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Dominquez Archaeological Research Group

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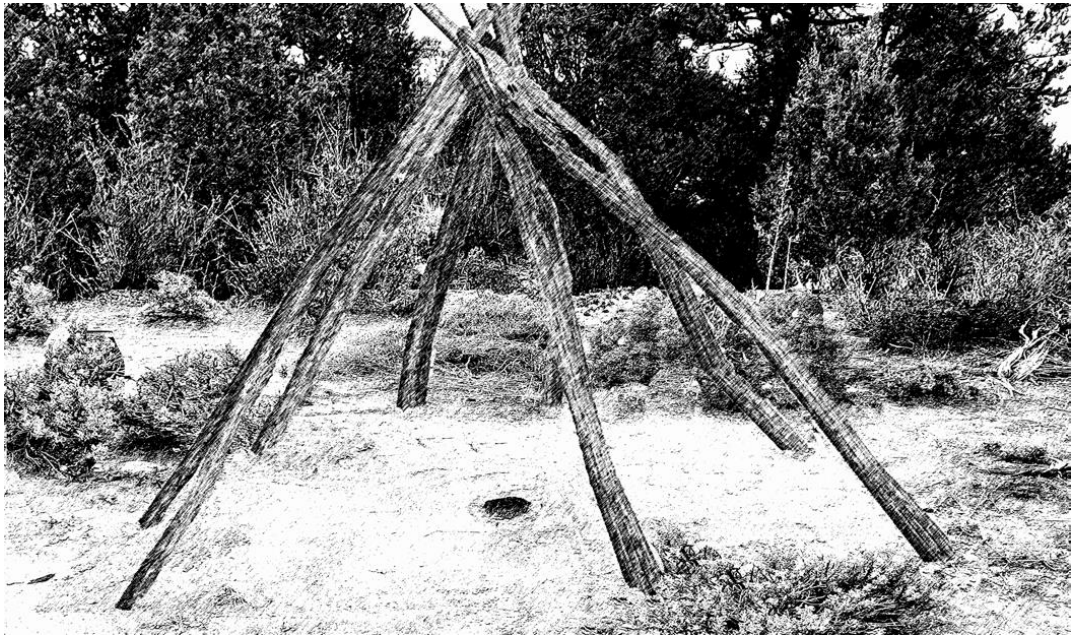
Dominquez Archaeological Research Group, Inc., is a 501(c)(3) non-profit corporation established in 2003 as a consortium for anthropological and archaeological research, preservation and education in the Upper Colorado River Basin.

Our objective is the preservation of prehistoric and historic archaeological resources data.

Our goals include the development and application of innovative research methods and advanced technology for data capture and information management in archaeology and anthropology.

We employ cooperative and collaborative approaches in cultural resources research, preservation, and education that integrate cross-boundary knowledge and expertise from diverse professional, institutional, and public sources.

Data Retrieval from Sites 5RB4558 and 5RB8902 For the Proposed BLM Strawberry Creek and Grand Hogback Land Sale, Garfield and Rio Blanco Counties, Colorado



WHITE RIVER FIELD OFFICE BUREAU OF LAND MANAGEMENT AND WHITE RIVER LODGE

The inventory for this project was conducted in the Spring of 2018. One of the outcomes was the analysis of a carbon sample recovered from surface contexts of Locus 1, 5RB8903, that resulted in a conventional age of 1720±30 BP (Cal 240-400 AD; ICA Sample ID 18C/0628).

Fieldwork for the data recovery phase occurred in the Spring of 2020. The method used was a step by step procedure outlined in a Treatment Plan created by Luke Trout, Archaeologist of BLM-WRFO, and approved by Ute Tribal representatives. At each site, the surface artifact and thermal feature distributions were reassessed, and in the case of 5RB8902, a determination was made of the portions that occur on private and BLM administered land. The original mapping of 5RB8902 included two loci (1 and 2) that occur on private land, and thus were not included in the data retrieval processes; however, the information derived from the inventory's recording were included to provide an accurate depiction of the archived artifactual remains and temporal association of the site's occupations.

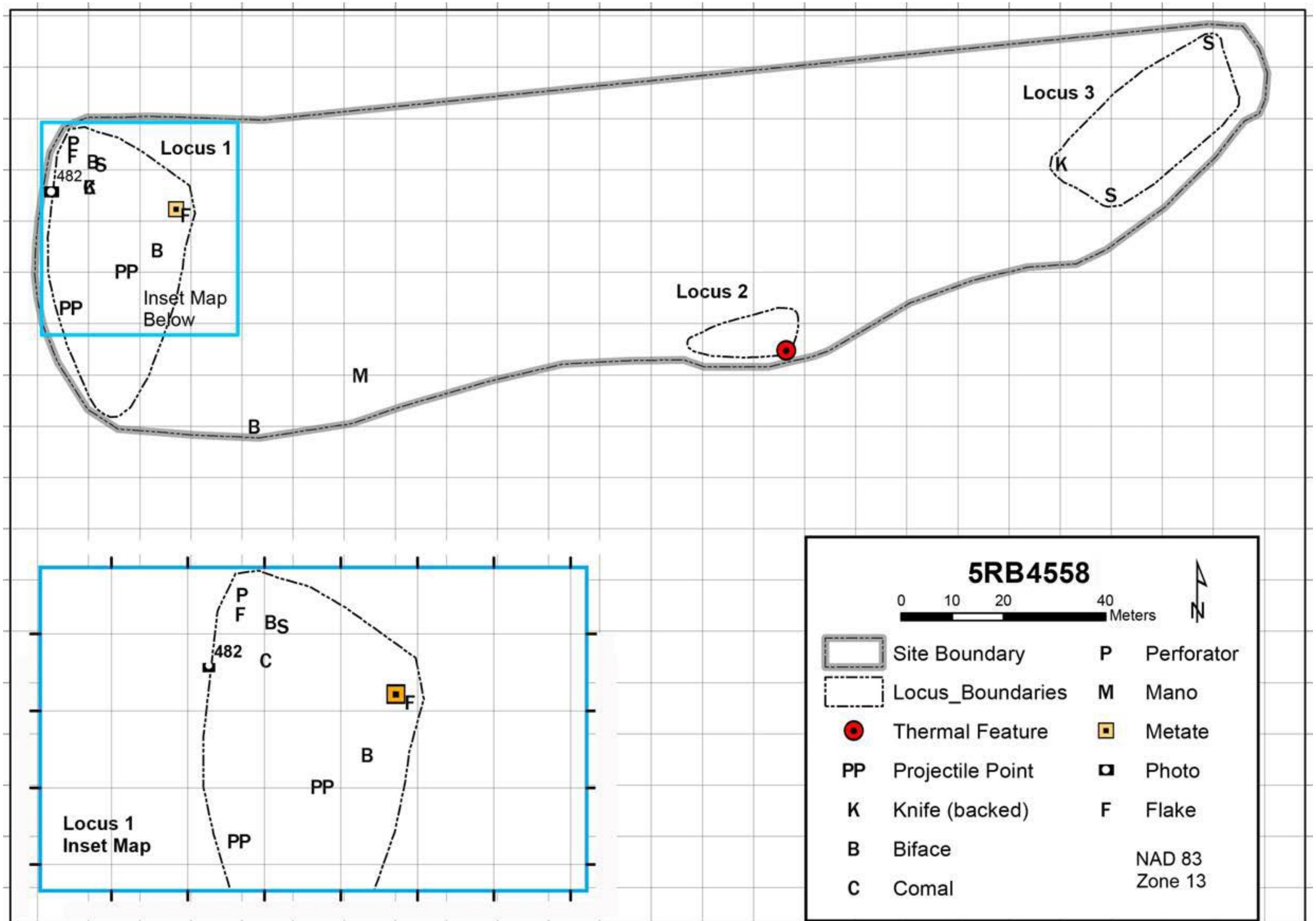
Trowel testing was employed at 5RB4558 and 5RB8902 in the search for buried cultural deposits. The test placements were based on the distribution of surface artifacts and/or exposures of ash-stained soil (when observed). It is notable that the soils at both sites are shallow- to- very shallow, and occur on a base of clayey Wasatch bedrock.

