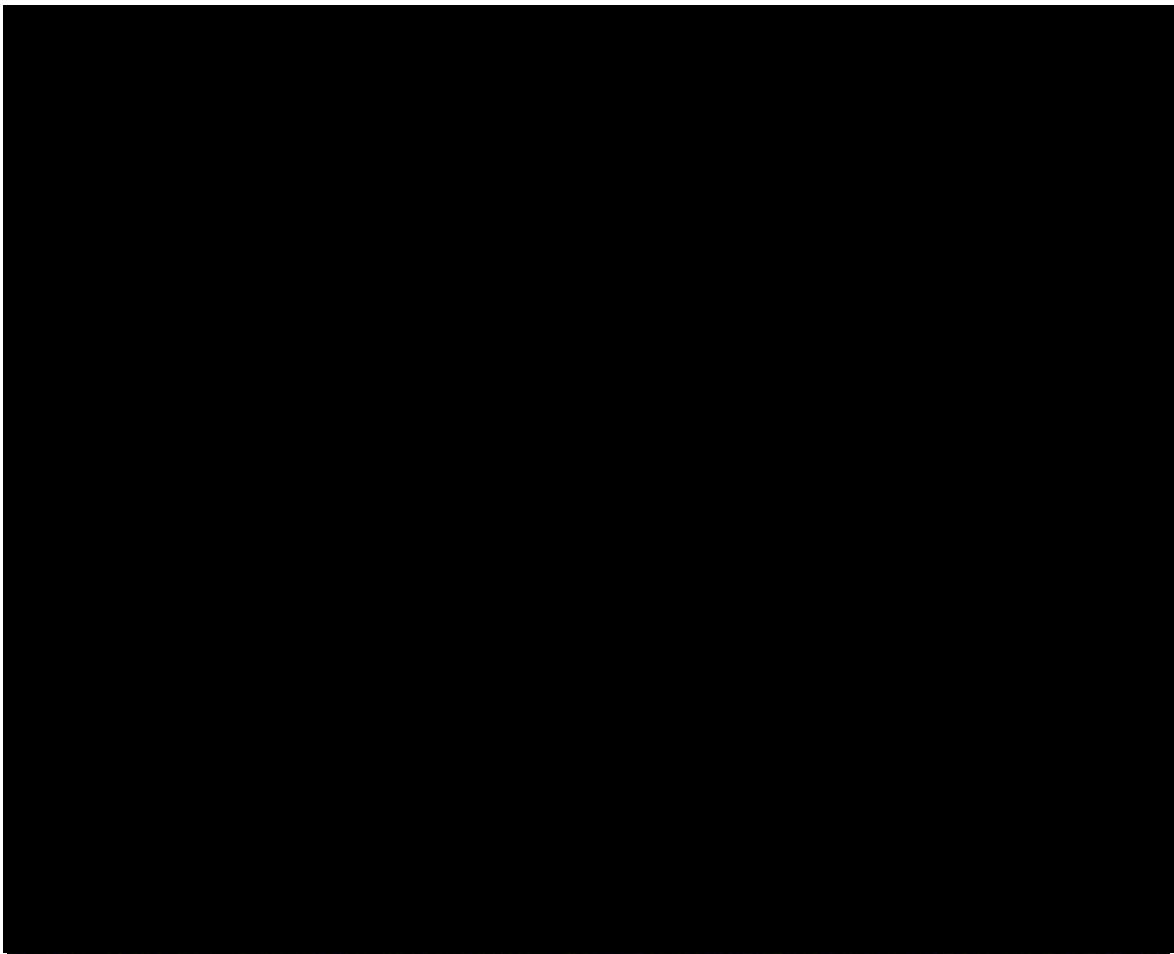


Plate 1. 5MN863, Moore Shelter situated in sheltered area beneath ledge.

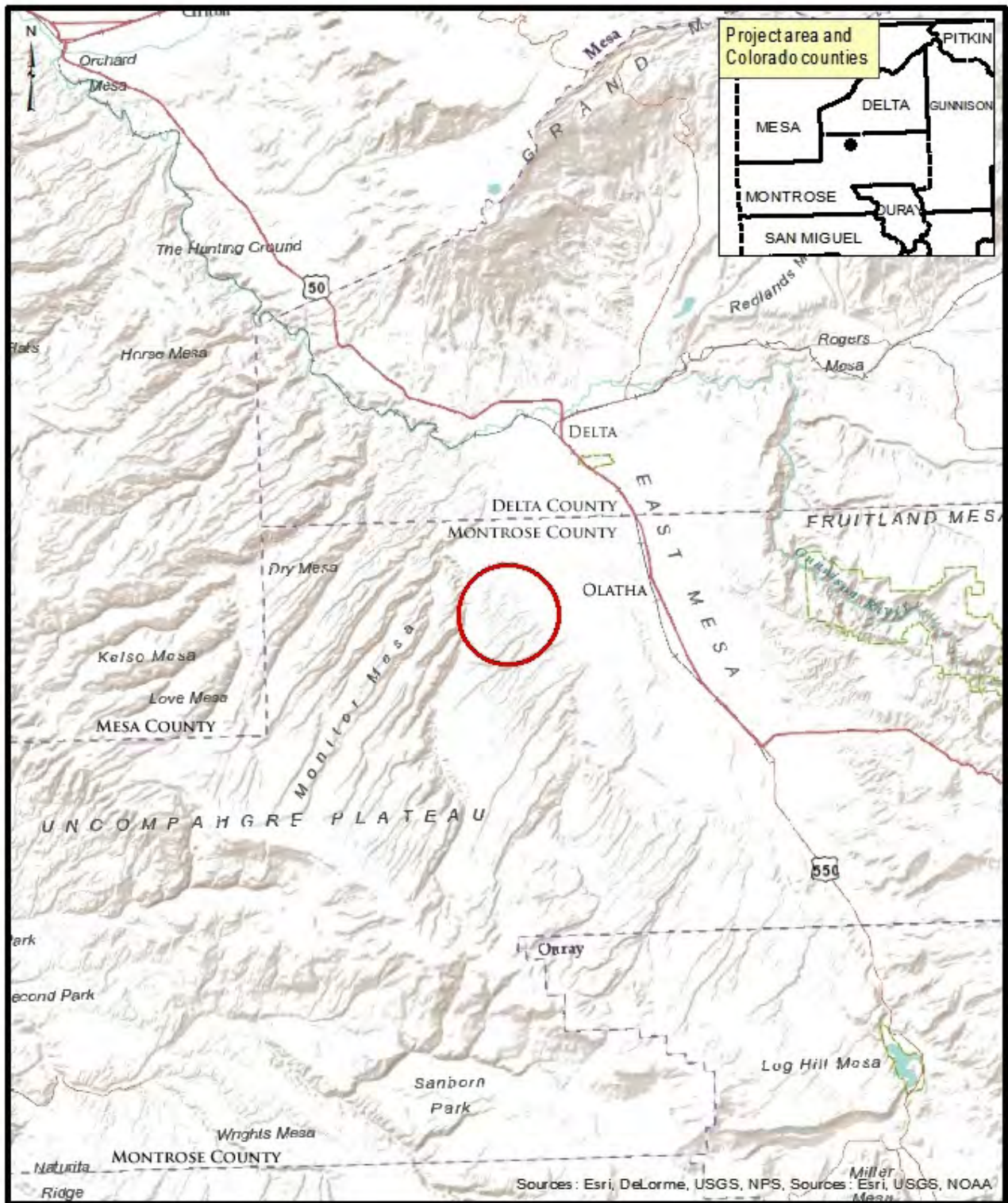


Figure 1. General location map of the Moore Shelter, Montrose County, Colorado.

3.0 DESCRIPTION OF THE MOORE SITE (5MN863)

Wormington described the site as “50 yards long, with an average overhang of 16 feet, maximum overhang of 26 feet on the west end” (Wormington and Lister 1956; 6-7). The depth varied from a few inches near the rear wall to a maximum of five feet at the outer edge of the overhang where there was a sharp drop in the bedrock. Average depth throughout the center portion was three feet.” The fill was described as being covered by “4 inches of sheep dung” and consisting of “wind-blown material, roof-fall, ash, charcoal and cultural detritus” (ibid).

Recent re-examination of the site, determined that it is 98 meters (E-W) by 32 meters (N-S). The drip-line extends 2 to 10 meters over the site, with the alcove being the best protected. The majority of the surface of the site is covered by the dripline. The dripline edge coincides with the front slope of the shelter (Figure 2.)

3.1 History of Investigations at the Moore Site

The rock shelter was discovered by teenage sister and brother, Ruth and Carlyle (Squint) Moore in 1934 as noted in a correspondence in the Huscher archives located at the Denver Museum of Nature and Science (DMNS). Following their discovery of the site, they met Harold Huscher (Mr. Huscher was later affiliated with the DMNS), who was living in a cabin in Roubideau Canyon now designated as 5MN4453 (Baker 1995:3). The Moores took him to the site, which they called “the Indian Cave” (Baker 2007:7).

In 1935, Huscher and the Moore’s sent artifacts to Dr. J.D. Figgins, then director of the Museum of Natural History (presently the DMNS). They solicited his advice on what to do with the site and its artifacts. Dr. Figgins advised them to conduct some test excavations. In a letter to Dr. Figgins, dated July 23, 1935, it is stated that “a trench was placed.....from back to front to determine the depth and stratification.”

Huscher (1963) states artifacts had been collected from the site by “the McKelvey boy,” one of which, possibly a Pinto type, was buried “three feet deep” (letter from the Moores and Huscher to Figgins, dated June 18, 1935). It is stated in the letter that his type “H” is described as “faintly suggesting the Folsom type,” and that “H-8, H-10, 12 and 15” came from the shelter. It should be pointed out the “the McKelvey boy” was a neighbor of the Moore family and eventually became Ruth’s husband (Baker 2007:8). If artifacts were recovered from the site to a depth of three feet, it is evident that it had been disturbed prior to 1935.

In a return letter, dated June 24, 1935, Figgins advises them to “carefully excavate shelterstarting at the front and digging down to the solid formation (Bedrock?). Sift all of the dirt and note at what level artifacts were found.”

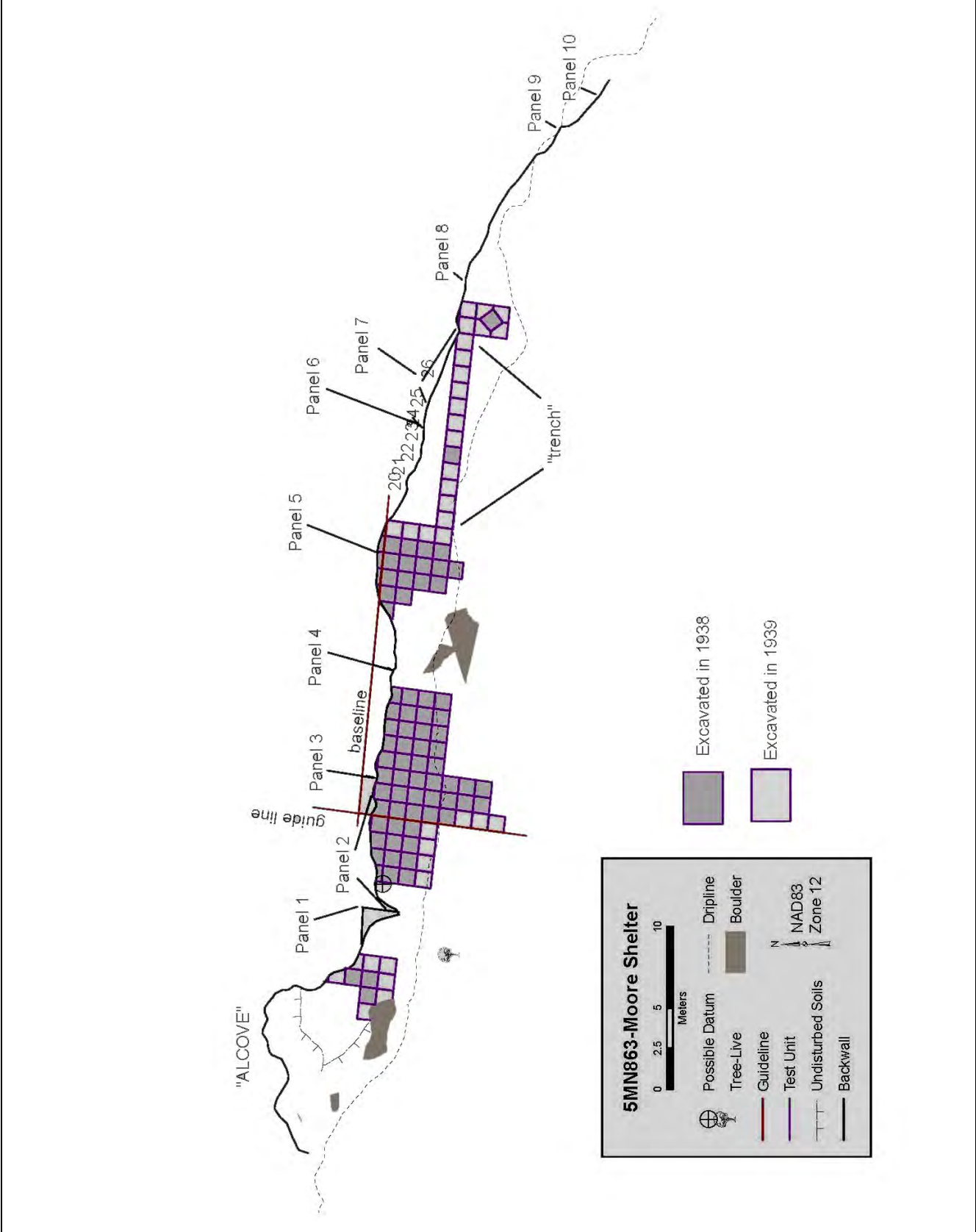


Figure 2. Moore Shelter plan view map showing the excavation grid pattern and locations of the rock art panels.

In a return letter dated 23 July 1935, they note that artifacts from the Moore site are labeled "H-C," and that they "decided to trench across the deposit from front to back to determine the depth and stratification." It stated that they "cleaned up a small area of surface preparatory to trenching, and cleaned out some of the pot-hunting excavations." It is estimated that less than a cubic yard was "sifted."

Wormington states in the 1935 DMNS Annual Report (page 14) that she visited the site 28 December 1935, and reports that a "trench fifteen feet long and four and a half feet deep" was excavated and that 32 artifacts were recovered. Artifacts included a weapon point, scrapers, knives, graters, and projectile points that are Pinto Basin type.

Harold Huscher disputes her claims of the excavation of a trench in a document he wrote in 1963 called "Background statement covering archaeological work and archaeological collections of the Colorado Museum of Natural History, 1935-1941." However, he does not provide any substantial new information, other than to note that the trench does not appear in a photograph taken "three years and two field seasons later." He alleges that no records were kept of this fieldwork. He states that in 1947 (1937?) he straightened up the trench, laid out a grid, cleaned, straightened and leveled it to standard depths.

There is no reported work at the site in 1936, most likely because Wormington and Betty Holmes were at the Lindenmeier site (1936 DMNS Annual Report, 13).

Museum personnel including Harold and Betty Huscher, Carlyle Moore, and Marie Wormington returned in 1937 and some excavation was undertaken (Wormington 1937, 13-14; Huscher correspondence, letter dated 1963). The Huscher field notes from that year indicate that three trenches were excavated, and a few artifacts recovered. In particular, he lists a "fireplace" at 44cm deep. It is described as "rocks above but no lining." The provenience is not clear on the precise location. Several "flints" and a blade are listed in the notes. The location of the excavation is not shown on Figure 5. Mr. Huscher is credited by Wormington as being a "field assistant" (pg 14). Huscher states that he did the surveying, mapping and profiling as well as the "heavy digging."

The majority of the excavation occurred during the 1938 field season. Close examination of photos taken during the excavation and the Field Catalog entries, which include provenience, indicates that the excavation began at the back of the shelter under the largest part of the overhang. The photos show that the excavation was started as a linear configuration. Field crew members included: Helen Elliot, Harold Huscher, and Barbara Morrell, who were, at that time, employed by the museum. The field notes, profiles and maps included in the papers donated to DMNS following Mr. Huscher's death, affirm his statement that he was responsible for that work.

Dr. Wormington returned in 1939 for two weeks with four students, Edith Pratt, Jean Isreal, Robert Orr, and Henry Valentin, with Helen Elliot as field assistant and Barbara Morrell as surveyor (Wormington and Lister 1956: V). The primary focus of the field work, was a

“trench” near the eastern end of the shelter. A small fragment of a woven material (plant) was recovered during this field season. Additional photographs taken during the excavation are provided in Appendix C.

3.2 Method of Excavation

Wormington provides the following descriptions of the provenience system and method of excavation (Wormington and Lister 1956; 6-7); see also Figure 2).

“A base line parallel to the rear wall of each shelter, and a guide line at right angles to the base line, were established. These were used as a basis to divide the shelter into meter squares. In trenching, material was stripped down to bedrock in 20cm levels. Sections which were particularly rich, or which contained fragile material, were troweled. All material was put through quarter-inch mesh screens. The metric system was used in excavating these shelters and in the studies of the artifacts. Heavy rockfall at the mouth of the Moore Shelter, where the greater part of the work was carried on, made talus trenching extraordinarily difficult. One 30 foot trench was run down the talus, just east of the guide line, where the rockfall had become sufficiently soft to be removed with a pick and shovel. No cultural debris was found below the decomposed sandstone and conglomerate. It appears probable that the overhang had not been much greater since the time of occupation, save in a few sections where large rockfalls still lie on the surface. These could not be removed, but holes which were dug under the rocks served to indicate that there was some cultural material underlying them. Since there was no clear stratification, and the slope of the floor made it extremely difficult to establish satisfactory levels, the distance of artifacts from base line, guide lines, and surface were recorded in an effort to check possible changes in complex. Profile drawings were made at regular intervals and the position of artifacts in relation to each other and to bedrock was plotted. This work, however, showed no marked changes, and a homogenous culture appears to be represented in both sites...”

The grid squares were designated by a number and letter. The numbering began at the “Guideline,” which divided the site into W and E quadrants. The lettering began at the back wall with the “Baseline” being the 0. Vertical measurements were recorded but there is no record of where the vertical datum was located nor what method was employed to take measurements for each grid square excavated. An “X” is inscribed on the back wall that may be the datum, but it does not coincide with the position of the guideline and baseline. Some of the grid square numbers are also visible on the back wall near the east side of the shelter. They appear to be written with chalk and include numbers 20, 21, 22, 23, 24, 25, and 26. These numbers most likely coincide with the grid square number, of the excavated portion of the site. A “Field Catalog” recorded the provenience of each artifact. This catalog is contained in the Huscher papers, indicating that he was the record keeper. Again Huscher asserts that he laid out the grid.

The excavations in the late 1930's removed much, but not all, of the archaeological deposits. There exist two areas of undisturbed deposits - an area called "the alcove" (Plates 2 and 3) and another along the side of the "trench" (Plates 4 and 5) that was excavated in 1939. A buried charcoal/ash lens was noted in a rill in the alcove in 2016 (Photo #D2016-4; CC212). Additionally, undisturbed archaeological deposits are likely to be present near the west end of the site, particularly north and south of the "trench." Some of the deepest and best preserved deposits are likely here. The surface of the site is currently undisturbed (Photo # D2016-4; CC197). The rock art appears to be relatively intact.

