

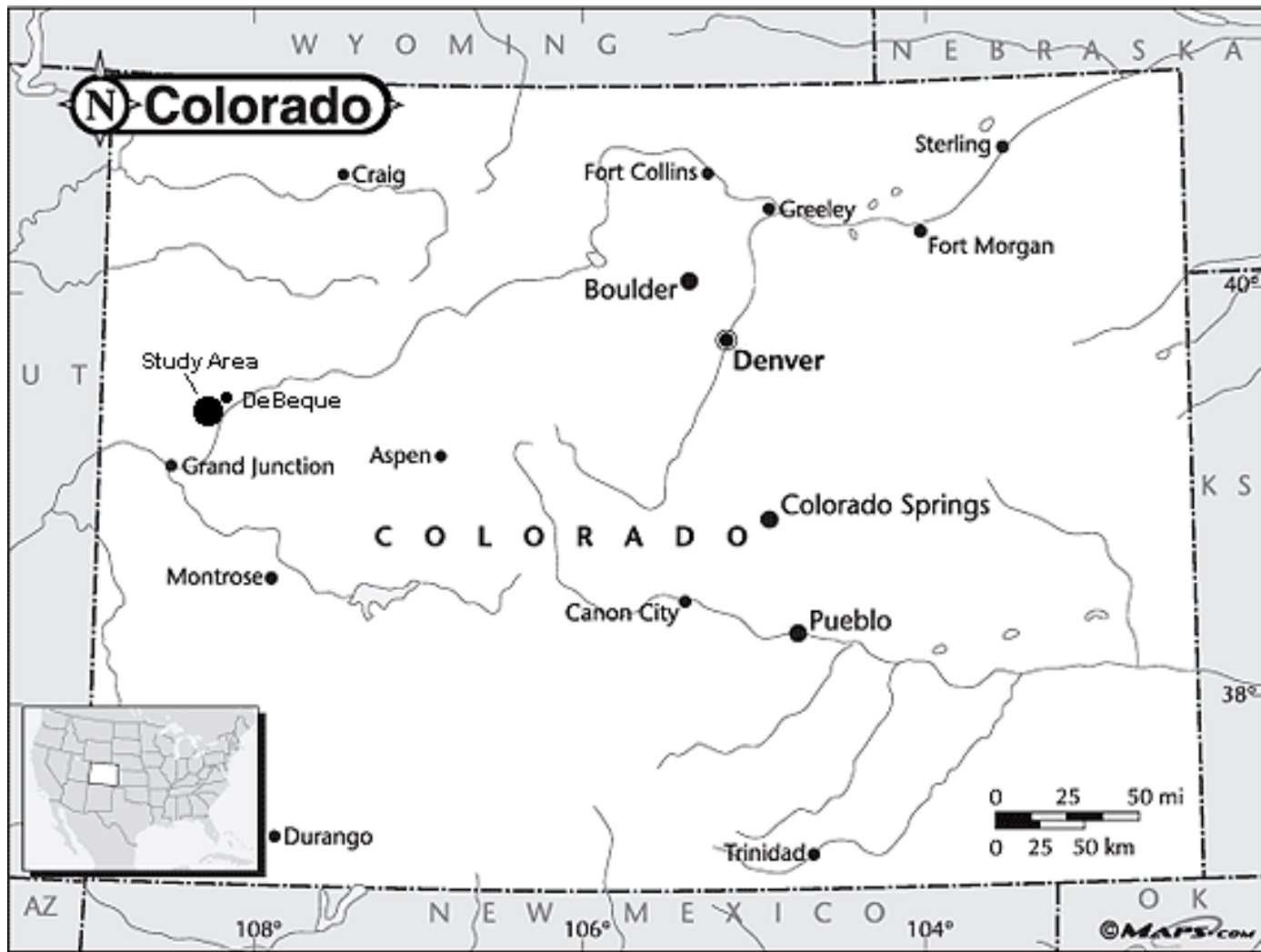
**Cultural Resources Investigations for the
De Beque Southwest Master Development Plan
for
Black Hills Production Company LLC**