The research emphasis and objectives outlined in the research design were two-fold:

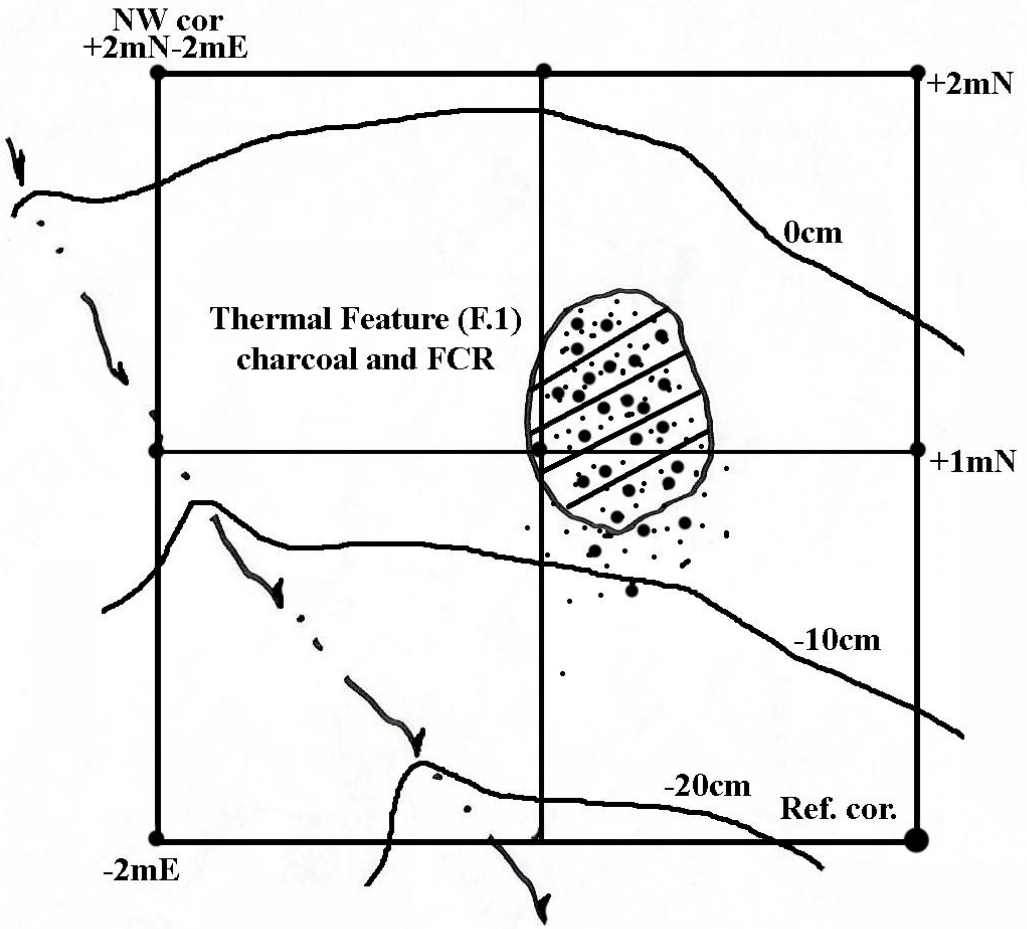
(1) archaeological and environmental data recovery and description, and

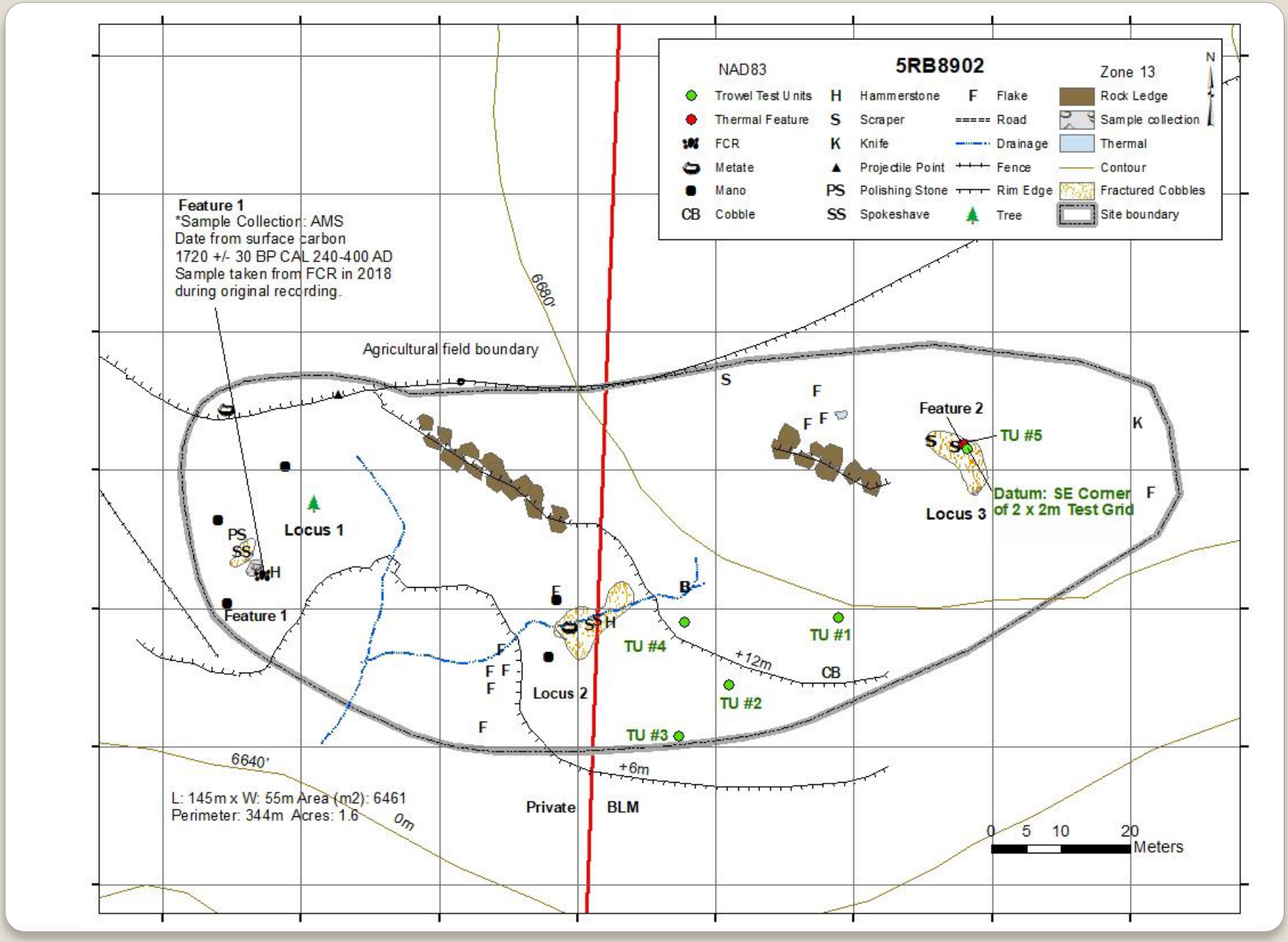
(2) the synthesis and interpretation of the recovered archaeological materials.