Based upon the surface area of the excavated grid squares as shown in Figure 5 of Wormington and Lister (1956:7), approximately 72 square meters was excavated in 1938, and 35 square meters in 1939.

Artifacts recovered from the Moore site excavations included: projectile points, knives, scrapers, graters, perforators, drills, retouched and utilized flakes, choppers/hammerstones, milling stones, hand stones, shaft smother, stone ornaments, bone implements and bone ornaments, deer antler tips, wood artifacts, and woven material. Projectile points recovered indicate that the site was occupied from the Middle Archaic through the Late Prehistoric. Perishable materials included: yucca leaves, cedar bark, and bone and wooden tools. (Wormington and Lister 1956; 10-32).

Four unlined hearths were reported and consisted of charcoal and ash in shallow pits covered by flat stones. Charcoal was recovered from a feature in 1952. Faunal remains were also recovered and reported to have been sent to Dr. Glover Morill Allen at the Harvard Museum of Comparative Zoology. Additionally, botanical samples (seeds) were reportedly sent to Dr. Volney Jones at the University of Michigan.

At present, the location of the above samples is unknown. If the samples could be located, the charcoal samples may yield important chronometric data, seasonality and subsistence data. The presence of additional subsurface features at the site is highly likely and these would also yield important chronometric information using modern dating techniques.

Archaeological preservation in the deposits was good, and likely better than in the majority of sites now known. The shelter is well protected by the overhang, which contributed to the preservation of perishable artifacts. The recovery of these perishable materials indicates exceptional preservation in the deposits and the presence of ash and charcoal is an indication of limited oxidation in the fill since deposition. In known sand dune sites in southwest Wyoming, organic carbon oxidizes completely within one to two thousand years, (Miller 1992). Preservation of pollen and other organic materials should be good as well.



Plate 2. Historic photograph of the undisturbed alcove area at 5MN863, the Moore Shelter, view northwest. Photo from the 1939 field notes captioned: “The Alcove. A test pit only was dug in here. Also quite a bit of the overhang that has fallen can be seen.” (Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science).



Plate 3. Modern image of the alcove area at 5MN863, the Moore Shelter, view northwest.



Plate 4. Historic photograph of the 1939 trench at 5MN863, the Moore Shelter. (Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, catalog number: IA.0091-247).



Plate 5. Modern image of the location of the 1939 trench at 5MN863, the Moore Shelter.

3.3 Description and Evaluation of the Stratigraphy (by Courtney Groff)

Photographs of the trench and test pit walls from 1938 were examined in an effort to analyze any stratigraphy that was present as well as the possibility of the separation of cultural components. At least three separate deposits can be discerned from one of the photos (Plate 6, DMNS image #0091-247). (The location of the excavated side wall this photo is not precisely known, but it appears to be located in the trench, which was along the back shelter wall).

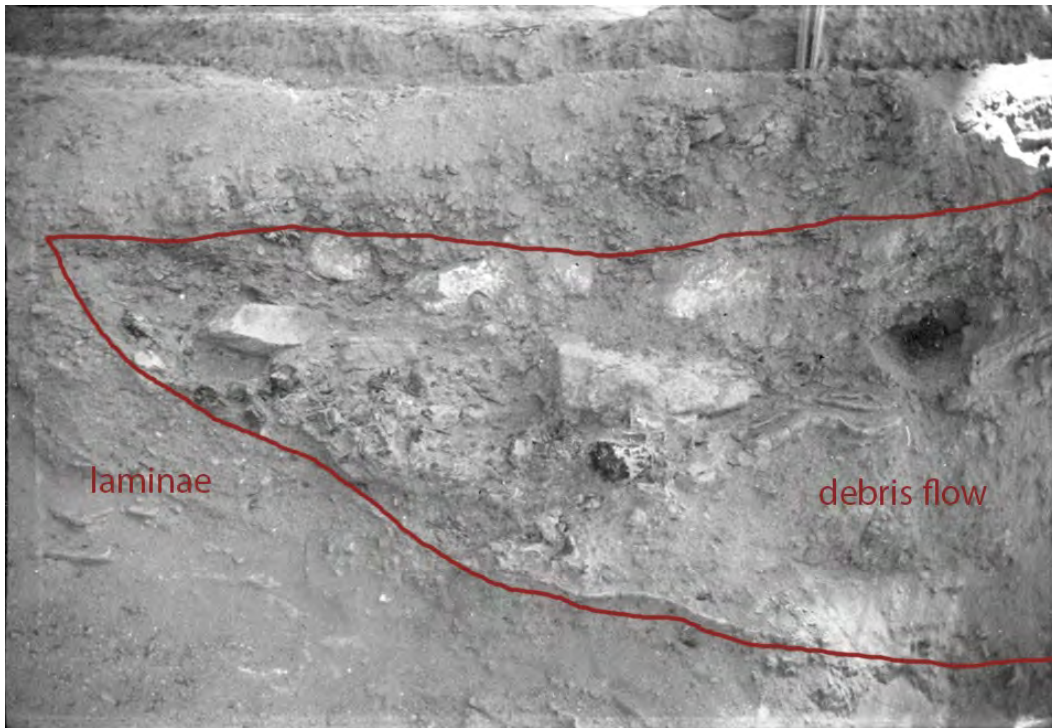


Plate 6. Stratigraphy exposed during 1938 excavation at 5MN863, the Moore Shelter. (Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, catalog number: IA.0091-247)

The lowest deposit is a matrix supported unit of soil particles with interspersed clasts of flat pebbles. Induration of the clasts is not readily evident, but stratigraphic lenses or laminations appear to be visible to the left of the photo, indicating prolonged periods of deposition and soil stabilization between depositional episodes.

The middle unit appears to be similar to a debris flow or landslide. Large boulders are present within a poorly sorted matrix of smaller clasts and soil particles. Imbrication of the clasts is not evident in the photograph. A slight color variation between the lowest deposit and the overlying debris flow may indicate an increase in secondary mineral formation. The exact position of the photograph beneath the dripline is unknown; however, the boulders have likely fallen from over the dripline and migrated outside the shelter in a debris flow. This theory is

further substantiated by the wedge-shape of the deposit that appears to thin toward the backwall.

The debris flow is overlain by what appears to be a massive, thick deposit of chiefly soil sized particles. The lack of imbedded clasts within the matrix suggests that these deposits were not created by a single episode of weathering, but instead may indicate a prolonged period of stabilization that is likely separated by laminated lenses of episodic deposition.

Analysis of photographs from the Moore site suggests that stratigraphy of the soil is more pronounced than thought during excavation in the 1930's. Although stratigraphic analysis of sheltered sites can be difficult due to the effect of alluvial processes such as sheet-wash, stratigraphic separation of cultural components is not only possible, but is likely. Modern, on-site geoarchaeological analysis of the soils could offer valuable information to the past climate and age of the cultural deposits.

3.4 Rock Art

Rock art was quite extensive at the site (distribution shown in Figure 2). It was described as: *“On the back wall of the Rock Shelter there are several petroglyphs composed of grooves and circular depressions. One 15 foot-long panel shows numerous bear paw patterns and straight lines. Also there is a large rock which slipped from the back wall on top of the deposits with a flat surface exposed. On this slab was a design 22 inches long and 14 inches high which appears to represent a conventionalized bird motif”* (Wormington and Lister 1956; 8-9). [See the section on rock art analyses.]

3.5 Summary

Dr. Wormington presented her results in her dissertation, entitled “The Archaeology of the Upper Colorado Plateau Area in the Northern Periphery of the Southwestern United States” (Wormington 1953). The Denver Natural History Museum published the report of the Moore site and other site excavations in “Archaeological Investigations on the Uncompahgre Plateau in West Central Colorado” (Wormington and Lister 1956).

The site was recorded by Daniel Hutchinson of the Bureau of Land Management (BLM) in 1972, based upon records on file at the Office of Archaeology and Historic Preservation (OAHP). The site form information appears to have been copied from Wormington and Lister (1956), and no new information about the site or its condition is provided. It is unclear whether the location of the site was field verified.

In 1972, the BLM nominated the site to the NRHP, based upon it having been one of the first sites excavated on the Uncompahgre Plateau and having been a type site for defining Wormington’s Uncompahgre Complex (Wormington and Lister 1956). A search of the state and NRHP databases did not show that any further action was taken on the nomination.

4.0 STATEMENT OF OBJECTIVES AND METHODS

The Moore Site is an important site in western Colorado, and therefore updating information for the site is crucial. The site records are significantly out-of-date, the whereabouts of some of the recorded artifacts and records is unknown.

The first objective was to access and transport the collection that contained not only the Moore site artifacts but the Taylor, Alva and Casebier sites. The collection has been curated at the Denver Museum of Nature and Science (DMNS), where it was retrieved and brought to the DARG facility in Grand Junction. The second objective was to separate the Moore site artifacts from the artifacts of the other three sites. Finally, the third objective was analysis of lithic source and tool use as well as detailed measurement of each individual artifact from the Moore site and was documented in a spreadsheet to allow ease of sorting.

The primary goal of this project was to assess the integrity of the collection and determine its potential to contribute to furthering our knowledge about the prehistory in western Colorado.

5.0 RETRIEVAL AND TRANSPORTING THE COLLECTION

The collection was retrieved from the Denver Museum of Nature and Science (DMNS) in Denver and transported to Grand Junction, Colorado, in 2015. Retrieval of the collection began with Michael Piontkowski submitting a letter on behalf of Dominquez Archaeological Research Group (DARG) requesting the loan of the collection. DMNS agreed to the loan and requested that a liability policy be taken out for the collection during its transport and storage at the DARG research location. DMNS found that the artifacts from all four sites, Taylor, Alva, Casebier and Moore sites were intermixed. The four sites had been accessioned as one accession number (541) and stored together in a variety of bags and boxes. There is no record that explains why the artifacts of all four sites were not separated by site. It appears, based upon the way they were bagged, that the artifacts were sorted into groups for the dissertation and report (Wormington 1953; Wormington and Lister 1956) which does not distinguish by site.

The entire collection was packaged for transportation by DMNS. Many of the artifacts were left in the original cardboard lidless boxes with foam cut-outs for artifacts and then placed in plastic bags.

When unpacking the collection and attempting to separate out the artifacts by site, it became clear that there was a collection management history that may never be fully documented at the end of this project. Perhaps there are additional files in the archives (at DMNS and the Smithsonian) which would help to illuminate the history of the physical management of the Wormington collection.

6.0 ARTIFACT SORTING AND LABELING ISSUES

DMNS provided copies of the original catalog cards, with matching photos of the artifacts arranged by accession number, a loan list that documents artifacts in each accession number, and comments on what was found when they first examined the collection, and their subsequent actions. These records were invaluable once the collection was unpacked and separated out by site. DMNS reassigned catalog numbers in those instances where artifacts did not match up with illustrations in the report, or there were other issues with catalog numbers.

The 1939 Field Catalog, which lists field number, artifact type, and provenience was also invaluable in resolving artifact labeling issues. Issues encountered include: illegible numbers on the artifact, changed numbers, and artifacts not being consistently labeled, and what are assumed to be field catalog numbers that do not match the type of artifact listed in the field catalog. To date, there is no record of field catalog numbers 160-277 in the Huscher or DMNS files. Some of the artifacts are marked with numbers from the missing series.

A variety of labels were found on the artifacts - they include single numbers (usually the field catalog number), numbers on colored backgrounds, and in some cases, three sets of numbers. In all cases, the artifacts were labeled with the DMNS accession number 541 with a line underneath and a number below the line. Some, but not all, have a field catalog number that in most cases corresponds to the artifact listed in the field catalog.

DMNS accession numbers were assigned to groups of artifacts that are illustrated in Wormington's report. They were then packaged in these groups, and stored at DMNS. It is likely that the accession numbers were assigned and marked on the artifact after the publication of her report in 1956, due to their being grouped by illustrations.

Prior to retrieval of the collection, DMNS assigned a new accession number to those artifacts with an accession number higher than 541.58. Re-numbering was necessary due to questions about the lack of records, artifacts mis-identified as to the site it came from, numbers not being present, or incorrectly numbered.

6.1 Artifacts Recovered During Excavations

Wormington provided the following definitions of the artifact classes, some of which are located in the Taylor Site section of the report and others in the Moore and Casebier Site sections (Wormington and Lister 1956).

***Knives:** Thin, flaked on both surfaces. Usually leaf-shaped with one pointed and one rounded end. Often asymmetrical with one straight and one rounded side. Rarely, essentially rectangular or with a concave base. Term has been applied to thin artifacts, flaked on both surfaces, which could well have served for cutting purposes. They may in general be called leaf-shaped, although there are a number of variations. Broad, shallow spalls have been removed from either face; a marginal retouch is rare and,*

when present, is very slight. They are usually thin, rarely exceeding a quarter of an inch in thickness. They range in length from 1 ½ to 3 inches.

Scrapers : Uncompahgre type of specialized scrapers. Triangular or roughly rectangular. One edge flaked only on one face. One or more edges flaked on both faces. Adze Scrapers: Trapezoidal. Taper to a thin edge from a thick butt. Lower edge flaked on one side only.

End Scrapers: Extremely rare.

Retouched and Utilized Flakes: Sharp flakes utilized without further work. Others with one worked edge, usually convex, usually retouched on one face only. Probably served the function of side scrapers.

Drills or Perforators: Rounded bases tapering to a point, irregularly shaped expanding stems, triangular, straight shafts. Bases often thick enough to preclude hafting

Choppers and Hammerstones : Nuclei with heavily battered edges.

Milling Stones: Sandstone slabs, largely unshaped, often fragmentary. Flat or with very shallow elliptical depressions. Usually used on one side only, sometimes on both sides. Frequently pecked.

Handstones: Small, one hand type. Usually made of river cobbles, rarely of sandstone. Usually 2 worked faces, sometimes one. Grinding surfaces frequently pecked. Edges always pecked. Ends usually battered. More handstones are found than milling stones.

Shaft Smoother: Rectangular piece of coarse sandstone with broad longitudinal groove

Bone Implements: Awls made from splinters. Splinters with polished blunt ends.

Ornaments: Stone Pendants.

Bone: Tubular bone beads.

Wooden Artifacts: Broad shaft with shallow grooves at

Basketry: Single rod-and-bundle with non-interlocking stitches

Artifacts from the Moore and Casebier Sites are described together in the report with no separate tabulation given for the Casebier Site. The following is the number of artifacts as described in the report for both sites (Wormington and Lister 1956:10-32).

Projectile Points -

Triangular or leaf shaped, small (1 ½ - 2") - 7

Triangular or leaf shaped, small, (1 ½ -2") - 8

Corner Notched, small (<1 ½" long) - 10

Corner Notched, large (>2" long) - 8

Straight Stemmed (1 - ½") - 6

Serrated, Triangular - 2

Serrated, Corner Notched - 1

Pointed Tang - 1

Parallel sided - 1

60 Total (44 -Moore site 16 - Casebier Site)

Knives - *Of the ten whole specimens found, four are asymmetrical, with one straight and one rounded side. Three are essentially symmetrical and leaf-shaped, with one end slightly more pointed than the other. Two whole specimens are triangular, and two fragments show evidence of being of the same type. One complete blade has squared ends. Of the fragments whose exact form cannot be determined, one exhibits a concave base, seven are squared at the end, five are rounded and nine are pointed. One unusual specimen was found on the surface of the Casebier Shelter. The lower portion of the base is broken, but it may be estimated that the whole specimen was approximately 4 inches long. It is 1½ inches wide and has straight sides, a blunt tip, and a corner notched base.*

Whole - 10

Fragmentary - 22

Scrapers - *Only two end scrapers are included in the collection. They were made from slender keeled flakes. The ends are rounded and carefully chipped. Some flakes were removed from the sides. In one, the upper portion of one side may have been used, but in the other, the supplementary flaking appears to have been only for purposes of shaping.*

End Scrapers - 2

Uncompahgre Scrapers - 5

Adze-like - 3

Core scrapers - 9

Uncompahgre scraper - (Wormington 1953:163, Wormington and Lister 1956: 18-19, (Figures 15,16, 17). *are described as: "...vary in shape from triangular forms, with or without rounded sides, to a more or less rectangular forms. While the shape is not highly standardized, they bear a generic resemblance to each other, and their common traits serve to differentiate them from ordinary scraper types. Most important is the manner in which the flaking of the edges is arranged, one edge being flaked only on*

one face, while one or more edges are normally flaked on both faces...They were made from large flakes and the bulb of percussion is often readily observable. The butt end is normally unflaked and is part of the striking platform. In two cases, it consists of the original patinated rock surface. In three instances a broad shallow spall has been removed near the butt...Since this end is very thick, and since these tools are easily large enough to serve satisfactorily without a haft, it seems probable that this was done to provide a thumb hold rather than to facilitate hafting. Another somewhat similar artifact was found, but one end is so sharply pointed that it could readily have served as a perforator and it will be discussed under that heading. These implements are distinctive and should have diagnostic value when the complex is encountered elsewhere (ibid.)."

Five examples of the tool were found in the deposits of the Moore Shelter, two in the first level, one in the second, and two in the fourth level. Another was found on the surface close to the Shelter. These artifacts vary in shape from triangular forms, with or without rounded sides, to more or less rectangular forms. While the shape is not highly standardized, they bear a generic resemblance to each other, and their common traits serve to differentiate them from ordinary scraper types. Most important is the manner in which the flaking of the edges is arranged, one edge being flaked only on one face, while one or more edges are normally flaked on both faces. These tools may have had some specialized function, or, as appears more probable, they may have been tools of multiple uses, serving both as knives and as scrapers.