Overview of 5RB8902 lodge location (Feature 2), elevation 6480 feet, where vegetation is a mixture of sagebrush/ mountain brush with stands of pinyon/juniper.


Locus 1
Locus 2
Locus 3
Inset Map Below
482
Locus 1 Inset Map
5RB4558
0 10 20 40 Meters
N
Site Boundary
Locus_Boundaries
Thermal Feature
PP Projectile Point
K Knife (backed)
B Biface
C Comal
P Perforator
M Mano
Metate
Photo
F Flake
NAD 83
Zone 13

Within 5RB4558, a 2x2-meter grid was laid out around Feature 1, and surface cleared. The topsoil was shallow, silty and sandy which dictated its removal by careful troweling and brushing. That first few centimeter removal revealed an oval thermal feature (47cm x 38cm) set on the side of a small drainage. The fill included wood charcoal (pinion or juniper) and small chunks of sandstone rock. Maximum depth was only 7cm. Samples collected from the feature included rocks (for protein analysis), carbon (for AMS radiocarbon dating), macro-botanical (flotation for seed collection and identification), and pollen (for processing and identification).




5RB8902
NAD83
Zone 13
Trowel Test Units
Thermal Feature
FCR
Metate
Mano
Cobble
Hammerstone
Scraper
Knife
Projectile Point
Polishing Stone
Spokeshave
Flake
Road
Drainage
Fence
Rim Edge
Tree
Rock Ledge
Sample collection
Thermal
Contour
Fractured Cobbles
Site boundary
N
Feature 1
*Sample Collection: AMS
Date from surface carbon
1720 +/- 30 BP CAL 240-400 AD
Sample taken from FCR in 2018
during original recording.
6680'
Agricultural field boundary
Feature 2
TU #5
Datum: SE Corner
of 2 x 2m Test Grid
Locus 3
Locus 1
Feature 1
TU #4
TU #1
TU #2
TU #3
+12m
CB
Locus 2
6640'
+6m
L: 145m x W: 55m Area (m2): 6461
Perimeter: 344m Acres: 1.6
0m
Private
BLM
0 5 10 20
Meters

At 5RB8902, surface inspection and trowel testing was conducted on the east side of the site within BLM administered land. No additional artifacts were identified, but a small area of ash-stained soil was found in Locus 3 that prompted a test (TU#5). This photo shows the surface cleared area around the ashstain.

View north Test Unit 5, 5RB8902, exposure of the ashstain.

View north Test Unit 5 5RB8902, exposure of the clay-lined hearth.

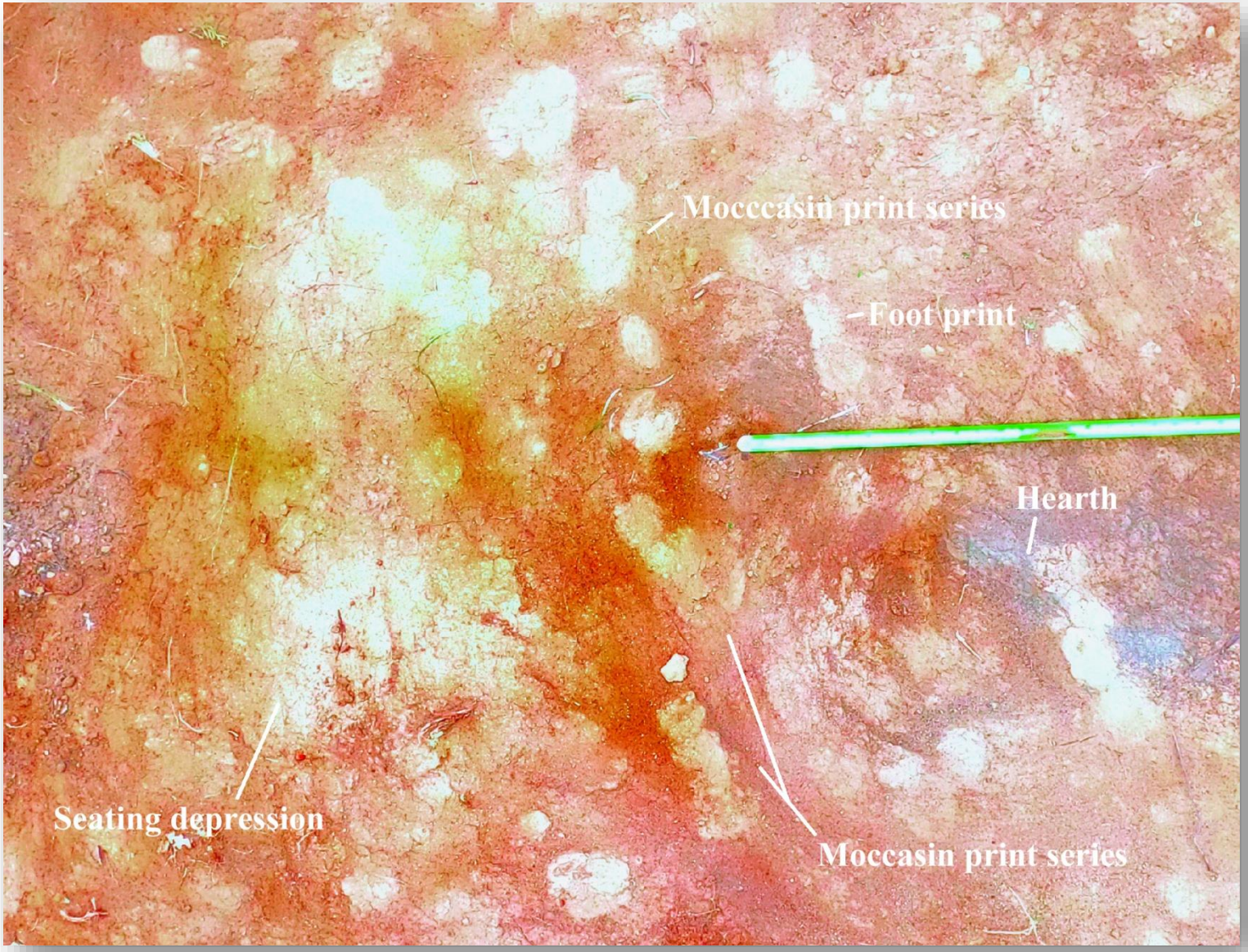
The thermal feature was about 30cm in diameter with an an informal collar of clay present around most of the hearth that was the remains of the shallow diggings to form the feature. It was apparent that this small hearth was constructed when the surface clayey soil was wet, and indicated the possibility for other features to be preserved in the clayey soil under the thin surface layer.

The fill from the feature was collected for radiocarbon, pollen, and macro-botanical sample analyses.

The next step was the surface clearing of each of the 2mx2m grid units by light toweling and brushing (photo view west). This revealed a series of tracks west and northwest of the hearth and a few post hole impressions.

View north. A series of tracks became apparent west of the hearth (southwest of center pin) as well as a seating area depression (southeast 1mx1m).

View south showing hearth, moccasin tracks, a single foot print, a seating area, and ungulate tracks. View south.

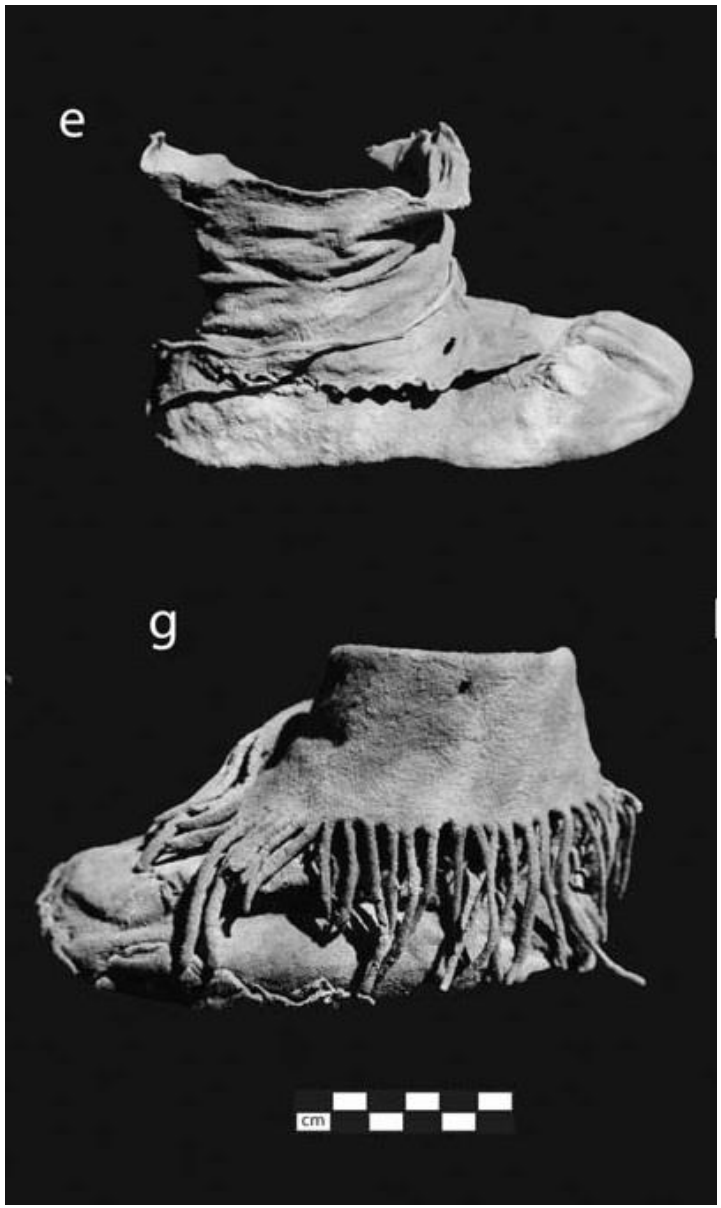


D-stretch modified photograph. View northerly.