*Three **adze-like scrapers**, which may also provide a diagnostic feature of the complex, were uncovered. The smallest is 2½ inches long and the maximum width is 3½ inches. The largest is 3½ inches in length, and the maximum width is 3½ inches. All of these have thick butts, are roughly diamond-shaped in cross-section, and have flat faces. In two cases the original surface crust of the rock forms much of one surface. From the butt end these implements taper to a thin edge at the bottom, which is flaked only on one face. The other edges are not sharp and, in the case of the largest specimen, there appears to be some intentional smoothing of the sides, which would suggest that these tools were not hafted but were grasped in the hand.*

*Nine specimens present the appearance of **core scrapers**, but occasional remnants of flake surfaces indicate that they were made from flakes. Broad, shallow spalls have been removed from both faces. They are crude and possess no really good working edges and may be blanks or rejects, although, after careful examination, this seems unlikely, since they appear to show evidence of use. artifact easier to grasp. All shapes and sizes are represented. Probably any flake that was available when the need arose was retouched and used. Most pieces appear to have been retouched by percussion, but a few show an unmistakable pressure retouch. Two retouched flakes exhibit smooth edges, which suggest that they may have been used for cutting bones or other hard material that would serve to wear down and polish the cutting surface.*

“Gravers” - *Although many authorities feel that the term "graver" should be applied only to specimens which conform to European standards, the name has repeatedly found its way into the literature in reference to implements bearing small points which may have had a similar function, although they are not characterized by the typical burin technique. Two specimens of this type were found. One is made from a keeled quartzite flake. There are two small points at either end. The flaking of these points is on alternate faces. The second specimen is of obsidian, the only artifact made of this material in the entire collection. It is a flake with a small "graver" tip at one end.*

Drills or Perforators - *Five, and possibly six, specimens fall in this category. Two have rounded bases and tapering points and one is roughly triangular. Another has a point more clearly differentiated from the base which is convex and side-notched. The fifth is a slender, finely flaked artifact of chalcedony. The base is very small and thin. The sixth piece is probably an example of the utilization of a flake, with a natural form adapted to the fashioning of a particular implement. The butts extremely thick and apparently little effort has been made to shape it; part of the iron-stained surface crust of the rock from which the flake was struck remains. The concave edge is flaked on both faces and the other only on one. It is reminiscent of the distinctive cutting and scraping implements previously described, and could have been used for the same purpose, but it could also have served as a perforator. Six artifacts superficially resemble certain perforators, but they could not have been used for such a purpose and their use is problematical. They are thick and crudely flaked and the tips are relatively broad.*

Retouched Flakes: *A great number of artifacts are flakes characterized by general lack of fashioning with only one worked edge. They might be called side scrapers, but such a term gives an impression of a more definitely shaped tool. There are forty-five whole specimens in this class and a great number of fragments which probably formed parts of similar implements. In almost all cases, they are flaked only on one face, although rare examples are retouched on both. The worked edge is generally somewhat convex. The other edges are usually unflaked or, at most, a few random flakes may have been removed, possibly to make the*

Utilized Flakes - [discussed but not tabulated]

Choppers or Hammerstones: *The collection includes seven artifacts which have one or more heavily battered edges. Four were found in the deposits and three were found on the surface of the shelters. All were made from cores. In some cases, nuclei, from which flakes had been struck for the manufacture of implements, may have been used without further modification; in others, additional spalls seem to have been removed to facilitate grasping. This tip is*

flaked only on one face.

Grinding Stones: *Twelve whole and thirty-eight fragmentary handstones, and eight whole and twenty-five fragmentary nether milling stones were uncovered. The handstones were made from stream bed pebbles. They range in size from 3 ½ by 2 ½ inches to 5½ by 3½ inches. Five had been used only on one side, and ten on both sides. The remainder were so fragmentary that determination was not certain. Three-fourths had been pecked. Battered ends on most of the hand stones indicate that they probably served for pounding as well as grinding. One specimen was stained with hematite, and one was covered on one side by a creamy white powder which has been impossible to identify. The milling stones are roughly rectangular sandstone slabs, largely unshaped save for a little rounding off of the edges and corners. They vary in size with average dimensions of 18 by 12 by 3 inches, although some specimens are less than an inch thick. They are of the basin type, with elliptical depressions, usually less than 1 ½ an inch deep. The grinding surfaces vary in size as might be expected on the basis of the lack of uniformity in size of handstones. Three-fourths of the milling stones show signs of pecking.*

Shaft Smoother: *One fragmentary shaft smoother of coarse sandstone was uncovered. It is a rectangular piece with a groove running lengthwise. The groove is an inch wide and 1/8 inch deep.*

Stone Ornaments: *Three ornaments of stone were found. One is a circle of fine-grained sandstone, 1 inch in diameter, with a hole in the center. The edges have been ground. The surfaces may have been artificially smoothed, or they may represent natural cleavage along a bedding plane. The hole, which was drilled from both sides, is 1/8 of an inch in diameter. The second specimen appears to be the basal end of a pendant. It is of the same material as the circular piece, but slightly thinner. The basal portion is composed of three scallops, of which the center one is somewhat longer and narrower than the other two. Incised grooves extend a slight distance beyond the notches. The complete piece might have represented a conventionalized bird form. The third, which also appears to represent the basal portion of a pendant, is of selenite. The base is convex and the sides somewhat flaring. The edges have been ground.*

Bone Implements: *Although fragmentary animal bones, many of which bear marks of cutting, occur in quantity throughout the deposits, bone artifacts are surprisingly scarce. Bone awls are represented only by two specimens. They were made from splinters. The larger has a present length of 4½ inches and is probably almost complete. It tapers to a fine point which has a slight inset, with one flattened side, which extends half an inch from the tip. The smaller piece is slightly thinner and does not have any inset at the point.*

Bone Ornaments: *Three tubular bird bone beads, ranging in length from ¼ to ½ inch, are included in the collection. There is also an unfinished piece, the*

tibia of a jackrabbit, with transverse scratches. Apparently, an attempt had been made to cut out a tubular section for a bead.

Horn Artifacts: *Although no definitely worked horn objects were uncovered, a number of deer antler tips, ranging in length from 1½ to 2½ inches, were found. Striations at the distal end indicate that they had been used in some way.*

Wooden Artifacts: *A single fragmentary shaft, broken and split lengthwise, was found. There are two shallow grooves at the unbroken end. These may have been made intentionally to hold the hafting material, or they may have resulted from the pressure of such material. The specimen is almost 1½ an inch wide and fits perfectly into the shaft smoother previously described. It is probable that such a shaft would have been used with the atlatl rather than with the bow.*

Woven Material: *Since climatic conditions are such that normally perishable materials are preserved, and yucca leaves, cedar bast, and similar materials are found throughout the deposits, it would be assumed that basketry would be equally well preserved. Only one tiny fragment of basketry was found, a bit of coiled ware made on a single rod and bundle foundation with non-interlocking stitches. An unusual object which consisted of four yucca leaves folded in such a way as to form a four-sided figure was also found. A small strip of yucca leaf extends diagonally between the corners.*

Wormington provides the following comments on the artifacts that she examined. “The predominant source material of artifacts is quartzite. Percussion and pressure flaking are represented. Most of the artifacts are characterized by a lack of careful fashioning which suggests that they were made simply to fill a temporary need. Many are flaked only on one face, and often only one edge has been worked. They convey a general impression that not one unnecessary flake was removed. The presence of some finely chipped specimens, however, serves to indicate that the crudeness was not due to lack of knowledge or ability.”

6.2 Assessment of the DMSN Collection

The current collection was separated into morphological classes: formal chipped stone tools - projectile point, drill, biface; informal chipped stone tools - uniface, cobble tool, core tool; ornamental stone; other worked stone; ground stone; and perishables. The categories developed were created to be descriptors of morphology or technology, without assuming function. By extension, category definitions were established to facilitate future analysis utilizing the same criteria.

Definitions for each morphological class, for this study, are as follows:

Projectile Point - a bifacially worked artifact possessing a haft element (a facility such as notching, constriction or grinding for hafting) on one end and whose lateral margins meet in a point at the opposing end.

Biface - flaked stone artifact exhibiting evidence of facial thinning on both dorsal and ventral faces, but lack hafting elements --such as notches, a stem, or fluting – which could have been used to attach the tools to wooden shafts. Bifaces can be symmetrical or non-symmetrical.

Uniface - an informal tool usually made on a flake blank and has been modified on one margin.

Perforators - An artifact with a projection that was used as a bit for creating holes. These artifacts can be formal, bifacially flaked tools with hafting elements or informal flake tools. Some are formal, bifacially flaked tools with hafting elements – these include tools that were manufactured specifically for perforating, as well as recycled projectile points on which the tip was “retouched” to create a narrow bit. The bits of these formal tools are often beveled in opposite directions. Perforators may also be informal, expediently manufactured tools that were held in the hand and that retain most of the characteristics of the original flakes from which they were made.

Cobble Tool- (vs core) a rock (often quartz or quartzite) that is rounded; has no negative flake scars, but exhibits battering and/or small use flakes along at least one edge.

Core Tool - are rocks from which at least one flake has been removed for purposes of supplying stone for tool manufacture; exhibits negative flake scars on one or more edges; cores are not considered tools per se, but they served as sources of flakes that could have been used as, or manufactured into, tools.

Ornamental Stone - artifacts with at least one drilled hole; usually rectangular in outline, and very thin; possible pendants.

Worked Stone (Other) - Battered/polished-stone artifacts; small pebbles (water-worn).

Groundstone - stone tool class exhibiting one or more faces planed smooth through use and/or manufacture;

Mano - ground stone tool class of portable hand-held grinding tool; exhibiting at least one ground and/or shaped surface, often the ends and sides have been shaped;

Metate - ground stone tool class of stationary rock slabs used with manos; usually thicker and larger than a grinding slab (see below), exhibiting at least one surface that has been ground and/or pecked; use and/or manufacturing/maintenance has created a depression on the working surface.

Perishable - an artifact of organic origin (i.e. bone, wood) and may or may not exhibit

evidence of human modification.

A database was created that contained attributes that were as replicable and as descriptive as possible. Each attribute is defined in the appropriate database (Appendix B) and was taken from current literature. The definitions of the chipped stone attributes were derived from Andrefsky (2005). Bone tool attributes are defined in the Bone Artifact Analysis section. All of the artifacts were analyzed individually to record a series of variables concerning raw material, production technology, shape and size. The goal was to make as few assumptions about use and to use quantitative terms to describe the attributes.

The attributes for provenience of each artifact include all of the information found on the artifact, information found in the field notes that is associated with the artifact and DMNS documentation that accompanied the collection. The following provenience attributes were recorded for each artifact analyzed and are included in each table. Additional provenience data is included in Appendix D.

Artifact number/ Project tracking number - A unique numeric ID was created for each line of data that serves as the primary key (unique value) for tying all data tables together. Numbers were assigned sequentially with a “M” prefix.

The DMNS accession number - A541., followed by a second number separated by a period. The second number was assigned by DMNS, and is based upon the artifact groups that Wormington describes in her report. Quantities vary from a single specimen to 10-15 specimens.

Field Catalog number - As assigned in the field, and recorded in Huscher’s field notes. These are sequential, beginning at 1 (in 1938) through 390. The record for numbers 161-277 are not included in any of the known documentation, but some of these numbers were found on the artifacts.

Grid number - Each grid square excavated was labeled with a number, and in 1939, a letter was added. The number corresponds with the distance from the guideline (east/west), and the letter to the sequence of grid squares beginning at the baseline, with “A” being the closest to the baseline.

Baseline - A line roughly parallel to the back of the rockshelter from which distances were measured using the metric system.

Guideline - A line near the western end of the shelter that is perpendicular to the baseline and divides the grid into east and west quadrants. Distances of the individual artifact measured from this line using the metric system.

Depth - Metric measurements from a single? unknown vertical datum. In the field notes, denoted as a number, from one to three digits, and denoted by a “D.” It is

assumed that the number is the depth, in centimeters, below single unknown datum.

Painted number - Some of the artifacts have the field catalog number placed on top of a painted dot. It is assumed that the paint and field catalog number were placed on the artifact, in the field, as they were recorded in the catalog.

Paint color - The color of the painted dot.

Year excavated - Derived from the field catalog.

Confidence - The confidence that the current investigation has that the provenience of the artifact is accurate.

Provenience comments - Additional information about the artifact, usually found in the field catalog.

Based upon the morphological classes defined above, the current collection consists of:

- Projectile Points - 35
- Perforators - 6
- Bifaces - 20
- Unifaces - 5
- Cobble Tools - 6
- Core Tools - 0
- Worked Stone (Other) - 0
- Ornamental Stone - 3
- Ground Stone - 2
- Perishables - 16

The current DMNS collection from the Moore site consists of 93 specimens. This number under represents the quantity of lithic artifacts from the site - debitage was not cataloged and saved, and only 2 out of 89 ground stone specimens are currently available. A tally of artifacts in the report totals 201, of which 89 were counted as ground stone (metates, manos, fragments thereof) and five were counted as bone (Table 1). Therefore, the current collection from the Moore Site is not complete.

Of the 93 artifacts in the collection, 35 are projectile points. These artifacts were illustrated by Robert Lister and/or photographed and appear in Figures 8 - 27 (Wormington and Lister 1956:10-31). The projectile points in the current collection are described by attribute in Appendix B and photographs are in Appendix A. It is important to note that some artifacts that may have been classified as blanks or knives by Wormington were reclassified as projectile points by the current project, thus relying solely on numerical comparisons of projectile points is not reliable.

Table 1. Tally of artifacts excavated, by year. Based upon Huscher field notes.

Artifact type (per Huscher's field catalog)	1938 (Field Catalog #'s 1-160)	1939 (Field Catalog #'s 272-390)
Projectile points	22	29
Blade	25	21
Blank	6	-
Scraper	28	11
Drill	2	1
"Crude awl"	1	1
Core	2	1
Chopper	1	1
Hammerstone	1	-
Worked obsidian	1	-
Utilized flakes	16	16
Metate	19	1
Manos	10	5
Polisher	-	1
"Smoothed stone"	-	1
Ornament	1	-
Pendant	-	1
Bone	12	-
Bone bead	1	1
Bone pj	-	1
Antler	6	1
Seeds	-	2
Hair	-	2
Hide	-	1

Artifact type (per Huscher's field catalog)	1938 (Field Catalog #'s 1-160)	1939 (Field Catalog #'s 272-390)
Tooth	2	-
"Wood"	1	-

A tally of artifacts as provided in the report, is given below (Wormington and Lister 1956:10-32).

Projectile points - 60 total
 Moore site = 44*; Casebier Site = 16
 Knives -
 Whole = 10;
 Fragmentary = 22
 Scrapers -
 End Scrapers = 2;
 Uncompahgre Scrapers = 5;
 Adze-like = 3;
 Core scrapers = 9
 Gravers - 2
 Drills or Perforators - Five, and possibly six
 Retouched flakes (whole) - 45
 Choppers/hammerstones - 7 (4 in situ, three on the surface)
 Grinding stones (manos) - whole = 12; fragments - 38
 Milling stones (metates) - whole = 8; 25 = fragmentary
 Shaft smoother - 1
 Stone ornaments - 3
 Bone implements - bone awls = 2; other = 3
 Bone ornaments = 3 tubular bone beads
 Horn artifacts (antler tips) - no number given
 Wooden artifacts = 1
 Woven material = 1 basket fragment; folded yucca leaves

As can be seen, there is little congruity in the tallies from three different sources (this study, field catalog and as reported by Wormington and Lister).

7.0 LITHIC TOOL AND ORNAMENT ANALYSIS

This section describes the lithic analysis methods and presents a synthetic treatment of the data. A limited budget coupled with the number of artifacts for analysis precluded making broad comparisons with other stratified assemblages both near and far. The overall focus is on general trends rather than the characterization of individual tools.

Lithic artifacts represent the more commonly recovered imperishable component of material culture. They are an important source of information for addressing a variety of study domains including basic documentation of prehistoric lifeways, behavioral variation, and for trying to identify cultural affiliations and relationships through time and across space. As such, considerable attention was devoted to providing a detailed record for stone artifacts of all types including photo documentation of the most formal artifacts.

The sample of stone artifacts from the site is biased to an unknown extent. Not all materials were collected during excavation and of those that were found or documented, not all were saved. Of the specimens that were saved, some portion has been “lost” through one means or another such that the items studied might not exhaustively characterize the diversity of lithic artifacts once made and used at the site. Nonetheless, the sample is sizable enough that some solid conclusions can be reached.

7.1 Projectile Points

Wormington states that due to “The small number of projectile points (44 from the Moore site), the shallowness of the deposits, and vertical control was from a single arbitrary vertical datum, makes it unwise to place much dependence on these data, but they are of some use for comparative purposes in the evaluation of the Moore Site material” (Wormington and Lister 1956:10-32).

- Disturbed surface and Level 1 (0-20 cm deep) - 5 small triangular or leaf shaped; 5 large triangular or leaf shaped; 1 small corner-notched; 1 large corner notched; 1 straight stemmed; 2 triangular serrated; **total = 15**
- Level 2 (20-40 cm) - 1 small triangular or leaf shaped, 1 large triangular or leaf shaped, 6 small corner-notched, 5 large corner notched, 1 straight stemmed; **total = 14**
- Level 3 (40-60 cm) - 1 small triangular or leaf shaped; 2 large triangular or leaf shaped; 3 small corner-notched; 1 large corner notched; 2 straight stemmed; **total = 9**
- Level 4 (60-80 cm) - 1 large corner notched; 1 straight stemmed; **total = 2**
- Level 5(80-100 cm) - 1 straight stemmed; **total =1**

*The total number of projectile points described above (n=41) does not match the total number on the Table 1 (n=44).

It is currently not possible to correlate this information with the records that are associated with the present collection. Only sixteen of the projectile points in the collection have a known depth. The deepest recorded depth is 59cm, which would be Level 3. As can be seen above, there were two levels deeper than Level 3. It is not clear why this discrepancy exists.

For the Class I Cultural Resource Overview for the Grand Junction Field Office

conducted in 2011 (Conner et al. 2011:3.45-3.60), projectile points were examined in the curated collections of the BLM-Grand Junction Field Office at the Museum of Western Colorado in Grand Junction. They were classified according to known regional types and sorted into a temporal scheme (Figure 3). Primary references used for those classifications included Buckles 1971, Frison 1991, Holmer 1986, Holmer and Weder 1980, Irwin-Williams 1973, Loosle 1988, Metcalf and Black 1991, Moore 1981, Phagan 1988, Reed and Horn 1992, Tipps 1988, and Wormington and Lister 1956. The figures in the temporal seriation (ibid.:3.2 through 3.10) of the aforementioned document provide basic illustrations of the projectile point types found regionally, and were used as a guide for identification of the Moore Shelter points – with the understanding there is variability in all the types.

Buckles (1971:1220) provided a temporal classification for his Uncompahgre point types. His temporal divisions, however, are based primarily on stratigraphic associations rather than radiocarbon dates, and it is expected that the chronometric parameters for the Uncompahgre Complex Phases will be refined by future excavations and/or the processing of the radiocarbon samples that Buckles collected and curated at the Anasazi Heritage Center.

Accordingly, the projectile points from the Moore site were assigned to temporal periods dating from the Middle Archaic through the Late Prehistoric/Early Historic periods. Plates 7 through 14 are photographs of the points and present their associations.

Plate 7. Late Prehistoric/Early Historic, small point with concave-base and shallow side-notch (Early Ute association).

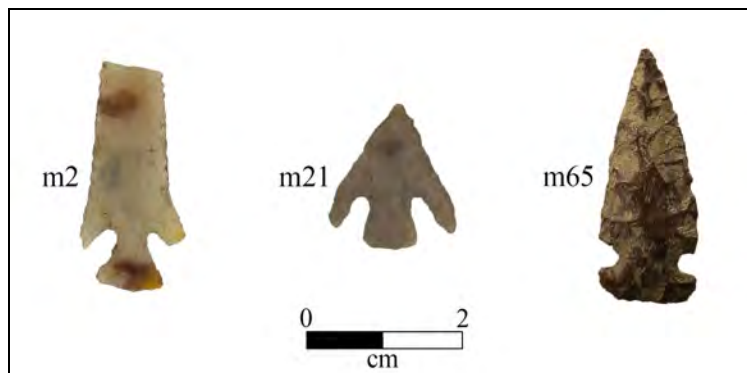


Plate 8. Middle Formative, corner, basal (or stemmed) and side-notched type points. Association is Anasazi. The m21 point is a type similar to one dated at 5ME16791. That point was comparable to Anasazi Subtype C-13 projectile points dating ca. AD 600-1250 (Phagan 1988:125, 161). The associated date for the point from 5ME16791 was Cal AD 450 to 670, derived from Feature 1 (Conner et al. 2014:5.12.9).

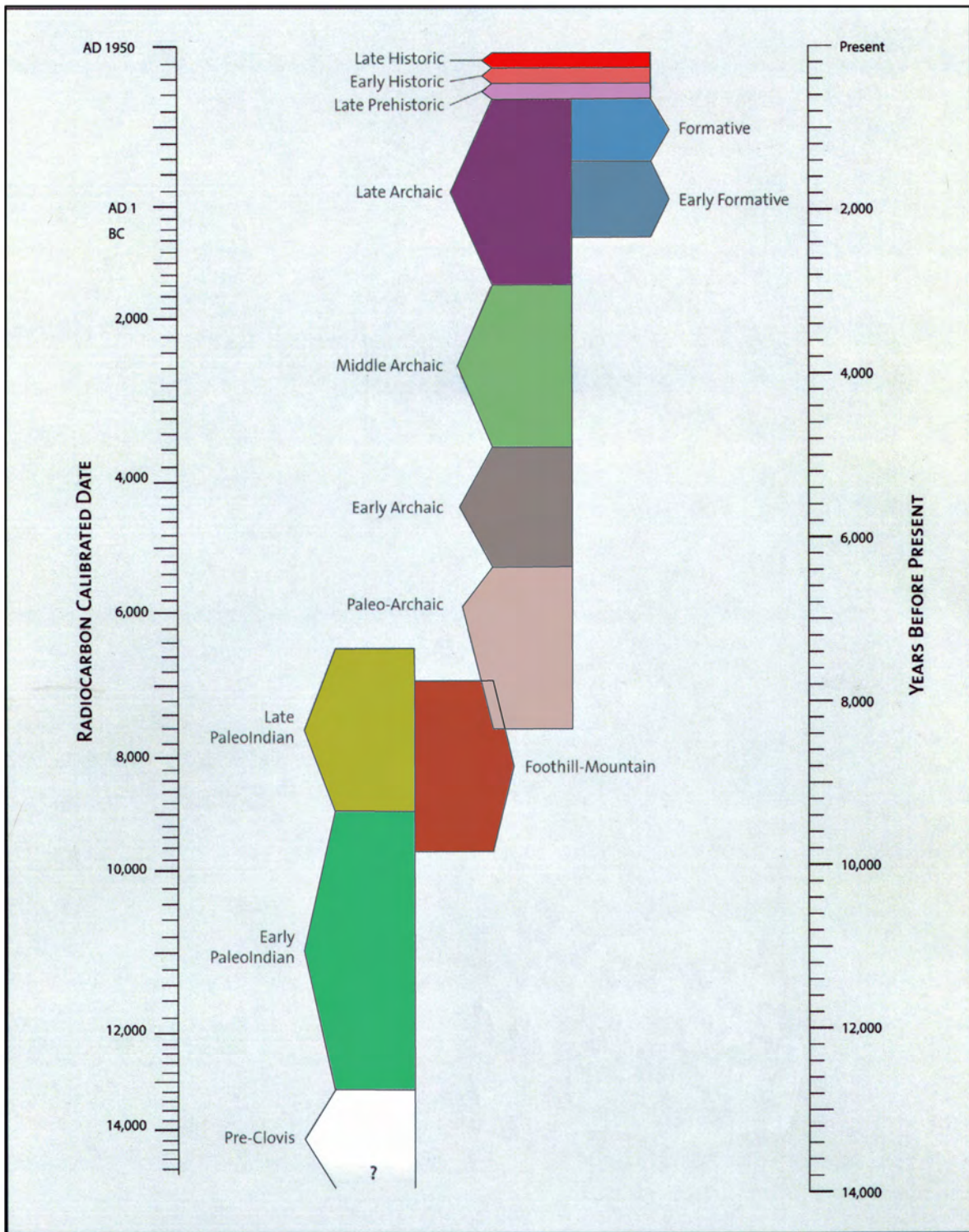


Figure 3. Temporal chart emphasizing the overlap of the subsistence strategies employed by the diverse cultural groups over the past 16,500 years.

Plate 9. Early-Middle Formative corner-notched arrow points.

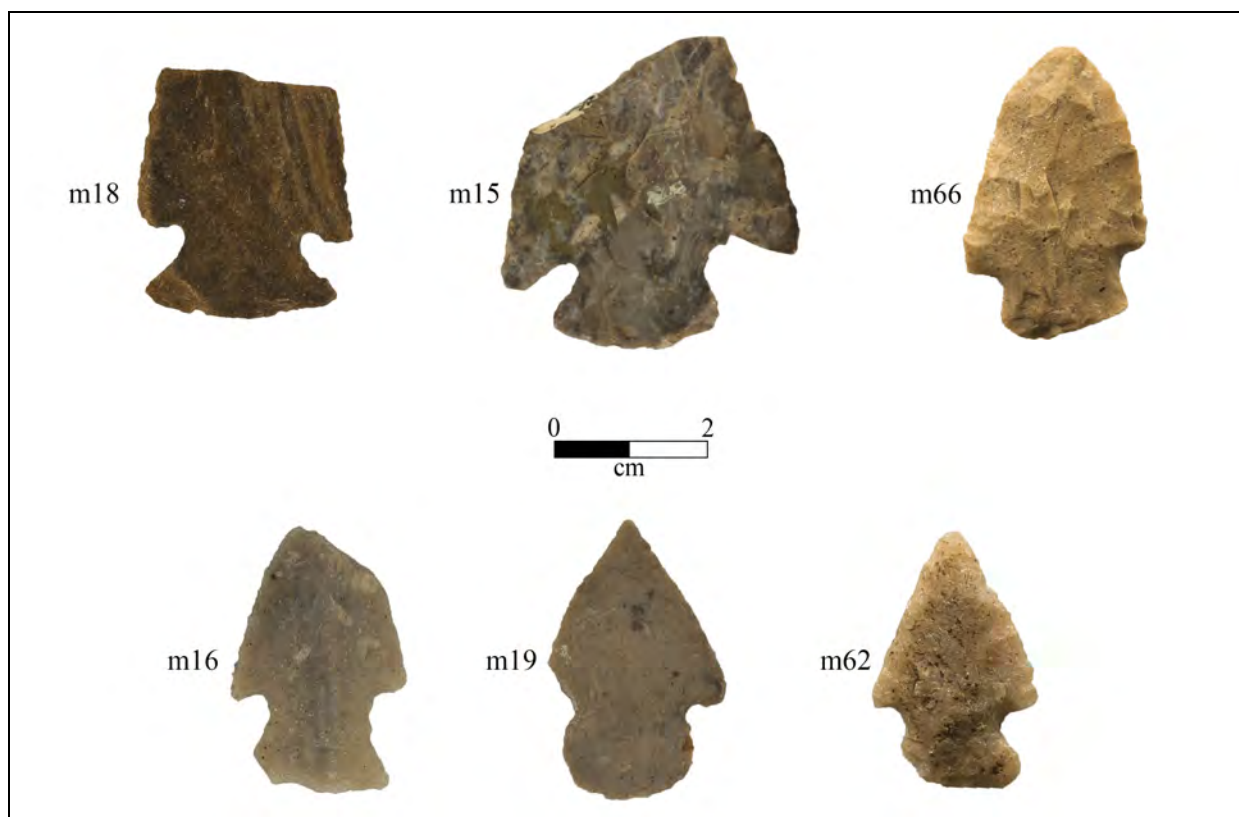
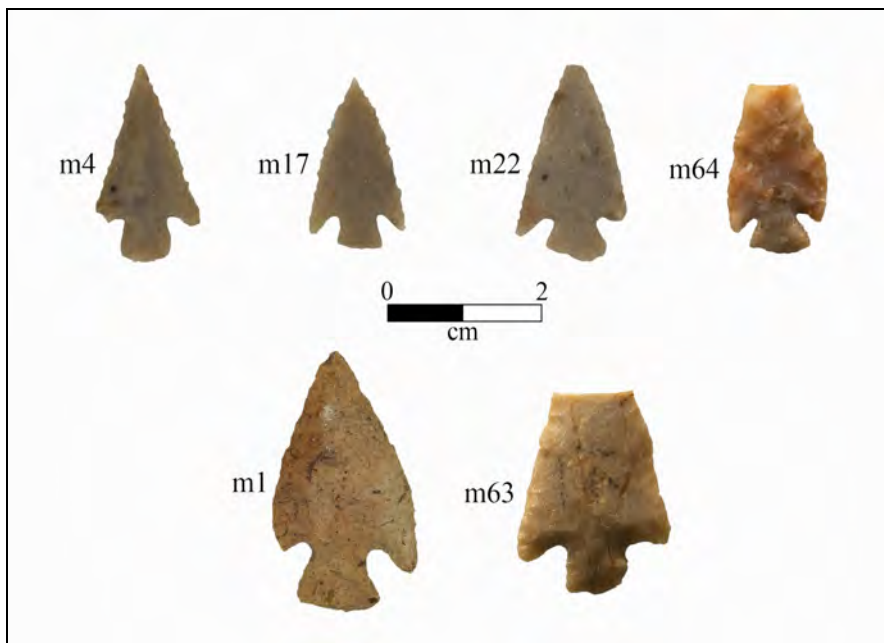


Plate 10. Late Archaic, medium to large, corner-notched dart points (bottom) and hafted knives (top).

Plate 11. Middle-Late Archaic, including Sinbad Side-notched variants.

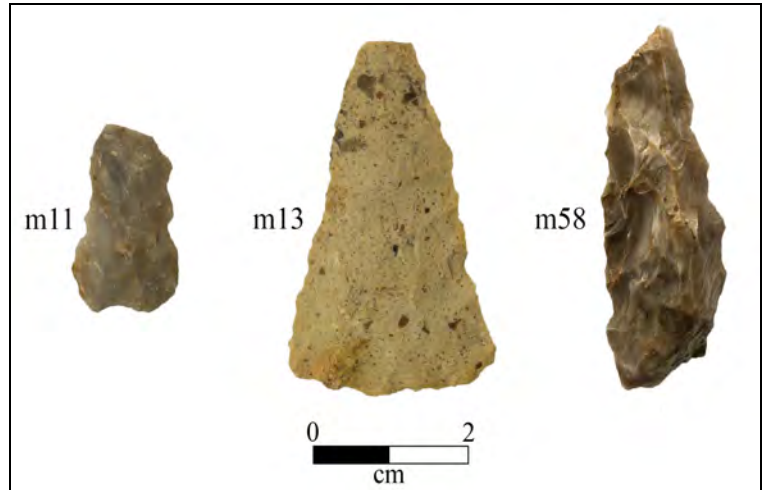


Plate 12. Middle Archaic stemmed types including serrated Sinbad Side-notched variants (left) and (right) Uncompahgre Complex Roubideau Phase type.

Plate 13. Middle Archaic stemmed types including San Raphael Stemmed.

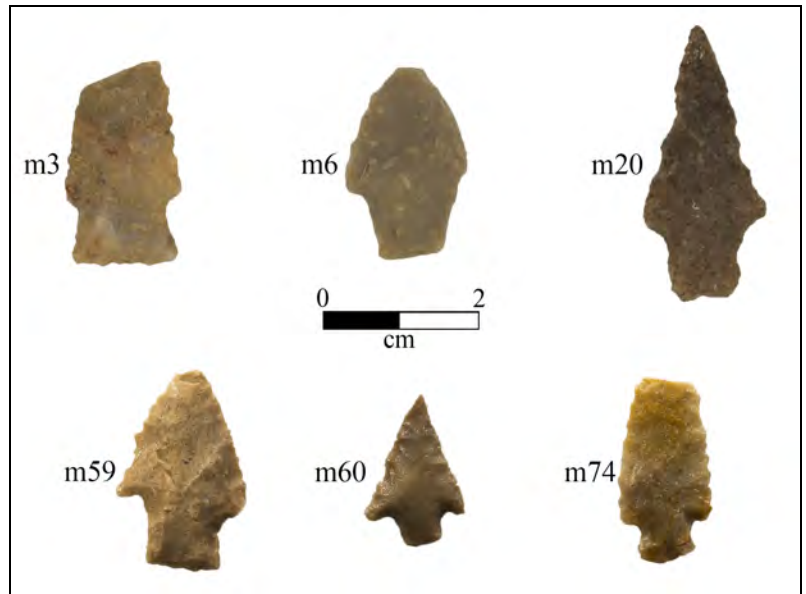


Plate 14. Middle Archaic types with bifurcated stems including Hanna type.

The presence of the bifurcated points (Wormington and Lister 1956:14, Fig. 12) in the collection is problematic. Wormington notes that they were reported to have come from the shelter, but that none came from the excavations (ibid.). She classifies them as being in the Pinto Basin tradition. In a letter to the Director of the Museum written in 1935, a reference is made to four points attributed to “the McKelvey boy” who claimed to have found them at the site. One is said to have been buried “three feet deep.....in old ashes” (Moore/ Huscher letter, dated July 23, 1935). The artifacts are labeled CM 18, 21, 20, 24 with no other number other than the DMNS accession number. Huscher states that artifacts labeled “CM” came from the Carlyle Moore personal collection (correspondence from Huscher and Moores to Figgins, 1935). It is likely that these points did not come from the Moore site.

In light of the missing charcoal samples, the projectile points have a high level of importance to site interpretation. The projectile points become the primary chronological marker for the site. Dating the levels must rely on comparison with sites that have been well dated, and in close geographic association. The majority of the artifacts that are not projectile points were grouped as bifaces (20), unifaces (5), and perforators (4). Fragmented bifaces appear to have been broken during production and all stages of reduction seem to be represented. The function of these tools would best be determined by use-wear analysis, which is beyond the scope of this project.

Definitions of the categories as used by Wormington (see above) and this study are not comparable. While it would have been most useful for analysis to replicate Wormington’s categories, her artifact classes are not well defined and/or illustrated, and it would have taken a lot of conjecture (and time) to use her artifact classes.

7.2 Uncompahgre and Adz-like Scrapers

Wormington identified 2 types of artifacts as diagnostic of the Uncompahgre Complex (Wormington and Lister 1956:18), due to their “distinctive” form, the *Uncompahgre scrapers and Adz-like scrapers*. Three of the Uncompahgre Scrapers are illustrated in her report, however she states that five were recovered from the site (Table 2). Those illustrated (Plate 15, M#s 29-31) are in the current collection (DMNS accession numbers 541.8 and 541.9; Project specimen numbers M-29, 30, 31). Wormington reports that the artifacts were found in Level 1(2), Level 2(1), and in Level 4(2). A fifth was found on surface “close to the shelter” (ibid). They are constructed from a dark (black), fine-grained basalt. The other distinctive type is the “Adz-like Scrapers,” of which three were recovered. One is illustrated (ibid.:21, Figure 18; and in Plate 15, M#34; Table 3), and is in the collection (DMNS accession number 541.11; Project Specimen number M-34). The other two artifacts are not in the current collection.

7.3 Perforators and Gravers

The perforators had a distinct shape, with a bulbous distal end, a triangular blade, and steep edge angles. They are very well flaked (as shown by parallel and even flake scars).

Table 2. Uncompahgre Scraper Provenience

Specimen Number	DMNS Accession Number	Huscher Field Catalog Number	Illustration	Level	Comments
M#29	541.8	70-C	Pg. 19, Fig. 16	4 (75-80 cm deep)	Same grid square (M-11) as M#30
M#30	541.9	69-C	Pg. 18, Fig. 15-A; Pg. 20, Fig. 17-B	4 (75 cm deep)	Same grid square (M-11) as M#29
M#31	541.9	97	Pg. 20, Fig. 17-B	1 (20 cm deep)	

Table 3. “Adz-like Scraper” Provenience

Specimen Number	DMNS Accession Number	Huscher Field Catalog Number	Illustration	Level	Comments
M#34	451.11	124	Pg. 21-22, Fig. 19, 19-4	1 (16 cm deep)	Grid Square closest to back wall; east of guide line

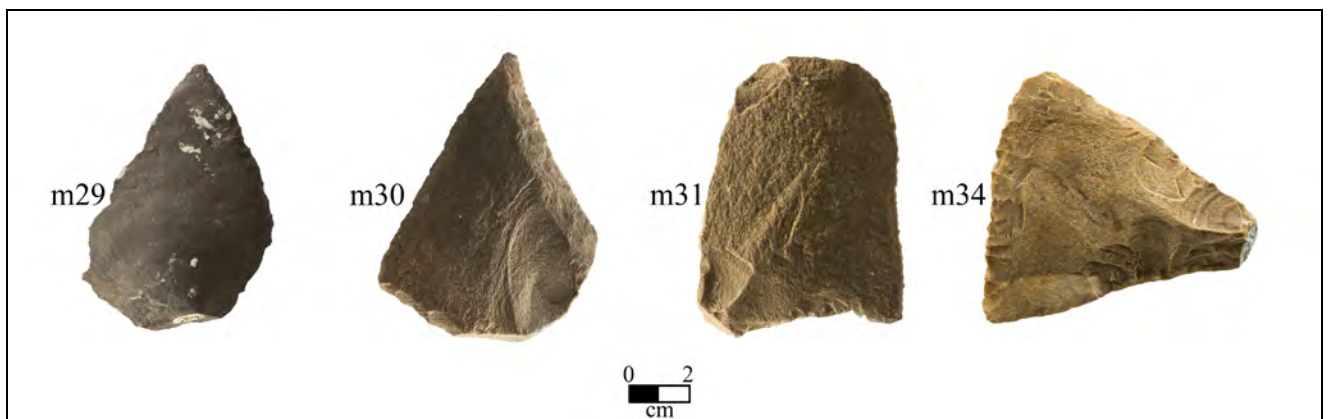


Plate 15. Uncompahgre (m29-m31) and Adz-like (m34) scrapers described by Wormington and Lister (1956:18,21).

Without use-wear analysis, determining the actual use is problematic; however, it seems likely that they were hafted and used for reaming hard material.

Obsidian Graver

A single obsidian artifact was recovered from the site (field catalog #46b; DMNS accession number 541.14; project specimen number M#42). It is categorized as a graver in this project (Plate 16.). This tool is similar to small tools found on the floor of a pithouse at site 5ME16789 (Conner et al. 2014:5.11.14-5.11.15). In fact, several small lithic tools found on the floor appeared to have been used for either bone or wood modification. They often exhibit graver tips and planing edges for shaping, including chisels and smoothers. One was made of obsidian, and its designated source was Polvedera Peak, Jemez Mountains (New Mexico). Notably, the pithouse was dated 4605±30 BP (Beta No. 303014), Cal BC 3501 to BC 3139. Obsidian has been found primarily in Middle Archaic and Late Prehistoric/Historic Numic sites in West-central and Northwest Colorado.



Plate 16. Artifact m42, obsidian graver.

7.4 Ornamental Stone

Three artifacts that are categorized as ornamental stone were excavated and are in the collection. Those artifacts (shown in Plate 17) are discussed and illustrated in the 1956 report on pages 27 and 29, Figure 25.

M#49; A541.19 - Appears to be a fragment; it is very thin (2 cm) made from a tan sandstone; two grooves define a trilobate basal element; fine grooves on the surface of the specimen are detectible between the grooves; the edges have been smoothed; there is no catalog number on the artifact, but it may have been recovered from the trench, situated near the eastern end of the site; and, it was recovered from a depth of 56 cm.