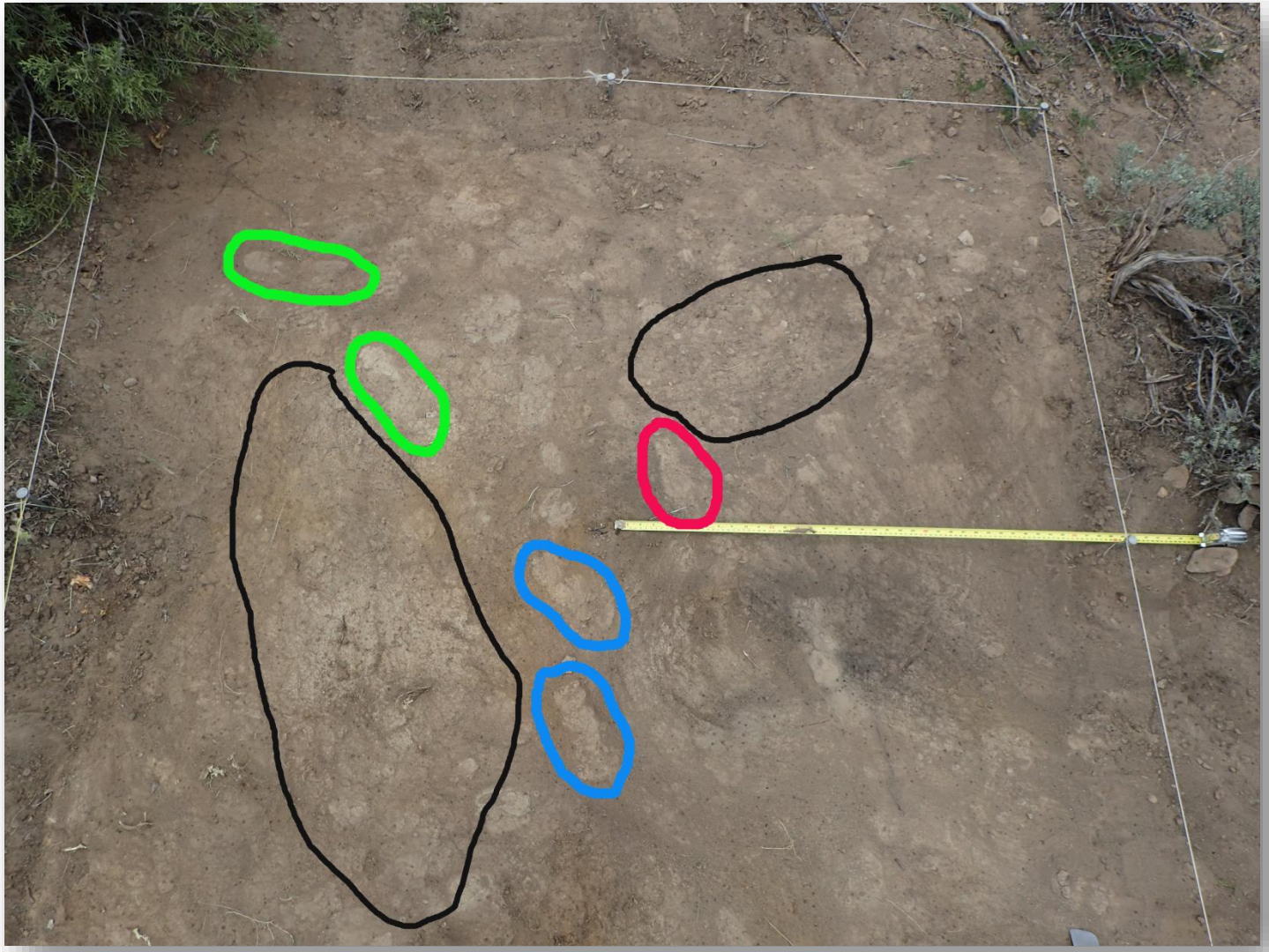
Due to the appearance of human tracks of a person wearing moccasins in the lodge at 5RB8902, a literature review on the subject of moccasins of the region uncovered a comparative collection of over 230 that had been recovered from the Promontory Caves located by the Great Salt Lake by Julian Stewart in 1930–31 (Stewart 1937). Those artifacts, which date to the 13th century, became part of a study to create an anthropometric model for understanding the composition of the caves' population by using moccasin size as a proxy for foot size (Billinger and Ives 2015). The patterns of the moccasins are ones in which a sole piece folds upward to meet the portion of the piece that covers the instep and toes and is joined by a seam at the heel. Moccasins made of bison and pronghorn were identified in the collection – reflective of the animals being hunted, as few smaller animals were represented in the faunal collection. Some moccasins exhibit intricate quill-work, fringes and ankle wrappings. Stewart found this style comparable to ones made in northern British Columbia by Dene peoples such as the Tahltan. "A similar moccasin, dating to 1430±40 14C yr BP (cal AD 558–663), was preserved in a southern Yukon ice-patch, suggesting that potential precursor forms existed in a region widely regarded as part of the proto-Dene (or proto- Athapaskan) homeland" (Billinger and Ives 2015:3).

“Fig. 2. Typical Promontory style (BSM 2 [Bb]) moccasins at the time of their recovery (2013) in Cave 1: (a) and (b) uppers of moccasins 42BO1FS945 and 42BO1FS969 respectively; (c) and (d) soles of moccasins 42BO1FS945 and 42BO1FS 969, respectively. Notice the whole sole patch and toe wear of 42BO1FS945 and the heel and sole patches for 42BO1FS969” (Billinger and Ives 2015: Fig. 2, p.3).

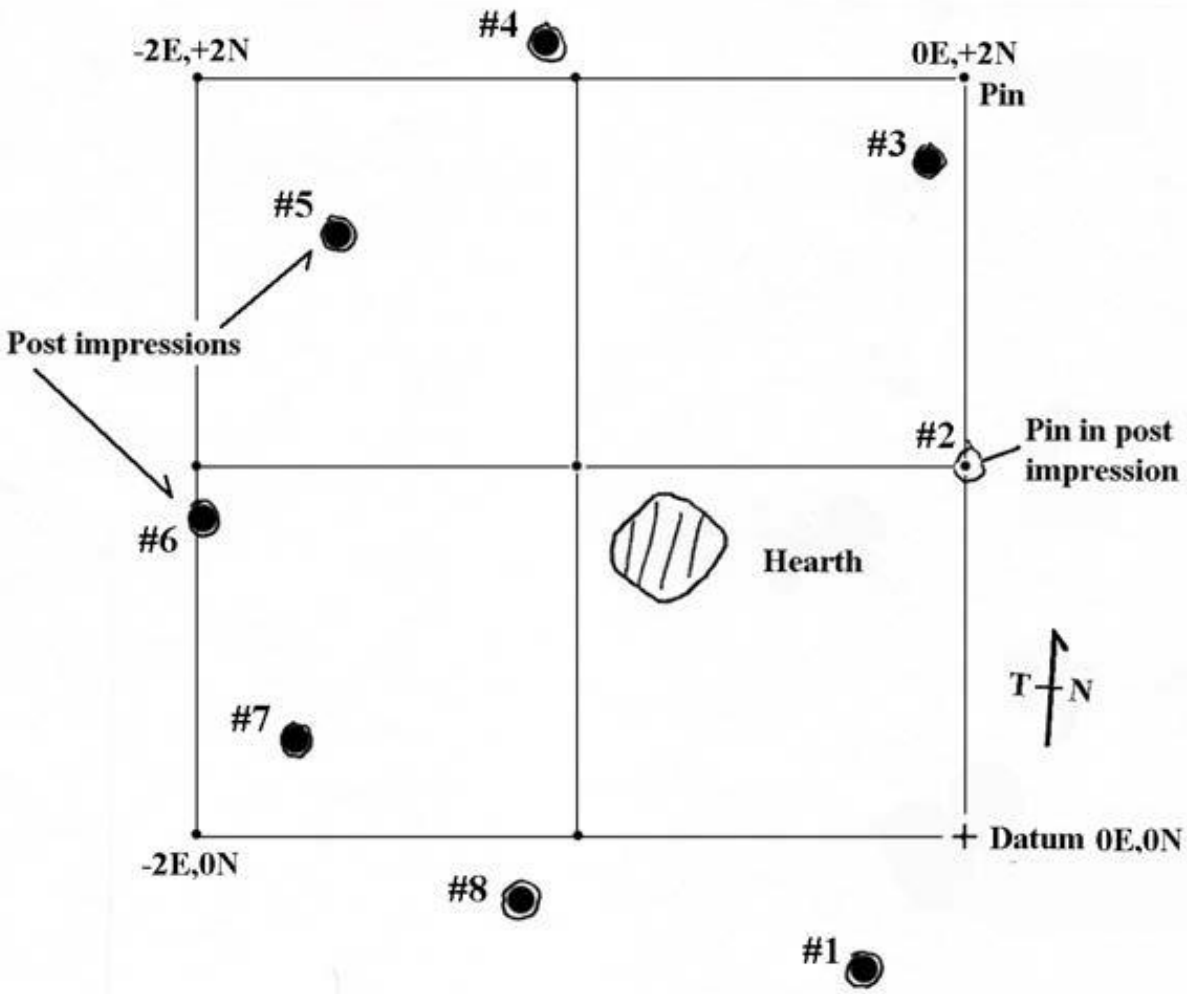
Apachean style moccasins, part of the Promontory Caves collection, that are of comparative size (18cm) to the foot prints on the conical lodge floor at 5RB8902 (Billinger and Ives 2015: Copy of center portion of Fig. 3, p.5). Notably, moccasin “e” has an ankle wrap addition and “g” an obvious fringe decoration.