M#50; A541.9 - This is a circular sandstone disk; it appears to a similar material as above; maximum diameter is 27 cm; thickness is 5 cm; the edges and faces of the object have been smoothed; a circular hole is located near the center, the inside of the hole is also very smooth; and, it was recovered at a depth of 49 cm.

M#51; A541.19 - Appears roughly rectangular shaped; has a longitudinal fracture across the width of the object; measures 24 cm long, 27 cm wide and 3 cm thick; the edges have been smoothed; and, the raw material is gypsum.



Plate 17. Three artifacts that are categorized as ornamental stone from the Moore Site collection.

7.5 Ground Stone

There are two ground stone artifacts in the current collection (A541.18, and M #47). The first specimen is a roughly rectangular shaped piece of coarse grained sandstone with a single longitudinal groove aligned with the long axis on one surface. The groove is ‘U’ shaped, and is as wide as it is deep. It is commonly termed a “shaft smoother/abrader.” The second ground stone artifact is a fragment of a bifacial mano. Two remnants of the ground surfaces are present on opposing faces.

Apparently all other pieces of groundstone were not collected. Many of the metates were left at the site.

Wormington reports that there were 18 complete and 38 fragmentary manos (five are unifacial and 10 bifacial; three-quarters are pecked, and one stained with hematite). She also reported that there were 8 complete and 25 fragmentary metates, with average dimensions of 18" x 12" x 3"; and, that three-quarters were pecked, with the edges and corners rounded off. The metates are also described as basin-shaped, with elliptical depression less than one-half inch deep (Wormington and Lister 1956:26-27).

8.0 LITHIC SOURCE MATERIALS (by Courtney Groff, Geoarchaeologist)

The majority of lithic materials utilized for formal tools from the Moore site that are curated at the DMNS are “quartzite” (lithified sandstone) and chert, and appear to be derived locally. The Burro Canyon and Dakota formations are host to a somewhat exceptional array of lithic resources. Chert and quartzite (lithified sandstone) outcrops from these formations are visible within the same drainage system that the shelter is located in and less than a mile away. A lense of lithified sandstone (commonly referred to as quartzite) observed during the reanalysis of the Moore site was found eroding from the Burro Canyon formation, near the upper contact with the overlying Dakota formation. This material was likely procured from its stratigraphic context as well as from the hillslope which is covered with eroded sediments and

natural “chunks” of the material that are eroding to the drainage below. Some of the materials found along the hillslope evidence cultural manipulation in the form of “testing” or flaking.

On the opposite bank of the drainage, there is a second area of lithic material eroding from *in situ* contexts. Here, chert is interbedded as discontinuous layers within the mudstones and sandstones of the Cretaceous Burro Canyon formation – a product of hyperalkaline, hypersaline ponds on the marine littoral created during the expansion of the Cretaceous sea at the time (Miller 2010). The material is variegated and ranges from light to dark gray, white, yellow, green, and red; however, white and gray, sometimes with traces of red, is the most common appearance of the material in this location. Algal banding is common as are fossils such as foraminifera. Miller (2010) indicates that chert from the Burro Canyon may also contain marine ostracods. This chert appears to be the second most common material selected for formal tools at the Moore site.

A chert outcrop from Burro Canyon in the Dominguez Escalante National Conservation Area (DENCA), Western Colorado, was described by Price (2015) as most commonly black (suggesting organic matter or carbon present during the time of deposition or during post depositional alteration), with occurrences of transparent gray, white, yellow, red and blue. The latter colors suggest the presence of minerals and other trace elements. The author describes the majority of observed outcrops as displaying wavy layering of different colors and less occurrences of mottled textures (Price 2015:14). This material was found by the authors to have been the predominant material utilized at the Taylor Site located within Unaweep Canyon (Piontkowski et al. 2016).

The two occurrences of chert described above are similar in appearance, although the notably predominant occurrence of the black material described from the DENCA does not appear to be as common in the outcrop near the Moore Site. A thin section of the material from the DENCA was observed to have inclusions of true chalcedony in a sample of banded chert (Price 2015). Petrographic analysis of the outcrop near the Moore site would be helpful in further identifying any mineralogical differences between the two lithic sources. Further analysis on these local sources such as X-ray diffraction (XRD), X-ray fluorescence (XRF) and ultraviolet fluorescence (UVF) may also be helpful in sourcing lithic materials at other sites in western Colorado. Unfortunately such analysis of other material sources for geoarchaeological purposes has been met with variable outcomes and best results will likely be met with a combination of these analytic techniques.

Two other lithic materials of note were utilized for large bifaces found at the Moore site that were previously classified as “Uncompahgre Scrapers” by Wormington. Both are of an igneous rock, one very fine-grained (aphanitic) and one medium to fine-grained with a slightly higher percent of silica minerals. One of the artifacts is of a fine-grained, black (mafic) rock such as a very fine basalt with good knapping quality. The second artifact is lighter in color (a dark gray), and is only slightly more coarse-grained, indicating a more intermediate composition such as a dacite or andesite. Both igneous rock types could be found in gravel deposits of the Gunnison River, which is located less than ten miles northeast of the site.

9.0 BONE ARTIFACT ANALYSIS (by Holly Shelton)

A total of 12 bone and antler artifacts from the Moore Site (5MN863) were available from the curated collection for evaluation. Seven culturally modified bone tools and implements manufactured from mammal and unknown species bone were evaluated as were four antler tip tools and one unmodified bone fragment.

During the current examination, the bone and antler specimens were not cleaned or altered in any manner. A clear fixative, likely applied during the initial curation and found on all of the bone artifacts, was not removed. The artifacts were initially submitted to a direct visual inspection using a LEDLIGHT 30x25mm loupe. In addition, each was further examined at 15X and 30X using an American Optical Corporation model FORTY binocular microscope with external light enhancement. Measurements were taken of all artifacts and each were identified, to the degree possible, regarding class. Family, genus, and species identification proved difficult as the majority of the artifacts were small fragments of bone or terminal tips of antlers.

Bone density and the degree was noted on all bone and antler artifacts using Behrensmeyer's bone weathering stages (Behrensmeyer 1978). Additionally, each artifact was carefully evaluated for evidence of cultural modification including manufacturing features and use-wear. Observations of natural modification included evaluating oxidation and the extent of surface mineralization. The presence or absence of the applied modern fixative, likely Ambroid glue thinned with acetone, was also noted.

Upon the initial visual inspection of the originally curated artifacts analyzed during this project, three artifacts were determined to be of substances other than bone, namely antler. Two others were floral and one was lithic.

The bone artifacts collected from the Moore Shelter Site primarily consist of medium and small mammal bone and antler fragments. It is suspected that the majority of the mammal bone artifacts are artiodactyl and leprodiasea as both these regional species were commonly exploited prehistorically and likely provided a generous source of easily manipulated green tool bone. However, due to time and resource constraints, specific identification of mammal or avian genus and species is not possible. Those artifacts of particular interest will be discussed here. Data on all evaluated artifacts is contained in Appendix 2.

Three perforator/manipulator type bone tools were identified during the analysis (M52, M94, and M97). Campana (1989) and LeMoine (1991) discuss the use of these types of tools in hide preparation and Campana (1989) and Olsen (1979) describe an alternative use as basketry manipulators. Regardless of intended use, these tools primarily presented with the distal aspect of the bone being wider than the perforator/manipulator or terminal end which either presented as a mandril shape tapering to a point or a somewhat planar surface also tapering to a point. The distal aspect of these tools is noted to frequently be fractured suggesting that bone splinters were formed during carcass processing and were easily modified

into awl like tools of various sizes.

All of the perforator/manipulator tips exhibited micro-fracturing. Where present, use-wear polish is primarily localized to the shaft and the points and tips. Those tips not blunted appear to be sharpened either by faceting or abrasive rounding to a pointed cone. Additional use-wear is visible as progressive circumferential transverse striations tending to “criss-cross” in a Z-tracking pattern indicative of repetitive forward progressing rotational movement. Deeper, more aggressive and coarse striations may be indicative of perforation use on more resistant substances such as bone, wood, rawhide, clay, or soft stone whereas the shallower striations have resulted from more gentle abrasives such as softened leather or yucca fiber.

Residual evidence of bone tool manufacturing differs from use-wear in that striations and deep grooves are present over much of the artifact but often obscured subtly or fully due to superimposed use-wear. The manufacturing marks observed on the artifacts result from both parallel and multidirectional abrasion against a resistive surface such as sandstone in order to shape the artifact to the desired form. The resultant striations, grooves and incisions are most frequently multidirectional and seldom follow the microtopography of the bone (Buc and Loponte 2007).

Of the three perforator/manipulator tools examined all are distinguished by use-wear being primarily confined to the terminal ends and occasionally extending along the sides of the artifact. Manufacturing evidence, though sparse, is similar to that previously described on the perforator/manipulator tools.

Artifact M52, (Wormington and Lister 1956:30-31) appears to be intended for gaming, or some alternative purpose other than as a tool. It is a culturally modified bone fragment with three rows of incised parallel lines located on the laminar surface with two of the rows oriented to each outer long edge and one row oriented slightly off center between the two (Plate 18).

Row A, located on the decurved fractured edge and toward the rounded end of the artifact, is the shortest row consisting of 14 incised lines averaging 0.3cm in length, 0.01cm in width, and 0.005 in depth.

Row B, the central row, consists of 22 incised lines with one of these extending through Row C to the fractured edge of the bone. These incisions average



Plate 18. Artifact M52, apparent gaming piece.

0.8cm in length, 0.01cm in width, and approximately 0.005 for those incisions that could be measured for depth.

Row C, located on the relatively straight fractured edge of the artifact, consists of 16 incised lines averaging 0.1cm in length, 0.01cm in width, and 0.006 in depth possibly indicative of increased pressure during manufacture.

It is notable that each row has an even number of incised lines. All of the incised lines have a smooth, slightly V shaped but concave floor indicating manufacture using a graver tool with a worn rounded tip. Fourteen of the sixteen incised lines of Row C are situated between the incised lines of Row B presenting a staggered placement. All rows contain incised lines that are abbreviated due to edge breakage of the artifact. However, use of the item continued after breakage as evidenced by the rounding and polish of these fractured edges due to use-wear. In addition to the three rows of incised lines, the surface of the artifact exhibits multidirectional striations and manufacture grooves over the entire laminar surface. The terminus of each tip has been moderately abraded resulting in rounding with one tip coming to a fractured point and the other having two blunted planar surfaces with use-wear polish. There is no modification to the medullary cavity and no evidence of oxidation. As with the majority of the perishable artifacts the entire artifact is covered with a thin, clear fixative; likely diluted Elmer's glue or thinned Ambriod glue. It is suspected this was done in the field as fine sediment particles are embedded in the fixative.

M94, a fragment of a long bone crafted into a bead presents with stone tool circumferential, and multidirectional grooves at one end (Plate 19). There is evidence of old breakage at the modified end. Although it is possible that it is of avian origin, this remains undetermined.

It is unknown whether the bead was specifically for ornamentation or intended and utilized as a medicinal or spiritual implement, whistle, or pigment dispersing tool. Schmitt (1990) describes the sequence for mammal bone bead construction, using jackrabbit tibiae green bone, as follows:

First, the articular surfaces of the bone were broken off to create a cylindrical tube, either by using a small stone hammer, ...or as ethno-archaeological observations suggest, by snapping them off with the teeth...The next step regularizes the cylindrical blank and preforms the beads into standard lengths. A flake tool is used to score the cylinder in segments... The proximal and distal ends are then snapped off and discarded...Finally the, the small beads are separated into individual pieces.

Although Schmitt's described scoring is not apparent on this artifact, it is unlikely the

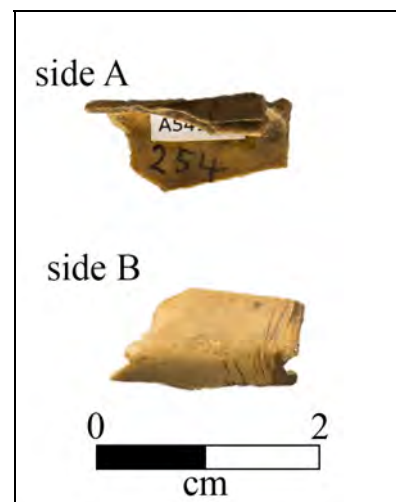


Plate 19. Artifact M94, fragment of a long bone crafted into a bead.

item was intended for any other use. In addition to end modification and beveling, manufacturing evidence on this artifact is sparse to moderate.

M97, the only complete bone tool in the collection, is manufactured from a fragment of small to medium mammal long bone with each terminal end abraded and shaped as a perforator (Plate 20). Each end has parallel and oblique striations and shallow grooves on the bone edges and faceting and use-wear polish at the tip terminus. There are a few multidirectional grooves in the central aspect of the tool. M96 is the only antler tip which evidences oxidation.

Six antler tips, (M95, M96, M105, M106, M112, and M117) are included in the collection (Plate 21). All exhibit cultural modification in the form of use-wear polish, oblique striations, and soft faceting of the blunted terminal ends.

M105 consists of two deer antler tip fragments, of the same specimen, glued together near the mid-section at some point post collection. Oblique striations on approximately one third of the surface extend 2.2cm at an angle along the surface from the antler tip toward the point of breakage indicating use as a perforator. However, the end is somewhat blunted.

M117 is a fragment of a deer antler tip with slight use-wear polish near the distal terminus. A small fragment of charcoal is embedded in this terminus and may be useful for accelerator mass spectrometry (AMS) testing at some point in the future.

A relatively clear, heavy modern fixative, likely applied to the artifacts at the time of collection or curation, has resulted in impairment of visual inspection and alteration of the natural color of surface sections of many of the perishable artifacts. In some cases the degree of applied fixative partially obscures manufacturing and use-wear evidence. Although the modern fixative is inconvenient, it does not appear to have damaged the artifacts in any manner. As the chemical composition of the fixative is unknown, it is questionable as to whether the applied compound is reversible. However; should it be determined to be composed of thinned Ambriod glue, this would not adversely affect future AMS dating (Diaz email communication 2017).

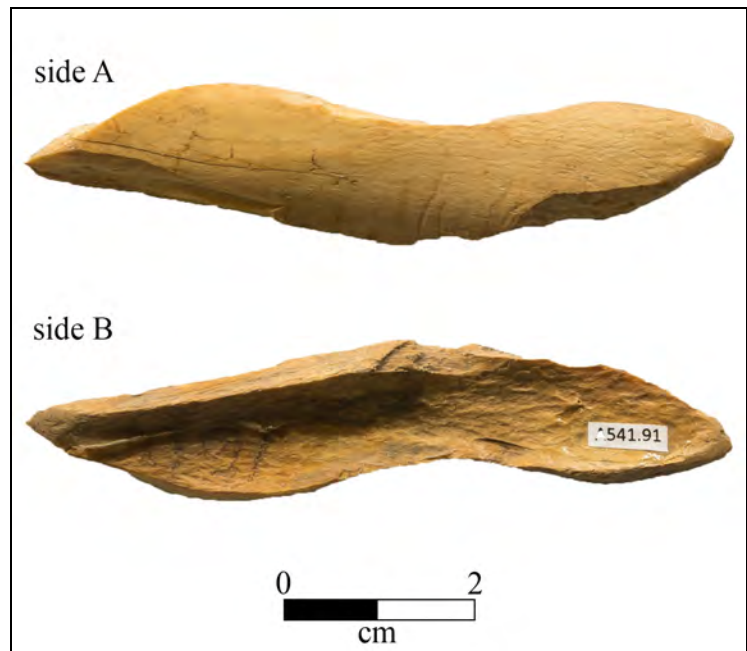


Plate 20. Artifact M97, bone perforator tool.



Plate 21. Antler tips used as tools from the Moore Site collection.

Analysis of the few, if relatively well preserved bone and antler artifacts from the Moore Site has produced interesting results. Perforator and manipulator type tools account for 41% of the specimens (Plate 22). This is suggestive of hide preparation activities and/or vegetal fiber processing. Thirty three percent of the assemblage consists of rubbing type tools likely used for a wide variety

of polishing and modification of soft substances such as leather or vegetal material. A tubular bone artifact comprises 8% of the overall bone and antler tool collection. This is indicative of knowledge of specific crafting skill sets and manufacturing techniques. A single possible bone gaming piece, 8% of the collection, is suggestive of engagement in leisure activity and possibly an understanding of basic mathematics.

Oxidation, likely from cultural burning, is evident on 16% of the collection. It is difficult to determine if this occurred naturally, secondary to natural fire, however, it is likely these artifacts were either intentionally or unintentionally oxidized in hearths associated with the site.



Plate 22. Perforator and manipulator tools from the Moore Site collection.

Bone and other antler artifacts occurring throughout the various strata of the site suggest the presence of consistently available faunal resources providing a long term, dependable green-bone tool supply that may have partially contributed to the prehistoric peoples preference of the site location. It is to be considered that the occupants of the site possessed detailed knowledge and a high level of skill related to the manufacturing techniques required to produce the various bone tools, implements and ornaments present in the Moore Site collection.

10.0 BASKETRY FRAGMENT DESCRIPTION (by Holly Shelton)

A small fragment of basketry (Wormington and Lister 1956: 32) was recovered during the second year, 1939, of excavation at 5MN863, the Moore Shelter Site. An associated identification card reads: M30E; 410S; 3010E; 53D, indicating the area of the excavation from which the artifact was recovered. Accordingly, it was recovered from the far east aspect of the Moore site excavation at a depth of 53 centimeters during the 1939 field season. The number assigned to the artifact for the purposes of this project is M56. The single basketry fragment is the only woven textile in the collection. It is a small fragment of single rod and bundle, non-interlocking stitch basketry. It is 3.5cm in length, has a width of 0.9cm and is 0.35cm thick (Plate 23).

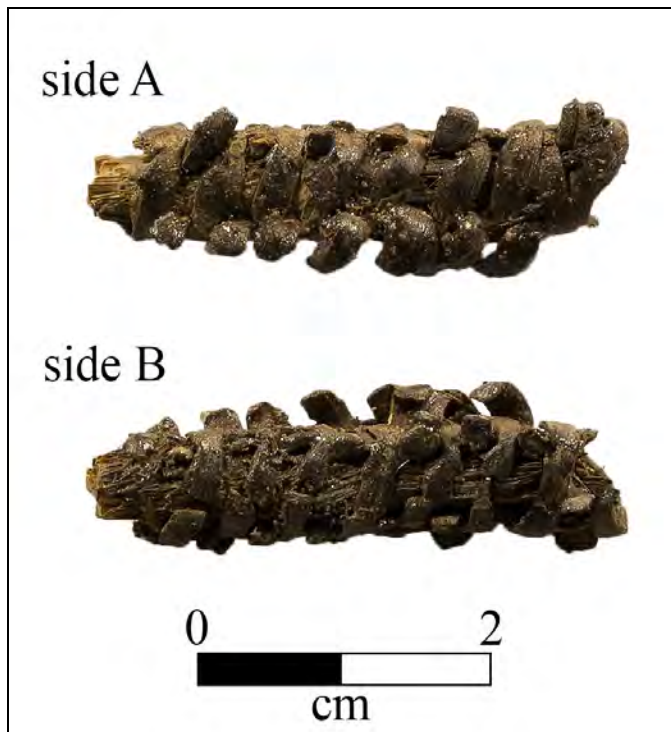


Plate 23. Basketry fragment from 5MN863, designated m56.

There was an unexpected paucity of perishable artifacts noted and recovered from the site during the two field seasons. The occurrence of textile artifacts documented at the site is sparse considering that, as noted by Wormington and Lister (1956), the arid climate of the region is most conducive to their preservation. Although cedar bast and yucca leaves were found in the rockshelter deposits, only two fragments of woven material were found and collected. The cedar bast and yucca leaves are not noted in the field catalog. The two manufactured textile artifacts consisted of a unique object

constructed of four yucca leaves folded and interlocked to create an open square (Wormington and Lister 1956: 31-32) and the small fragment of single rod and bundle basketry. As it was not possible to locate the yucca artifact, only the basketry fragment was examined and

evaluated. Visual assessment was significantly complicated by the presence of a heavy application of fixative impregnated with sand particles. It is likely this fixative is either Elmer's or Ambriod glue thinned with acetone and that it was applied in the field thereby accounting for the sand particles.

During examination, the fragile basketry artifact was not cleaned or altered in any manner. Handling was limited in order to minimize the risk of damage. The artifact was initially submitted to a direct visual inspection using a LEDLIGHT 30x25mm loupe. Microscopic examination was conducted using a 15X /30X American Optical Corporation model FORTY binocular microscope with external light enhancement. Measurements were taken with calipers. Family, genus, and species identification proved difficult due to the small sample and the presence of the heavily applied fixative. Archaeobotanic analysis and radiometric dating were beyond the scope of this project.

The fragment is composed of approximately eight tight stitches arranged about a single rod and bundle. The moving vertical elements, or stitches, are sewn through and around the foundation of stationary horizontal elements; the rod and bundle. Coiling direction is leftward and no split stitches were noted. The rod is possibly a genus of willow, sumac, or serviceberry; all of which were species common to the area. The entire foundation outline is slightly ovate. The bundle may be composed of shredded yucca fibers, or big sage brush or cedar bark, and the vertical stitched weft elements are likely the bark of a willow species. However; precise species identification of the artifact's components is undetermined. The fixative applied to the entire artifact surface has altered the original color to a dark brown hue and gives the artifact a polished or shiny appearance interspersed with rough textures due to impregnated sand grains.

Cordell (1997) considers the single rod and bundle basket weaving style a Fremont diagnostic. Adovasio states, more conservatively, that basketry weaving styles are an indicator of Fremont culture (1980), and not necessarily diagnostic. Coiled and twined baskets have been found in Fremont sites with coiled being the predominate style (Reed and Metcalf 1999). Coiled technique basket weaving is based on a variety of foundations. Of the eight basketry foundation construction techniques the four most commonly used styles in the Colorado River Basin were: 1) the close coiling, half rod and bundle stacked; 2) the close coiling, half rod and welt stacked; 3) the close coiling, whole rod foundation; and, 4) the close coiling three rod-bunched foundation (Reed and Metcalf 1999). In the northern Colorado River Basin the close coiling, half rod and bundle is the style most commonly associated with Fremont sites producing basketry (Reed and Metcalf 1999). Jennings (1978) states that Aikens (1970) reported that the single rod and bundle basketry is a Fremont diagnostic but is a carry-over from the Late Archaic Era. The limited sampling, although suggestive of Fremont occupation at the site, does not undeniably confirm such.

The presence of vegetal raw materials such as yucca and cedar bast, along with the yucca figure and basketry fragment recovered from the site, is strongly suggestive of the occupants manufacture and use of such items as baskets, plaques, mats, and sandals. These items were commonly employed for transport of gathered resources, winnowing, parching of

seeds, food storage, and as liquid containers when sealed with pitch. The possibility of the fragment being a remnant of a trade item and not manufactured by the occupants, is also to be considered.

The specimen generally resembles many coiled basketry artifacts from the central and eastern Great Basin. Although its single rod and bundle construction style fits well within the Formative Era and may be associated with Fremont Era occupations in Utah, it is not possible, at this time, to indisputably relate the artifact to the Fremont Era peoples of western Colorado.

11.0 ROCK ART (by Courtney Groff and Carl Conner)

Rock art at the Moore site is separated into ten panels (Panels 1 through 10; see Figure 2) based on lateral separation of the elements by space or physical attributes of the rock face across the back wall of the shelter and includes both historic graffiti and prehistoric petroglyphs, abrasions, and cupules.

The initials “C.M.” appear on Panel 1a, Panel 2 and Panel 9. An historic inscription to the far right (east) of Panel 2 reads “CM RM.” These initials are likely those of Carlyle Moore, who, alongside his sister Ruth Moore, discovered the site in 1934 (correspondence in the Huscher archives at the DMNS). The date “1931” with the initials “CM” on Panel 9 suggest that the pair knew about the site years earlier and 1934 is likely the year they reported it.

An “X” is inscribed on the back wall that may be the datum, but it does not coincide with the position of the guideline and baseline. Some of the grid square numbers are also visible on the back wall near the east side of the shelter.

The grinding surfaces and grooves are comparable to those found on rock fall at site 5ME17922, a rockshelter located east of the Dolores River about 15 miles south of Gateway, Colorado (Conner et al. 2011). There, a maize cob collected near the surface, provided a conventional radiocarbon age of ca. AD 570-650 (Beta No. 290568), which confirms a Basketmaker III era occupation of that site. An earlier conventional radiocarbon age of ca. 530-400 BC (Beta No. 290569) was also acquired from the site, which indicates a Late Archaic occupation as well. Accordingly, comparative association would place the abstract groove art dates for the prehistoric rock art at the Moore Site between 530 BC and AD 650.

Cole reports “abstract groove art occurs in shallow rock shelters along cliffs and beneath boulders” in West-central Colorado (Cole 1990:53). She notes that some found in the Upper Dolores River Valley may have been made by Basketmaker people as part of a pattern established during the Archaic period. Additionally, similar incised rock art was found in a clay-lined cist at North Shelter, a Basketmaker site in the La Plata Mountains near Durango (ibid.).

At least two of the bear paw motifs appear to be segmented, whereas others are either outlined or completely filled in. Cole (2016) attributes a Basketmaker or Archaic origin to a similar motif at site 5ME540, and states that these representations are typical of Basketmaker II and Basketmaker III rock art in the San Juan and Dolores River drainages and of Fremont rock art in the Uintah Basin, Little Dolores River/Glade Park area, and the Roan and Tavaputs plateaus (Cole 1999, 2009; Ives 1986). Cole (1990:53) also reports that pecked and stylized bear paw prints occur with groove art at some of the aforementioned sites in West-central Colorado, and stylized paw prints were also reported in the clay storage cist walls at North Shelter.

Bear paw motifs are found in Panel 2. They are seen in petroglyph panels throughout the region, and occur as isolated elements or as groups of prints either exclusive of other images or separately clustered. A portion of a panel at the Moore Shelter exhibits paw element clustering, claw slash marks, and a vertical line that represents male genitalia (far right side of image) – a symbol of virility and fertility (Figure 4).

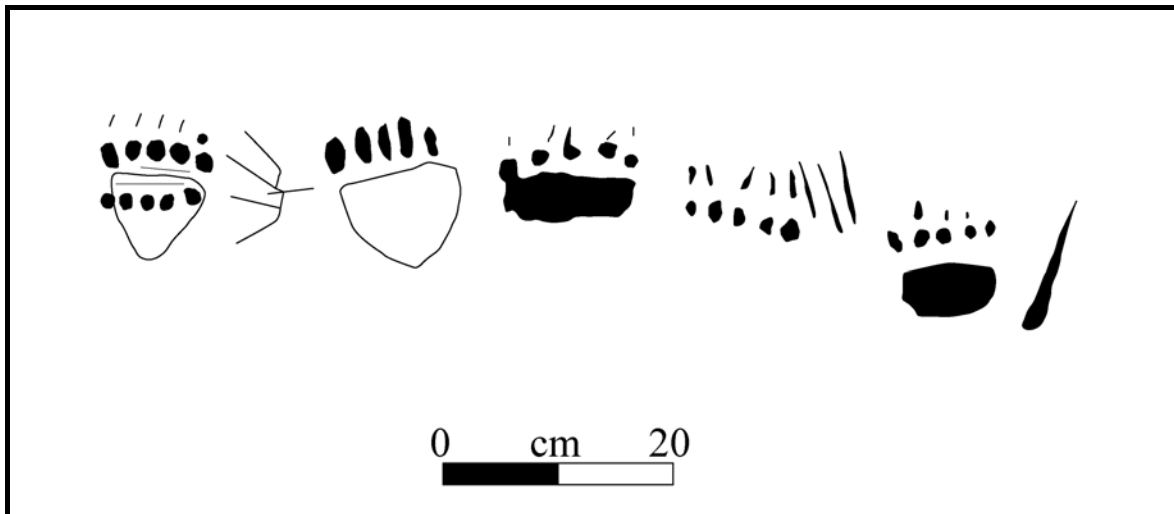


Figure 4. Drawing of bear track rock art from Panel 2 at the Moore Rockshelter (image by Masha Conner).

Bear tracks and images are common motifs in Buckle’s Uncompahgre Style (Cole 1987:275-289). Keyser and Klassen (2001:174) describe similar bear symbolism in the Foothills Abstract tradition, which is comparable to the Uncompahgre Style. However, bear paw tracks and images of the bear are also incorporated in many of the Fremont (Formative), Late Prehistoric, and Historic style rock art panels. As Keyser and Klassen (2001:174) relate in their book *Plains Indian Rock Art*: “no stronger magic could be found on the Northwestern Plains than that of Grizzly Bear, whose supernatural powers embodied both the warrior’s ideal and the healer’s arts.” They describe the warrior society called Bear Dreamer: “a fraternity for those warriors brave enough to have obtained bear power in their visions.” Many tribes had a Bear Dreamers Society made up of warriors who by vision quest obtained bear power to become Grizzly Bear Warriors, and shamens who obtained bear medicine to cure disease and

sickness. The Blackfeet are mentioned by Keyser and Klassen (ibid.) as conducting a two week ritual marked by strenuous ordeals prior to a transfer of a bear knife bundle

One pecked motif resembling a deer track or possibly bison track is visible in the upper portion of Panel 2. Keyser and Poetschat (2009) note that ungulate hoofprint are common in Plains rock art and often occur at sites with numerous deep tool grooves (Keyser 2004:56-57; Keyser and Klassen 2001:176-189). Other elements located just east of the motif consist of pairs of abraded or incised straight lines with corresponding “dots” or cupules beneath them. These elements are in close association with an incised abstract geometric symbol.

A possible quadruped petroglyph is visible above the main concentration of bear paw motifs in Panel 2. The element is hard to discern, and is not patinated like the surrounding elements, instead it is a natural red color of the bedrock visible on the many portions of the back wall that have sloughed off naturally.

Vandalism is apparent in the form of scratched graffiti and bullet holes. The graffiti does not appear to be recent (within the last 10 years), but appears to be younger than the historic inscriptions based on the lack of patina within the scratches. Bullet holes near Panel 10 appear to be fairly old, and have expedited the weathering process of the rock face.

12.0 HEARTHES

Four unlined hearths were found in the larger shelter. These were simply pits hollowed out of the underlying deposits; no attempt had been made to provide a lining, but the charcoal was covered by flat stone slabs. The average diameter was 18 inches. Depths varied from 4 to 10 inches. In 1952 the site was revisited in an effort to obtain charcoal which could be used for Carbon 14 dating. In the Moore Shelter a slab-lined hearth filled with stones and charcoal was found 8 inches below the surface (ibid: 9), but its provenience is unknown.

13.0 BOTANICAL REMAINS

The field catalog for 1938 indicates that botanical specimens were intended to be sent to Dr. Volney Jones at University of Michigan (Huscher 1938 field notes). The 1939 field catalog lists a seed pod and seeds having been recovered. These are not in the current collection.

14.0 FAUNAL REMAINS

Numerous fragmentary animal bones were found in all levels. Many bear the marks of intentional cutting. Through the kindness of the late Dr. Glover Allen of the Museum of Comparative Zoology of Harvard University, the following animals were identified. The order

in which they are listed is based on frequency.

Rocky Mountain Mule DeerOdocoileus hemionus Macrodis
 Mountain SheepOvis canadensis
 Cottontail RabbitSylvilagus sp.?
 Jack RabbitLepus californicus texianus
 Prairie DogCynomys sp.?
 Pronghorn AntelopeAtilocapra americana
 LynxLynx sp.?

The faunal remains are not in the current collection. Harvard University has been contacted and affirms that remains may be present in their collections. Michele Koonz of DMNS will search for the material later this year (2017).

15.0 DATA GAPS

The sample of stone artifacts from the site is biased to an unknown extent because it appears that not all materials were collected, and of those that were found or documented, not all were saved. Of the specimens that were saved, some portion has been “lost” through one means or another, such that the specimens studied might not exhaustively characterize the diversity of lithic artifacts once made and used at the site. Not all of the artifacts in the collection can be definitely said to have originated at the site. As described above, the provenance of the bifurcated base projectile points is problematic. They were attributed to the site in the 1956 report (Wormington and Lister 1956:14, Fig. 12). Other artifacts are labeled in the same manner, that is with the initials “CM” and a number with no other provenience numbers. Based upon Huscher’s documentation, these are most likely those collected by Squint Moore, were sent to the museum in the 1930s. These artifacts were added to the Moore site collection at some point without further documentation as to their origin. Table 4 provides a list of these artifacts and Plate 24 is a photograph of the Squint Moore artifacts.

Table 4. List of artifacts collected by Squint Moore, donated to the DMNS

Project artifact number	DMNS accession number	“CM” number	Artifact category
M-24	A541.5	CM22	Projectile point
M-25	A541.5	CM18	Projectile point
M-73	A541.82	CM21	Projectile point
M-27	A541.6	CM10	Biface
M-57	A541.49	CM10	Biface
M-80	A541.87	CM4	Biface
M- 83	A541.87	CM12	Biface

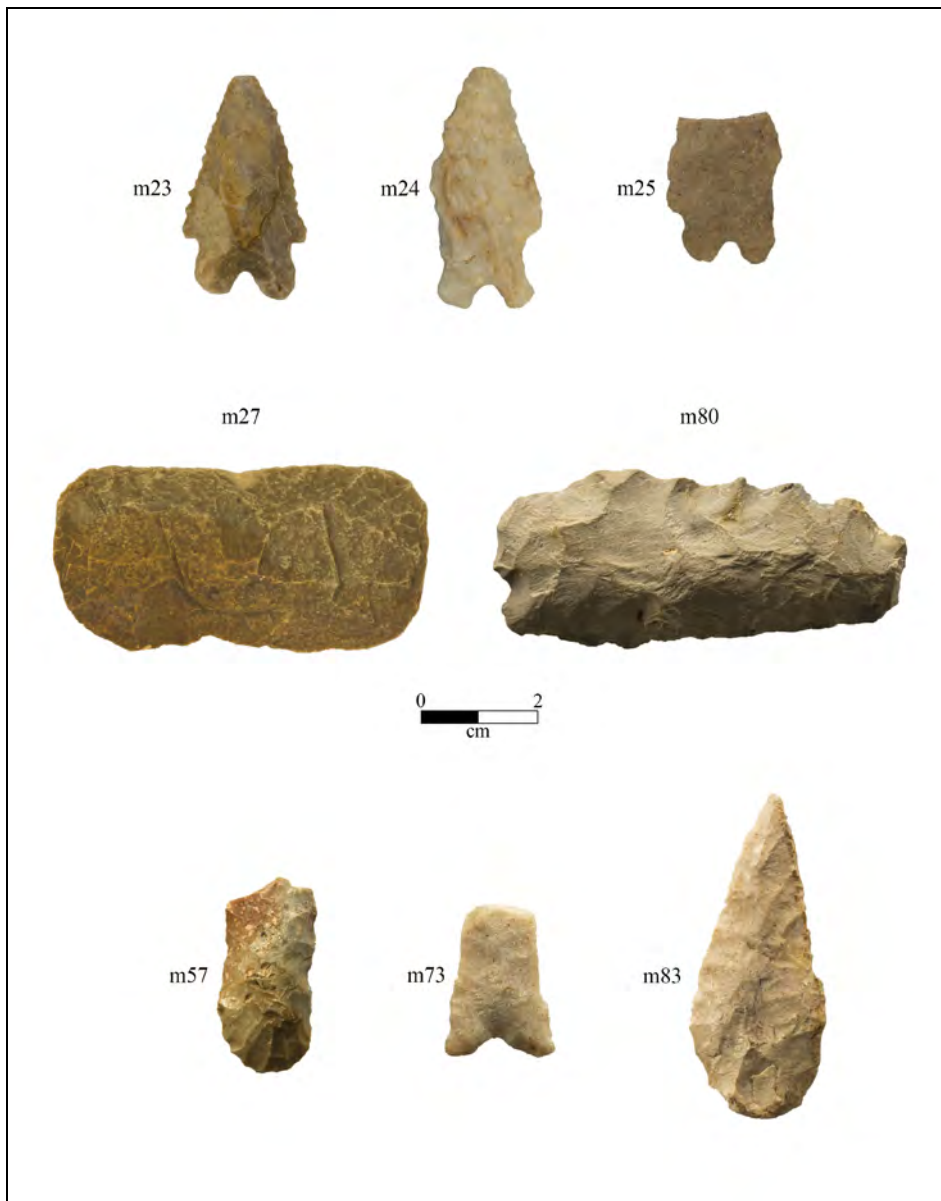


Plate 24. Unprovenienced artifacts from the Squint Moore collection that were added to the Moore Site artifacts.

At most sites, projectile points would be the primary chronological control for the site. However, their utility for identifying the chronology of the Moore site, can only be at the macro-site level. Currently, the relationship of the points with the stratigraphy needs to be resolved, to allow a finer site chronology. The lack of radiocarbon samples with the collection, or any record of the locations, also compromises determining site chronology. Charcoal was collected (Wormington 1953:166; Wormington and Lister 1956:64), but there is no record at DMNS and there are no charcoal samples in the collection. The disposition of the charcoal samples remains unknown, and so radiocarbon dating of the site cannot be completed at this

time. Temporal control of the levels and artifacts would add substantially to the record of this site.

Other missing site data is the perishables, including seeds, seed pods, yucca, hide, hair, yucca figurine, and cedar bark. These are noted in the report and field notes, but have not been located to date.

Based on photographs and personal observation of the site, the metates were left on the surface of the site. The location of the manos is unknown.

Currently, there is no record of the occurrence of debitage, which could have been recovered with the small screen size (1/4") that was employed. The field notes do not state whether debitage was collected in the field and taken to the museum for analysis.

It is well-documented that a fire occurred at DMNS in 1961, in the room adjacent to Wormington's office. Her office and its content was damaged by smoke and fire, and probably water. The DMNS records do not indicate what was damaged or destroyed in the fire. And sadly, a fire in Wormington's home in 1994 completely destroyed the first story and took her life. Quite possibly, her files were severely affected because they were located in her basement office. There is no known record of what was damaged or destroyed in that fire. As mentioned previously, her files have been curated at the Smithsonian. There is no way to determine how inclusive the Smithsonian files are.