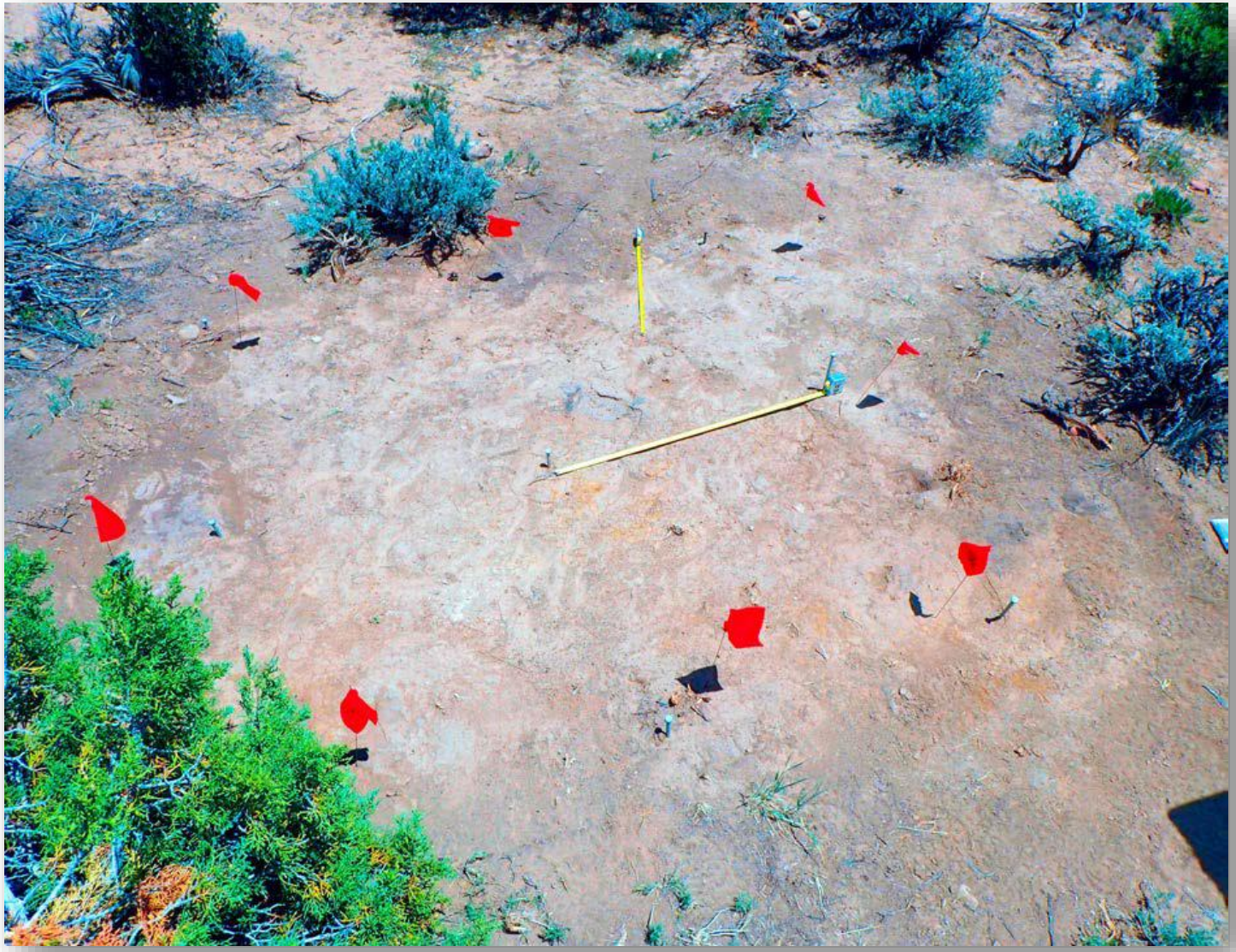
The originally identified moccasin tracks measured 18cm long. Utilizing a table that calculates foot-size to individual stature, an individual with a foot length of 16.7cm would be about 111.1cm, (Billinger and Ives 2015: Table 2, p.7). Then, using a stature-age range estimate from Billinger and Ives graphs (ibid.:7-8), that size would place the wearer in the subadult group and approximately seven years old. Further review of the structure floor revealed apparent impressions of additional tracks. The original two that were identified are shown in blue of this photo. In the northwest corner of the 2m x 2m grid are two larger tracks that were later identified (shown in florescent green). The one in better condition was measurable and is about 25cm in length. According to Billinger and Ives (2015: Table 2, p.7), these would belong to a person about 156 cm or 5 feet 1.5 inches in height (likely an adult woman). One track northeast of the center pin looks to be a footprint rather than a moccasin track (red outlined area). It measures about 13cm long and those measurements in the Table (ibid.) indicate a child about 34 inches tall (87.3cm) and two years old. So, it appears that an adult woman (possibly about 21 yrs old) and two children (one ~2 years old, another ~7 years old) were occupants of the small conical wood structure. Notably, the age spacing of the children would fit with a mother nursing a child for about 4-5 years, a norm for hunter-gatherer reproduction rates.