The work conducted on this project has been a fascinating combination of archival research and documentation, while comparing historic reports to the physical collection. Working with historical collections, especially those that have been dispersed to various institutions, creates a challenge to researchers and analysts to find, identify, and correlate specimens back to the artifacts described in the original report. The Wormington report is a comprehensive document and will always remain integral as the primary synthesis of work done in the early 1950s. The history of the physical collection and management strategies utilized to track and store the collection over time, also presents an interesting facet to this project. Finally, many of the individuals involved in the excavation and report preparation are no longer available, which makes the collection itself, and any accompanying documentation, all the more important.

It is hoped that additional funding will support a second phase of this project to compile a synthetic volume and a database linked to digital photography, thus creating a visual research tool which augments the synthetic write-up of the site. The project database is sufficient at this point, but additional work is needed to create a true research tool.

Techniques on how to best manage and handle the re-evaluation of historic collections, specifically when there is a lack of records, has been illuminated by this project. The Wormington and Lister (1956) report and content of Harold Huscher's field notes serves as the only consolidated documentation of the artifacts excavated from the Moore site. Provenience

data associated with each individual artifact has suffered the most data loss through time. It is the hope of the author to continue piecing together the provenience data in Phase 2 of this project.

The value of reviewing historic collections with modern techniques not only helps to create consolidated artifact inventories, but helps to reveal connections between artifacts and material culture which might not have been drawn from the original analysis or excavation data.

Interwoven in this chapter of the report has been the express interest in continuing work on this project to create a more finalized interpretive tool for researchers and the public.

16.0 EVALUATION AND RECOMMENDATIONS

The Moore Site (5MN863) qualifies to the NRHP under Criteria D because it has and is likely to yield information important to local and state prehistory.

Excavations at the Moore Site and three other sites (Taylor, Casebier, and Alva sites), led to the first description of the Uncompahgre Complex by H.M. Wormington. (Wormington 1953, Wormington and Lister 1956). The identifiable traits of similar artifacts at these four sites is still in use and viewed as a valid complex to many archaeologists (Cassells 1997: 111-112).

Artifacts recovered during the excavation of the Moore Site could add significant information about prehistory using modern analysis techniques. The artifacts are curated at the Denver Museum of Nature and Science and are available for additional research. Projectile points recovered indicate the site was occupied from the Middle Archaic through the Late Prehistoric period. In addition, features were identified, including four hearths. Charcoal was recovered from the features in the 1930s and then in 1952, the whereabouts are unknown at present. The charcoal from the site may yield important chronometric data. Faunal remains were also recovered. Perishable materials were preserved: yucca leaves, cedar bark, and bone and wooden tools were found throughout the deposits.

The Moore Rock Shelter was one of the first archeological sites excavated on the Uncompahgre Plateau. This site provided a significant amount of scientific information which was used in defining the Uncompahgre Complex and its identity as a variant of the Desert Culture. The studies conducted at the Moore Rock Shelter have provided a better understanding of the prehistory of the Uncompahgre Plateau, western Colorado and the relationship of these areas with the Great Basin and Great Plains Cultural areas.

Data important to local and state prehistory was published in Wormington's dissertation in 1953 (Wormington 1953), and in her publication in 1956 (Wormington and Lister 1956). The Moore site artifacts are curated at DMNS and are available for current and future

researchers. Additional information is likely to be recovered at the site. Excavations did not remove all of the archaeological deposits especially in the alcove that currently has an exposed ash/charcoal lens.

The Moore Site was the first site excavated by Wormington and provided the preliminary data for her delineation of the Uncompahgre Complex by H.M. Wormington (Wormington 1953, Wormington and Lister 1956). The identifiable traits of similar artifacts at the Moore, Casebier, Taylor and Alva sites was an important step in archaeological history as this term is still in use and viewed as a valid complex by many archaeologists.

17.0 RESOURCE MANAGEMENT RECOMMENDATIONS

Additional excavation of the site is of great importance. Modern techniques and knowledge combined with advanced technology will increase the understanding of this important site. At the very least, location of the remaining artifacts and ancillary samples (especially radiocarbon) could help in the interpretation of the site. Being able to identify the micro-stratigraphy paired with radiometric data would enhance chronological control, and give local dates for the projectile points. In addition, locating and defining activity areas, especially when coupled with recovery of botanical and perishables samples would yield paleo-environmental and subsistence data.

The primary goal of this project was to assess the integrity of the collection and determine its potential to contribute to furthering our knowledge about the prehistory in western Colorado. These goals were met, and in doing so a number of questions and avenues of inquiry were raised.

Future analysis that would enhance the research potential of the site, should include:

- Conduct use-wear analysis on artifacts (flaked and ground stone).
- Conduct residue analysis on flaked artifacts.
- Locate toolstone sources and characterize and describe petrographically, x-ray diffraction (within a 5 to 10 mile radius).
- Chronometric assaying (locate charcoal, AMS date several of the bone artifacts).
- Create 3-D model of artifact and feature locations and levels.
- Conduct further excavations with the goals of clarifying the stratigraphy, establishing the site chronology, assessing botanical data preservation and potential; and establishing local chronology of the projectile points.

- Locate and/or account for the missing artifacts.
- Locate hand written field notes (at Geogia?).
- Re-draw profiles, especially those with field catalog numbers and place into a 3D model of the site, electronically position the artifacts in the site, and look at associations, especially with the points; can components be identified?

One overriding goal of this project has been to locate all files, data, images and relevant information that pertains to Wormington's work at the Moore site. A database for the artifacts was created in Excel, with the intent of adding all relevant information about her work at the site.

As information is located, it should be added to the database. And finally, that database should be made available on-line so that future researchers do not retrace the steps already taken.

17.1 Further Archival Research

One of the tasks of the grant was to locate additional sources of information about the Moore site. Potential sources, in addition to DMNS, include: the Museum of the West, Grand Junction, Colorado; the Smithsonian Institution (Smithsonian) Washington, D.C.; Peabody Museum, Harvard; and, the University of Michigan. Travel would be required to access these some of these records.

Dr. Wormington's surviving files are archived at the Smithsonian Institution, National 9 Anthropological Archives, Washington, D.C. Following her leaving DMNS and prior to her death, she kept files in her office in the basement of her home. A fire in 1994 took her life and may have damaged or destroyed an unknown number of files. Her executor cleaned out her office, removed some of the files and sent them to the Smithsonian (A. Andersen, personal communication 2015). His recent passing away precludes interviewing him. He might have been able to shed light on the condition of the files following the fire, and how he determined what files to send. A online catalog of the Wormington files is available at <http://anthropology.si.edu/naa/fa/wormington.pdf>. The catalog is 42 pages, with general file labels (Box 9 and 10 - "Casebier and Moore Shelters"). It is clear from the file names that there may well be important records concerning the site at the Smithsonian. Gaining access to these files would be critically important to seeking out all pertinent information about the Moore site.

Wormington's files and records are curated at the Smithsonian Institution in Washington, DC. As indicated above, the online catalog does not give sufficient information about the content of those files to determine whether they would be useful. An on-site visit should be arranged and time spent researching what might be available.

There is a possibility that artifacts from the Moore site may be in the Look collection at the Museum of the West. It was a practice of Dr. Wormington to return artifacts to private landowners following publishing her results (Erin Schmidt, personal communication 2015). Dr. Wormington may have returned some of the artifacts from the Moore site to Al Look, who assisted with work on the site. The artifacts and documents in the Look collection are currently being cataloged. Mr. Look is known to have retained a large amount of material, some of which may pertain to the site.

It is the express hope of this author to see work conducted in a third and final phase of this project, to ensure the creation and compilation of a finalized research and interpretive digital tool which can accompany the final synthetic volume of the culminating work on the collection.

18.0 SUMMARY AND CONCLUSIONS

The Moore site was excavated in the late 1930s by Dr. Marie Wormington of the Denver Natural History Museum, during which time a number of artifacts were recovered including: projectile points, drills, bone awls, tubular bone beads, choppers, ground stone, scrapers, bifaces, and unifaces. Features such as hearths were also uncovered. Projectile points indicate that the site was occupied at least intermittently from the Middle Archaic through the Late Prehistoric period and cultural deposits were found within soils that are at least 4 feet in depth.

The project entailed the transportation of the Moore site collection, stored at the Denver Museum of Nature and Science (DMNS) to the DARG facilities in Grand Junction, Colorado for typology, lithic source, and tool use analysis. A large portion of time was spent separating Moore site artifacts from other curated artifacts that were stored with them, as the cataloguing technique used in the field and by DMNS was (and is still somewhat) unclear.

The Moore site is important in western Colorado due to its depth and preservation of its deposits and research potential for defining local chronology, subsistence, and seasonality. Most sites in the region are shallow, and usually have a long time period compressed into less than one meter of deposits, while others have been vandalized and illegally excavated. Information gained from this site will provide a baseline for interpreting other sites in the region by researching and correcting erroneous and outdated information, thereby providing a reliable source for the identification and processing of new and existing sites.

A second phase of this project is to compile a synthetic volume and a database linked to digital photography, thus creating a visual research tool which augments the synthetic write-up of the site. The project database is sufficient at this point, but additional work is needed to create a true research tool. Techniques on how to best manage and handle the re-evaluation of historic collections, specifically when there is a lack of records, has been illuminated by this project. Provenience data associated with each individual artifact has suffered the most data

loss through time. It is the hope of the author to continue piecing together the provenience data in Phase 2 of this project.

The value of reviewing historic collections with modern techniques not only helps to create consolidated artifact inventories, but helps to reveal connections between artifacts and material culture which might not have been drawn from the original analysis or excavation data. Interwoven in this chapter of the report has been the express interest in continuing work on this project to create a more finalized interpretive tool for researchers and the public.

19.0 REFERENCES CITED

Adovasio, J. M.

- 1980 Fremont: An Artifactual Perspective. In *Fremont Perspectives*, edited by D. B. Madsen, pp.35-40. *Antiquities Section Selected Papers No.16*. Utah State Historical Society, Salt Lake City.

Aikens, C. Melvin

- 1970 Hogup Cave. *University of Utah Anthropological Papers No. 93*. Reprinted in 1999. The University of Utah Press, Salt Lake City.

Andersen, Adrian

- 2015 Personal communication Michael Piontkowski.

Andrefsky, William

- 2005 *Lithics: Macroscopic Approaches to Analysis*. Second Edition. Cambridge University Press, Cambridge, U.K.

Baker, Steven G

- 1995 Harold A. Huscher: Pioneer Colorado Archaeologist Crosses the Great Divide. *Southwestern Lore* (61)2.
- 2007 Remembering Carlyle "Squint" Moore: Avocational archaeologist of the Uncompahgre Plateau. *Southwestern Lore* (73)2.

Behrensmeier, Anna K.

- 1978 Taphonomic and Ecologic Information from Bone Weathering. *Paleobiology* 4:150-162.

Buckles, William G.

- 1971 Uncompahgre Complex: Historic Ute Archaeology and Prehistoric Archaeology on the Uncompahgre Plateau in West Central Colorado. Ph.D. dissertation, Department of Anthropology, University of Colorado. University Microfilms, Ann Arbor.

Buc, Natacha, and Daniel Loponte

- 2007 *Bone Tool Types and Microwear Patterns: Some Examples from the Pampa Region, South America*. *Methods and Interpretations in Worked Bone*. inapl.gov.ar. pp.143–157.

Cassells, E. Steve

- 1997 *The Archaeology of Colorado*. Johnson Books, Boulder.

Campana, D.

- 1989 Natufian and Proto neolithic Bone Tools. The Manufacture and Use of Bone Implements in the Zargos and the Levant. *BAR International Series No 494*. Oxford: British Archaeological Reports.

Cole, Sally

- 1987 An Analysis of the Prehistoric and Historic Rock Art of Western Colorado. *Colorado Bureau of Land Management Cultural Resources Series No. 21*, Denver.
- 1990 Eastern Shoshone Rock Art. In *Legacy on Stone: Rock Art of the Colorado Plateau and Four Corners Region*. Johnson Printing, Boulder.
- 1999 *Legacy on Stone: Rock Art of the Colorado Plateau and Four Corners Region*. Johnson Books, Boulder.
- 2009 *Legacy on Stone: Rock Art of the Colorado Plateau and Four Corners Region*. Revised and updated edition. Johnson Books, Boulder.
- 2013 Ute-Paiute Identity in Rock Art of Western Colorado and Eastern Utah South of the Colorado River. Symposium paper presented at the Rocky Mountain Anthropological Conference, Taos.
- 2016 Identifying Cultural Landscapes: Archaeological Documentation and Analysis of Native American Rock Art Along Proposed Prehistoric-to-Historic Trails in Mesa County, West Central Colorado. In *Archaeological Investigations of Two Ute Trails in Mesa County, Colorado*. Dominquez Archaeological Research Group. Completed for History Colorado State Historical Fund and the Bureau of Land Management, Grand Junction Field Office. On file at the BLM-GJFO.

Conner, Carl E.

- 2011 Class III Cultural Resource Inventory of 87 Acres in Blue Creek and Documentation of the Vandalism at Site 5ME17922 in Mesa County, Colorado, for the Bureau of Land Management Grand Junction Field Office [BLM CRIR No. 15810-02; OAHF No. ME.LM.R699]. Dominquez Archaeological Research Group, Grand Junction. On file at the BLM-GJFO.

Conner, Carl E., Nicole Darnell, Brian O'Neil, Richard Ott, Curtis Martin, Dakota Kramer, James C. Miller, Barbara Davenport, Sally Cole, Jim Keyser, Claudia F. Berry, and Michael S. Berry

- 2011 *Class I Cultural Resource Overview for the Grand Junction Field Office of the Bureau of Land Management*, edited by Michael S. Berry. Grand River Institute. Ms on file at BLM Grand Junction Field Office.

- Conner, Carl E., Dakota Kramer, James Miller, Michael S. Berry, Curtis Martin, Brian O'Neil, Michael Piontkowski, Carl McIntyre, Courtney Groff, Hannah Mills, Cheryl Harrison, Nicole Darnell, Barbara Davenport, and Natalie Higginson
 2014 Archaeological Monitoring and Data Retrieval for the Collbran Pipeline Project in Garfield and Mesa Counties, Colorado. Ms on file, BLM Colorado River Valley and Grand Junction Field Offices.
- Cordell, Linda
 1996 *Archaeology of the Southwest*, pp. 213. Academic Press, San Diego.
- Diaz, Bladimir
 2017 International Chemical Analysis, Inc. Personal email communication of May 17, 2017.
- Frison, George C.
 1991 *Prehistoric Hunters of the High Plains* (2nd ED). Academic Press, New York.
- Holmer, Richard N.
 1986 Common Projectile Points of the Intermountain West. In *Anthropology of the Desert West*, ed. by Carol G. Condie and Don D. Fowler, pp. 91-115. University of Utah Anthropological Papers No. 110. Salt Lake City.
- Holmer, Richard N. and Dennis G. Weder
 1980 Common post-Archaic projectile points of the Fremont area. In: Fremont Perspectives, edited by David B. Madsen. *Antiquities Section Selected Papers* 7(16). Division of State History, Salt Lake City.
- Huscher, Harold
 1939 Unpublished field notes, 1939. Huscher archives of the DMNS.
 1963 Background statement covering archaeological work and archaeological collections of the Colorado Museum of Natural History, 1935-1941. Ms on file, Denver Museum of Nature and Science, Denver.
- Irwin-Williams, Cynthia
 1973 The Oshara Tradition: Origins of the Anasazi Culture. *Contributions in Anthropology* 5(1). Eastern New Mexico University, Portales.
- Ives, Gay A.
 1986 Rock Art of the Dolores River Valley. In *Dolores Archaeological Program: Research Designs and Initial Survey Results*, pp. 235-375. U.S. Bureau of Reclamation, Denver, Colorado.

Jennings, Jesse D.

- 1978 University of Utah Anthropological Papers Number 98, *Prehistory of Utah and the Eastern Great Basin*. University of Utah Press, Salt Lake City.

Keyser, James D.

- 2004 *Art of the Warriors: Rock Art of the American Plains*. University of Utah Press, Salt Lake City.

- 2011 Horse and Rider Rock Art in Western Colorado. In *Class I Cultural Resource Overview for the Grand Junction Field Office of the Bureau of Land Management*. Michael D. Berry, editor, pp. 4.67-4.86. Bureau of Land Management, Grand Junction Field Office, Colorado.

Keyser, James D. and George Poetschat

- 2009 Crow Rock Art in the Bighorn Basin: Petroglyphs at No Water, Wyoming. *Oregon Archaeological Society Publication #20*. Maverick Publishing, Bend, Oregon.

Keyser, James D. and Michael A. Klassen

- 2001 *Plains Indian Rock Art*. University of Washington Press, Seattle.

LeMoine, G.

- 1991 Experimental Analysis of the Manufacture and Use of Bone and antler Tools among the McKenzie Inuit. Ph. D. Dissertation. Calgary: Department of Archaeology, University of Calgary.

Loosle, Byron

- 1988 Montezuma Canyon projectile points as temporal markers for the Mesa Verde Anasazi. Unpublished MA Thesis. Department of Anthropology, Brigham Young University, Provo.

Metcalf, Michael D. and Kevin D. Black

- 1991 Archaeological Excavations at the Yarmony Pit House Site, Eagle County, Colorado. *Colorado Bureau of Land Management Cultural Resource Series #31*. BLM Colorado State Office, Lakewood.

Miller, James C.

- 1992 Geology in Archaeology: Geology, Paleoclimates and Archaeology in the Western Wyoming Basin. Unpublished MA thesis, Department of Anthropology, University of Wyoming, Laramie.

- 2010 Lithic Resources. In *Prehistoric Hunter-Gatherers of the High Plains and Rockies* (3rd Ed.). Authors: Marcel Kornfeld, George C. Frison, and Mary Lou Larson. Left Coast Press, Inc., Walnut Creek.

- Moore, Rodger A. Jr.
 1981 An Analytical and Stylistic Approach to Typology: The Projectile Point Sequence to Salmon Ruin, New Mexico. Unpublished MA Thesis, Department of Anthropology, Eastern New Mexico University, Portales.
- Olsen, S.
 1979 A Study of Bone Artifacts from Grasshopper Pueblo, AZ. *The Kiva*:(44)4:341-371.
- Phagan, Carl J.
 1988 Projectile point analysis, part II: comparison of statistical and intuitive technologies. In *Dolores Archaeological Program: Supporting Studies: Additive and Reductive Technologies*, pp. 87-139, compiled by Eric Blinman, Carl J. Phagan, and Richard H. Wilshusen. United States Department of the Interior Bureau of Reclamation Engineering and Research Center. Denver.
- Piontkowski, Michael, Carl E. Conner, Richard Ott, Jim Miller, Holly Shelton, Courtney Groff, Masha Conner, Thuong Pham, Nicole Inman, and Lucas Piontkowski
 2016 A Reexamination of the Uncompahgre Complex: A Re-Analysis of the Taylor Site (5ME97), Mesa County. Submitted to History Colorado State Historical Fund (SHF No. 2014-AS-007).
- Price, Alexandra M.
 2015 *Toolstone Lithologies: Results of the Diagenesis and Silicification in the Lower Cretaceous Dakota and Burro Canyon Formations*. Department of Geology; Colorado Mesa University. Grand Junction.
- Reed, Alan and Jonathan C. Horn
 1992 Cultural resources inventory of the planned Trans-Colorado Natural Gas Pipeline, Western Colorado and Northwestern New Mexico: A report of the 1991 field season. Ms on file, BLM Grand Junction Field Office.
- Reed, Alan D. and Michael D. Metcalf
 1999 *Colorado Prehistory: A Context for the Colorado River Basin*. Colorado Archaeological Society, Denver.
- Schmidt, David N.
 1990 Bone Artifacts and Human Remains. The Archaeology of James Creek Shelter, *University of Utah Anthropological Papers No 115*, chapt.11, pp. 117-118.
- Schmidt, Erin
 2015 Personal Communication to Michael Piontkowski.