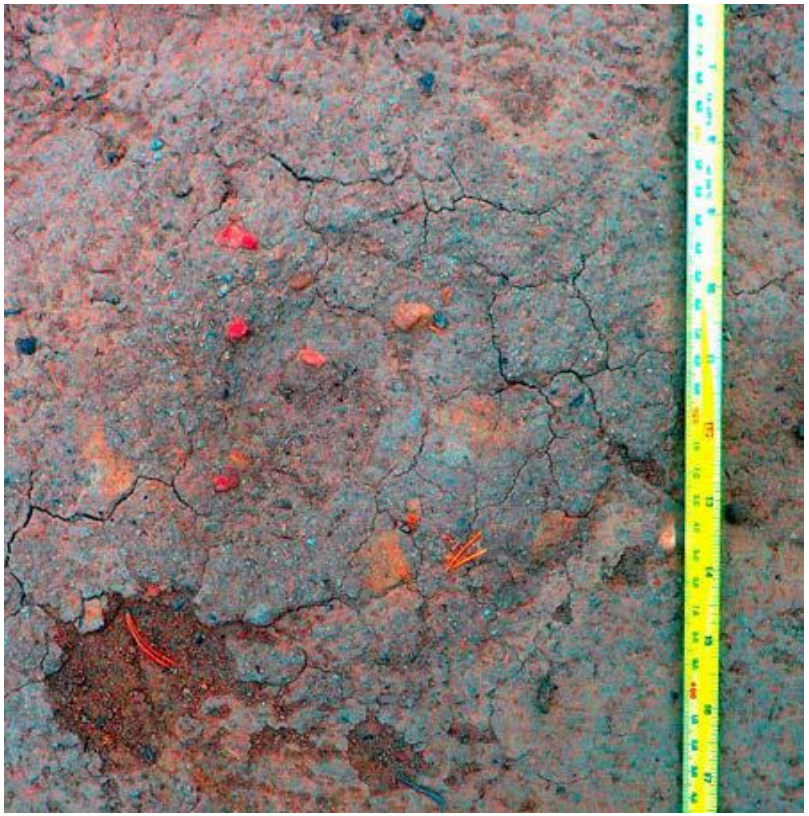
Outlines of moccasin prints (green and blue), a footprint (red), and slight impressions of possible sleep positions of two persons (black outlines).



Post impressions recorded at 5RB8902 indicating a roughly 2m radius for a conical pole lodge structure (F.3) in relation to a central hearth location (F.2).



Enhanced photo showing hardened clayey surface of the lodge floor. View is southeast, center yellow tape points north. Flags are placed near post impressions.



The post impressions were photographed and the photos subjected to D-Stretch enhancements. Above showing Post Impression #1 (left) and its enhancement using D-Stretch (right). Note the hardened, ash-stained soil around the post impression.

Photo of Post Impression #6 (left) and its enhancement using D-Stretch (below).

Notably, the base impression shows it was irregular and apparently not chopped and likely juniper.

Site Dating

Radiocarbon samples from the two sites were dated using AMS (Accelerator mass spectrometry, a form of mass spectrometry used by archaeologists to determine the concentration of 14C in a carbon sample).

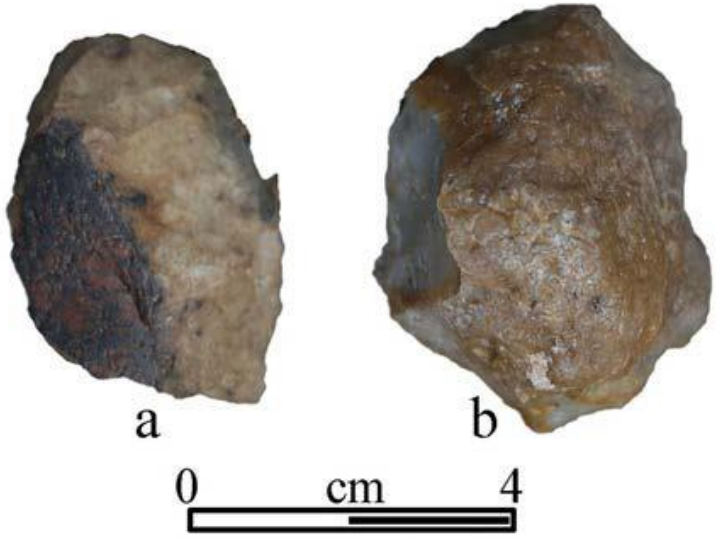
Site 5RB4558, Feature 1, produced Radiocarbon Age : 1750±30 BP, ICA Lab code: 20C/0574. Charcoal from wood.

Site 5RB8902 produced two dates:
From Feature 1, Radiocarbon Age 1720±30 BP, ICA Lab code: 18C/0628;
From Feature 2, Radiocarbon Age 1730±30 BP, ICA Lab code: 20C/0575, Charcoal from sagebrush.

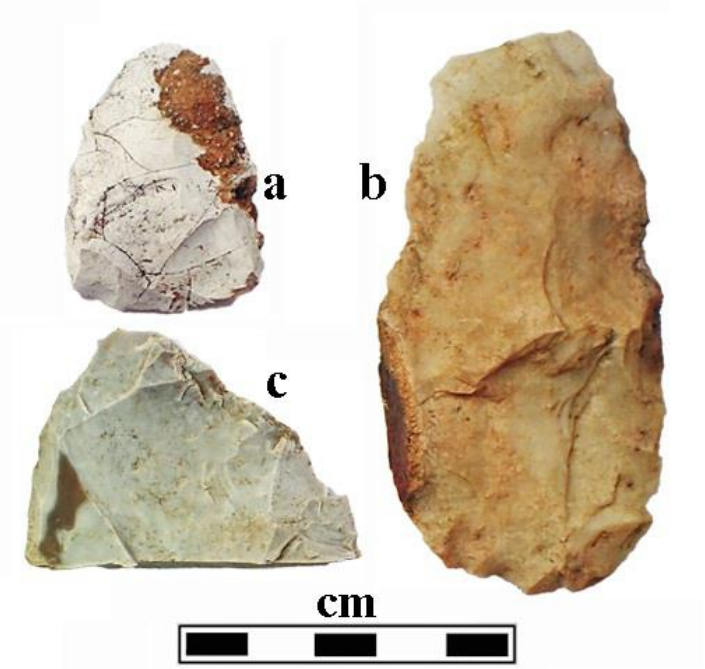
These three dates were statistically tested and found to be the same within 95% certainty. A modeled average of the three dates utilizing the *Calib program results in:*
One sigma ranges of: [start - end] relative area
[cal AD 294: cal AD 294] 0.009001
[cal AD 314: cal AD 385] 0.990999 [mean 349.5]
Two Sigma Range: [start - end] relative area
[cal AD 266: cal AD 391] 1.0 [mean 328.5].

Two projectile points were recovered from 5RB4558 found to match points collected from the Wardell Site (48SU301, a bison corral trap site) that were classified as Avonlea types (Frison 1991: 215, Figure 3.43). A Besant-like dart point (but much smaller) with wide side-notches and a relatively thick cross-section was collected as .s1 (left on Plate). An Avonlea type point is shown on the right (.s2). It is much thinner and lighter than that on the left, and may have been used with a bow an arrow. Frison comments that the thinner points were possibly less effective to kill bison because they were less likely to penetrate between the ribs like the heavier atlatl darts and thrusting spear points (ibid.:216). One projectile point mid-section was present at 5RB8902, but could not be relocated during the data retrieval phase.

Other lithic artifacts at the sites included knives, scrapers, and small wood- or bone-working tools that were all made from chert materials. Cobble manos of quartzitic and granitic materials were recorded as were "portable" metates and a comal fragment of sandstone. Also, cobbles of a relatively small size that exhibited heating scars or discolorations were classified as boiling stones.

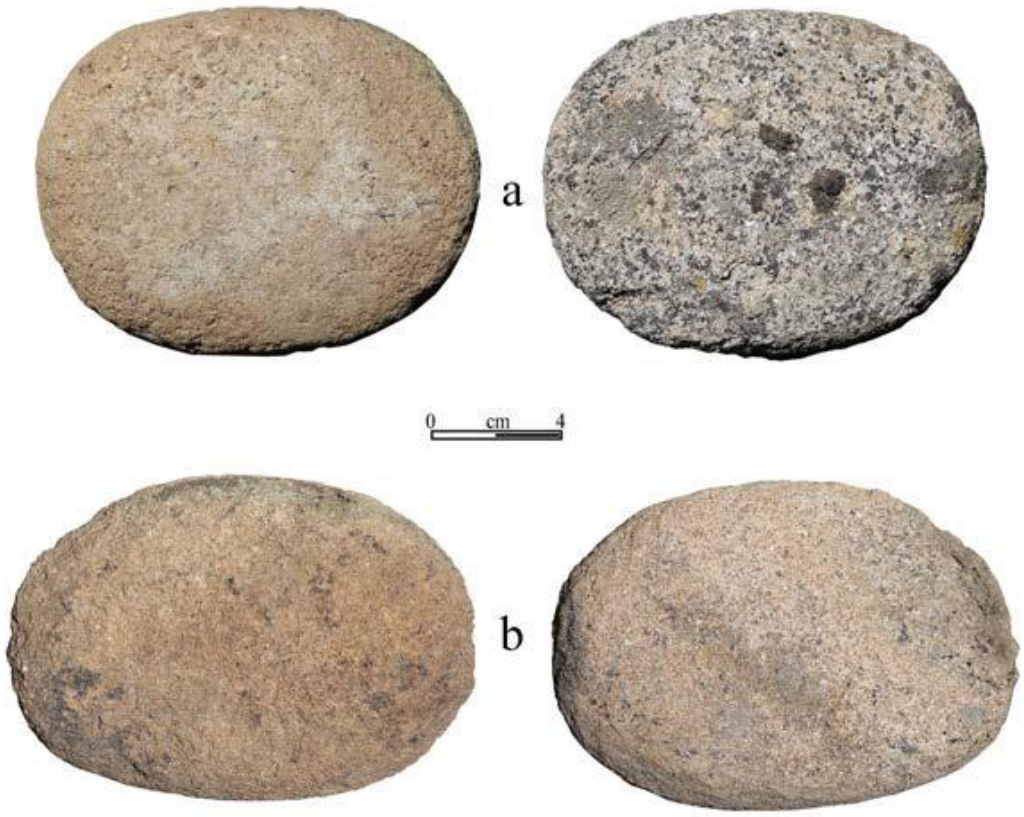


Left: Artifacts found together at 5RB8902 in Locus 2 that are apparently wood- or bone-working tools: left, small scraper with burin tip; right, chisel-edge utilized cobble fragment.



Above: Bifaces recovered from 5RB4558: a) .s3; b) .s4; c) .s5.

Two mano types make up the majority of the assemblage: disc- and oval-shaped.



Above: 5RB4558.s13, disc mano.

Left: Views of both sides of a disc mano (upper) and an ovate mano (lower) recorded at 5RB8902 Locus 1 (a) and Locus 2 (b).

Fragments of metates and comals were found in both sites (5RB4558 L1 and 5RB8902 L2). The metate fragments are thin and exhibit bifacial use (a rough-surfaced side for the initial grinding, a second, less-rough for further refinement). Their characteristics of light weight, sandstone material and utilization on both surfaces suggest that they were brought to the site and were – except for breakage – expected to be carried away.

Bifacial fragment (both sides) of a portable metate recorded at 5RB8902

Summary for Pollen and FTIR Analyses

Pollen analysis of two samples, representing Features 1 and 2 at sites 5RB4558 and 5RB892, respectively, suggests these two features were situated in slightly different vegetation zones. Local vegetation appears substantially different during use of these two features, with juniper being more common on the landscape near Feature 1 and sagebrush being more common near Feature 2. Starches recovered in the Feature 2 sample suggest processing seeds or roots/tubers. The FTIR signature suggests cooking lean meat in Feature 1 of 5RB4558.

Summary for Macrobotanical Analyses

Sample 5RB4558 consisted almost entirely of burnt constituents. Juniper samples are by far the most prevalent and include adult and juvenile leaves, immature male cones, and female seed cones. It appears that juniper was the main fuel source for this sample. A few (<15) seed specimens from the genus Chenopodium (Goosefoot) were recovered from the sample, and exhibit signs of charring. Possible seeds of the genus Asclepias (Milkweed) (<10 specimens) were recovered, although none exhibit any evidence of charring and therefore were likely deposited after the use of the thermal feature.

Sample 5RB8902 contained mostly *Artemisia tridentada (Big Sagebrush) components* such as leaves, flowers, and woody parts. The majority of the sagebrush specimens are unburnt; however, some of the charred fuels recovered from the sample appear to be burnt specimens of sagebrush woody parts, and it appears that this may be the main fuel source from this sample.

The importance of the finds at these two contemporary sites cannot be overstated. The mitigation of the two sites has accumulated and presented information that can be used to identify cultural components of small open camp sites occupied during the period of AD 200-500 in western Colorado.

The evidence of a small conical wood-pole structure dating 1700 years old is the oldest recorded. As well, the identifiable features within the structure including moccasin tracks, a seating position and possible impressions of persons sleeping have never been documented in structures of this type. The temporally diagnostic projectile points, artifact assemblage, and radiocarbon dates represent direct evidence of the presence of a Besant-Avonlea bison-hunting tradition in Northwest Colorado.

Interpreting the pattern of settlement/subsistence of a particular group is dependent on accurate documentation of artifact assemblages and radiocarbon dating. This project has demonstrated that radiocarbon (AMS) samples can be obtained from surface exposures and produce reliable dates from small pieces of carbon.

References

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