Tipps, Betsy L.

- 1995 Holocene Archeology Near Squaw Butte, Canyonlands National Park, Utah. *Selections from the Division of Cultural Resources 7. Rocky Mountain Region*, National Park Service, Denver.

Wormington, H.M.

- 1937 Annual Report of Colorado Museum of Natural History. Ms on file, Denver Museum of Nature and Science, Denver.
- 1953 The Archaeology of the Upper Colorado Plateau Area in the Northern Periphery Southwestern United States. Ph.D. dissertation, Radcliffe College, Cambridge Massachusetts.

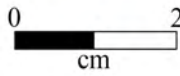
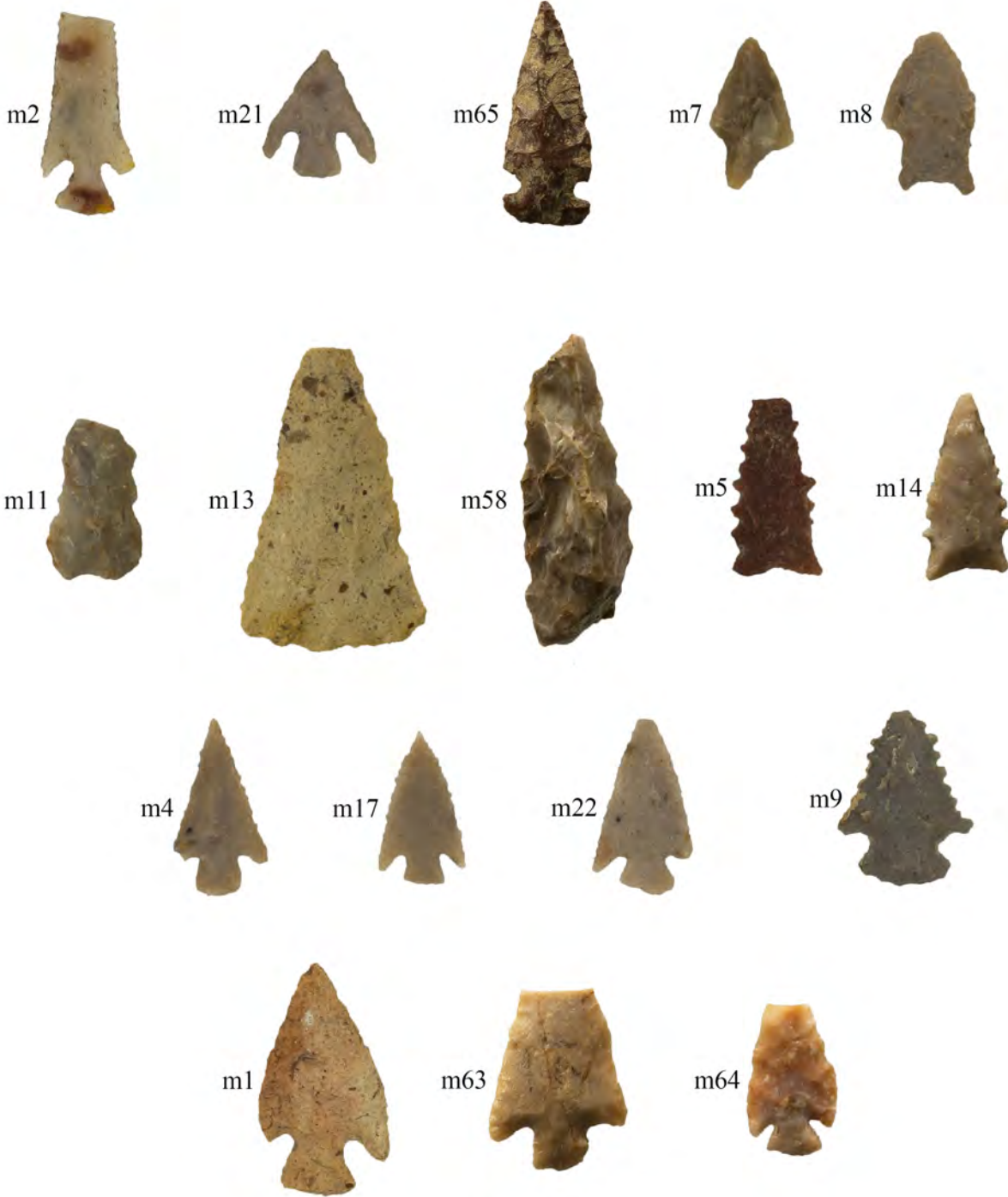
Wormington, H.M. and Robert H. Lister

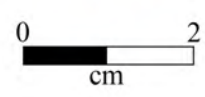
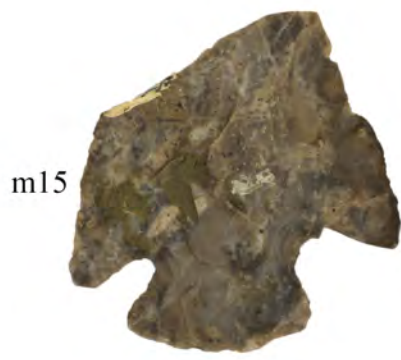
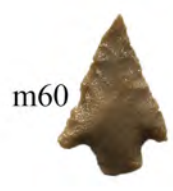
- 1956 *Archaeological Investigations on the Uncompahgre Plateau*. Proceedings, No. 2. The Denver Museum of Natural History, Denver.

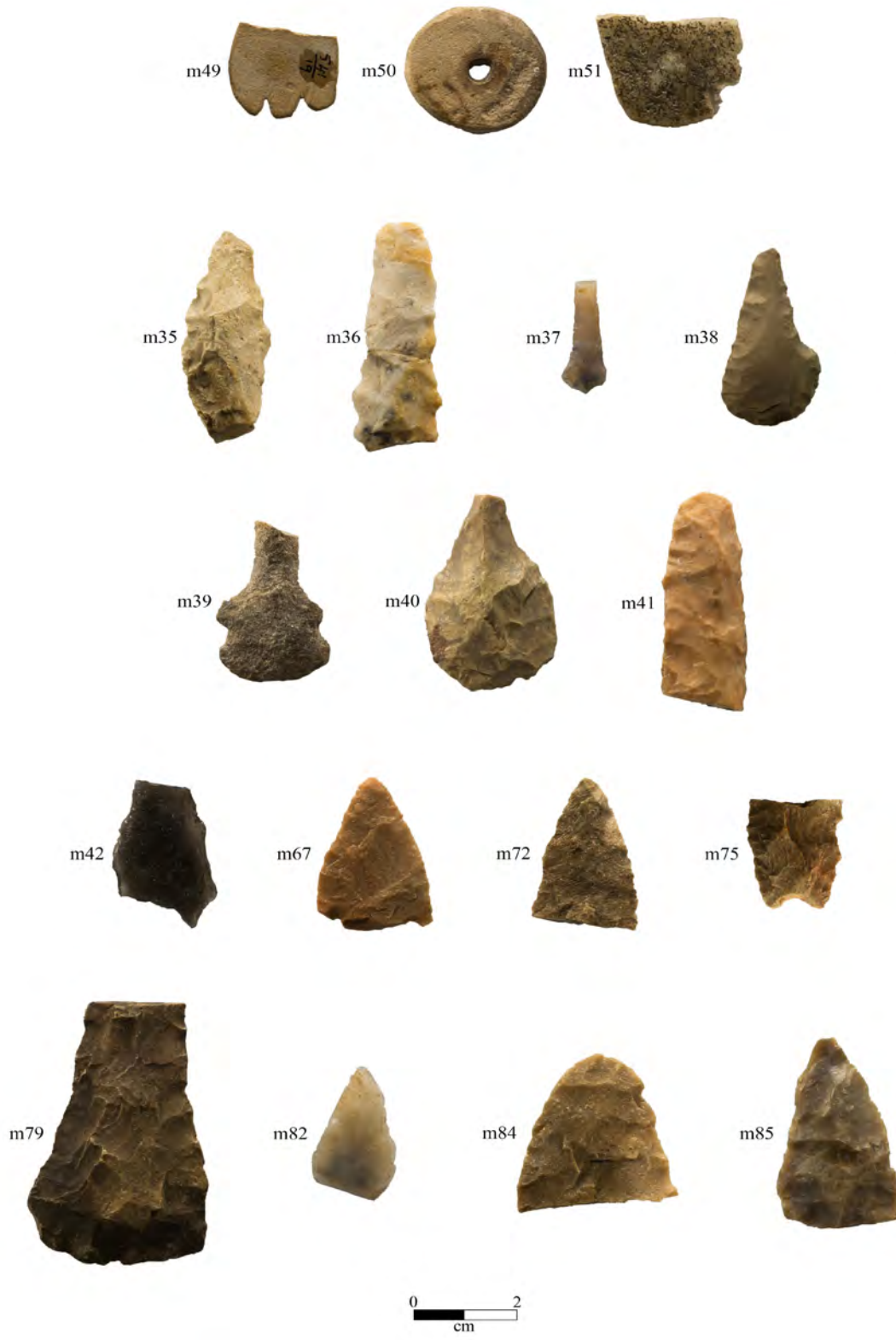
APPENDIXES

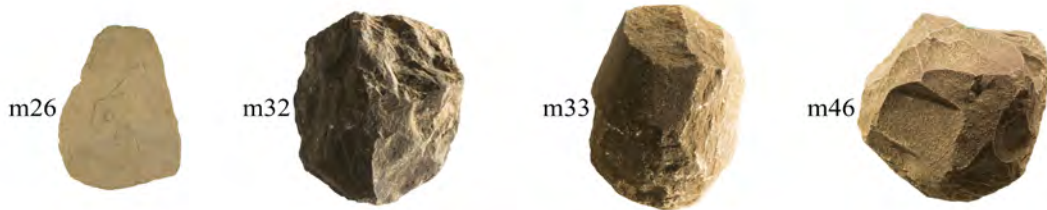
APPENDIX A

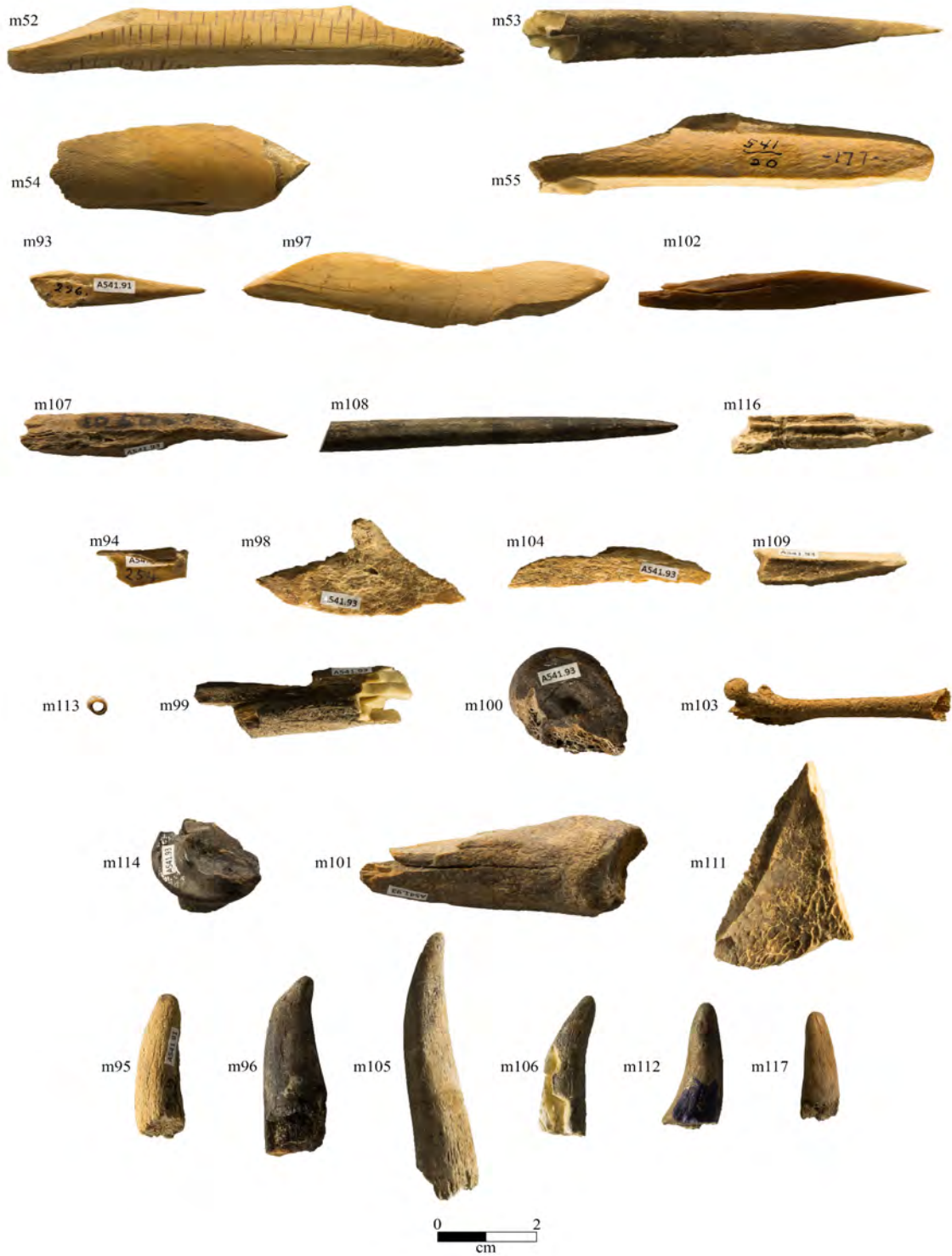
Photographs of Artifacts

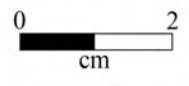












APPENDIX B

Database

APPENDIX C

Photographs taken during the 1938/1939 excavations



Plate C-1. Helen Elliot and the beginning of the excavation. Note the dust masks, due to the fine nature of the fill. Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, catalog number 00991-253-7.



Plate C-2. Helen Elliot and Marie Wormington working in the first units opened up. Note the screen and the shovels, used throughout the excavations. Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, catalog number 0088-241-15.



Plate C- 3. A lone individual expanding and the deepening of the excavation. Photo courtesy of History Colorado library.



Plate C-4. Excavation of the “trench,” near the east end of the shelter. Note the step-like method of excavation. Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, Harold Huscher files.



Plate C-5. Marie Wormington (at the screen) and Al Look (with shovel). Photo courtesy of History Colorado library.



Plate 6. Marie Wormington standing in eastern most excavation unit. Note the depth of excavation. Image used with permission of the Bailey Library and Archives, Denver Museum of Nature and Science, catalog number 0094-0088 .

APPENDIX D
Supplementary Data

Table D-1. Correlation of the Field Catalog Number with DMNS accession number and other labels on the artifacts.

DMNS accession number	Field Catalog Number	Labeled number on the artifact	Project Specimen Number	Artifact Type (from the Huscher Field Catalog)
541.1	2	2	M#1	“Encrusted blade”
541.1	8	8	M#2	“Small barbed point (on slope below rim)”
541.1	11	11	M#3	“Point on slope- toward rim”
541.1	15	15, a	M#4	“Small barbed point”
541.1	?	37	M#5	Field catalog = “reject or fragment, long ribbon flaking”: artifact is projectile point
541.1	?	10 ?	M#6	Field catalog = “mano;” artifact is a projectile point
541.2	117	117	M#7	“Tip of point”
541.2	?	150	M#8	Field catalog = “utilized flake;” artifact is a projectile point
541.2	152	152	M#9	“Small serrated point, surface, near west end, below shelf, near stream”
541.2	?	53	M#10	Field catalog = “metate fragment;” artifact is a re-sharpened projectile point
541.3	12	12(1-12)	M#11	“Blank on slope (triangular)”
541.3	92	92	M#12	“Blade Fragment”
541.3	334	334	M#13	“Point”
541.4	10	10	M#14	“Serrated point”
541.4	14	14	M#15	“Large barbed fragment”
541.4	26	26-b	M# 16	“Broken barbed point”
541.4	31	31-b	M#17	“Small barbed point”
541.4	?	Not legible	M#18	Cannot read number on artifact
541.4	?	16	M#19	Field catalog = “flake utilized as a scraper;” artifact is a projectile point

DMNS accession number	Field Catalog Number	Labeled number on the artifact	Project Specimen Number	Artifact Type (from the Huscher Field Catalog)
541.4	?	16-b	M#20	Field catalog = “flake utilized as a scraper;” artifact is a projectile point
541.4	8	8	M#21	“Small barbed point”
541.4	151	151-b	M#22	“Small point”
541.5	?	CM24	M#23	One of three bifurcated points purportedly from the site; “CM” may indicate that the artifact was from Carlyle Moore collection
541.5	?	CM22	M#24	One of three bifurcated points purportedly from the site; “CM” may indicate that the artifact was from Carlyle Moore collection
541.5	?	CM18	M#25	One of three bifurcated points purportedly from the site; “CM” may indicate that the artifact was from Carlyle Moore collection
541.58	320	illegible	M#59	DMNS renumbered from 541.2, not in Fig. 9; “Straight based point”
541.60	?	234	M#60	DMNS renumbered from 541.4, not in Fig. 11; projectile point
541.61	345	345	M#61	DMNS renumbered from 541.25, not in Fig. 39; “Point”
541.64	?	25	M#62	DMNS renumbered from 541.26, not in Fig. 40; Labeled as “blank”, but is a projectile point
541.64	14?	14; 2-14	M#63	DMNS renumbered from 541.26, not in Fig. 40; “broken barbed point;” but is projectile point
541.65	13	13; 1-13	M#64	DMNS renumbered from 541.27, not in Fig. 41; labeled “small barbed point, on slope, toward rim;” but is a projectile point
541.67		27	M#65	DMNS renumbered from 541.27, not in Fig. 41; listed as “utilized flake;” but is a projectile point
541.68	58	58	M#66	DMNS renumbered from 541.28, not in Fig. 42; listed as “elongated blade fragment;” but is a projectile point

DMNS accession number	Field Catalog Number	Labeled number on the artifact	Project Specimen Number	Artifact Type (from the Huscher Field Catalog)
541.69	26	13/a-14	M#64	“Broken barbed point”
541.69	302	302	M#67	DMNS renumbered from 541.29, not in Fig. 43; listed as “Point fragment;” but is a projectile point
541.82	339	339	M#74	DMNS renumbered from 541.51; listed as “Point fragment;” but is a projectile point
541.82	?	270	M#72	DMNS renumbered from 541.51; is a projectile point
541.82		CM21	M#73	DMNS renumbered from 541.51; “CM” may indicate that the artifact was from Carlyle Moore collection; bifurcated point
541.83	None	none	M#75	bifurcated point
541.83	None	none	M#76	projectile point