2015-2017

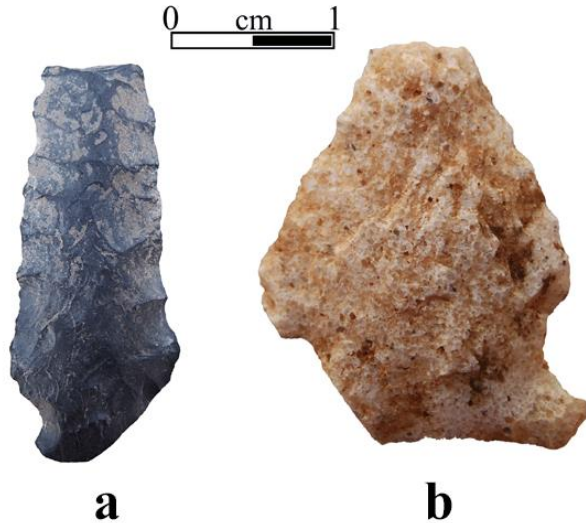
+ Grand River Institute +

General Location of Study Area



Archaeological investigations for the DeBeque SW Master Development Plan for oil and gas exploration in Mesa County provided new data on definable periods of occupation in the De Beque area of the Upper Colorado River Basin. Diagnostics including projectile points, ceramics, shell beads, and groundstone were recorded in surface contexts. Aided by interpretations of the rock art, a few radiocarbon samples secured from vandalized rockshelters, and a luminescent date for a ceramic vessel, the result was a substantial account of the past 10 millennia, and the addition of significant new information to the known cultural sequence. New finds indicate occupations of: Alder Complex during the Paleoindian period; Plains-Mountain cultures during the Archaic; Anasazi, Fremont and Avonlea cultures during the Formative; and, Early Numic during the Late Prehistoric.

Paleoindian and Early Archaic



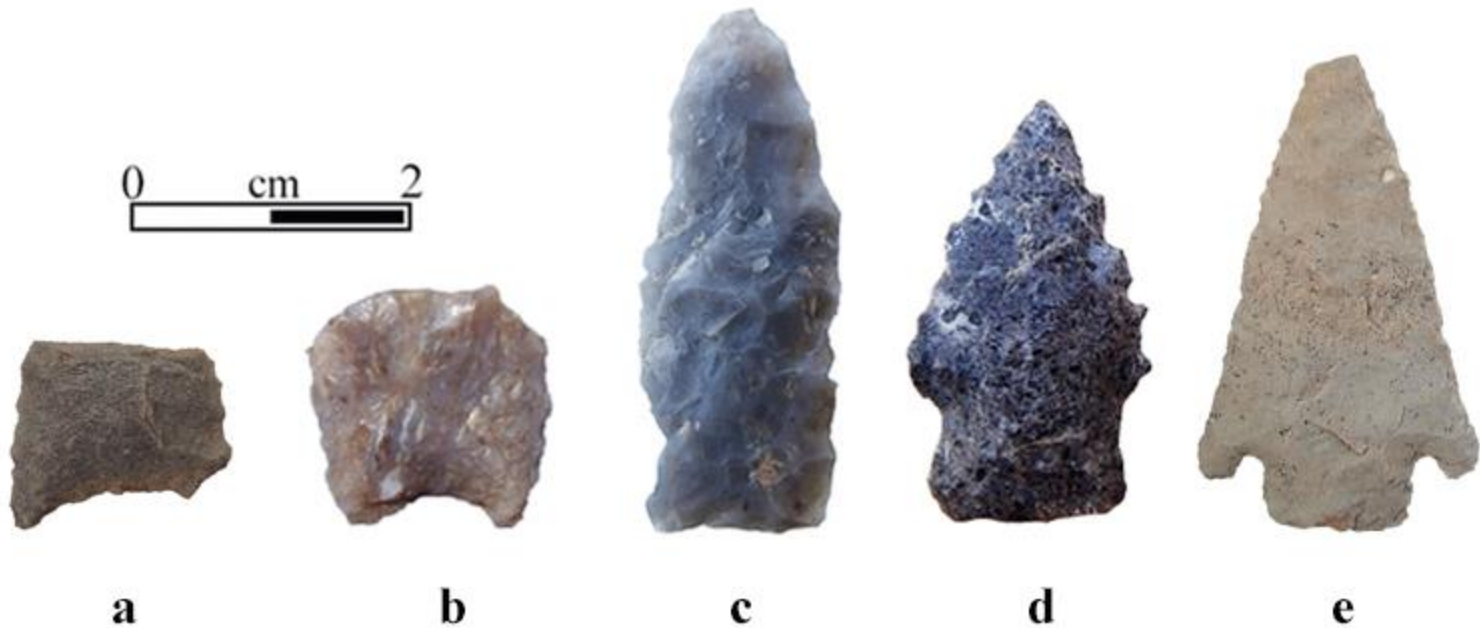
Finds from these periods are often rare because they occur in Late Pleistocene and Holocene aeolian loess sheet and shadow deposits, and in relic clay dune cores.

- a) **Middle Paleoindian point found as an isolate, 5ME21470.IF;** Alder Complex type called Ruby Valley, which is dated about 9400 BP [ca. 8680 BC] (Kornfeld et al. 2010:99)
- b) **Early Plains Archaic side-notched point recorded at site 5ME21142;** type identified at the Medicine Lodge Site where “Early Archaic deposits range from 7140±160 BP to 6460±90 BP” [ca. 6000-5400 BC] (Kornfeld et al. 2010:111)

Kornfeld, Marcel, George C. Frison, and Mary Lou Larson
2010 *Prehistoric Hunter-Gatherers of the High Plains and Rockies* (3rd ed.). Left Coast, Walnut Creek

Middle Archaic Lanceolate, Side-notched, and Stemmed types

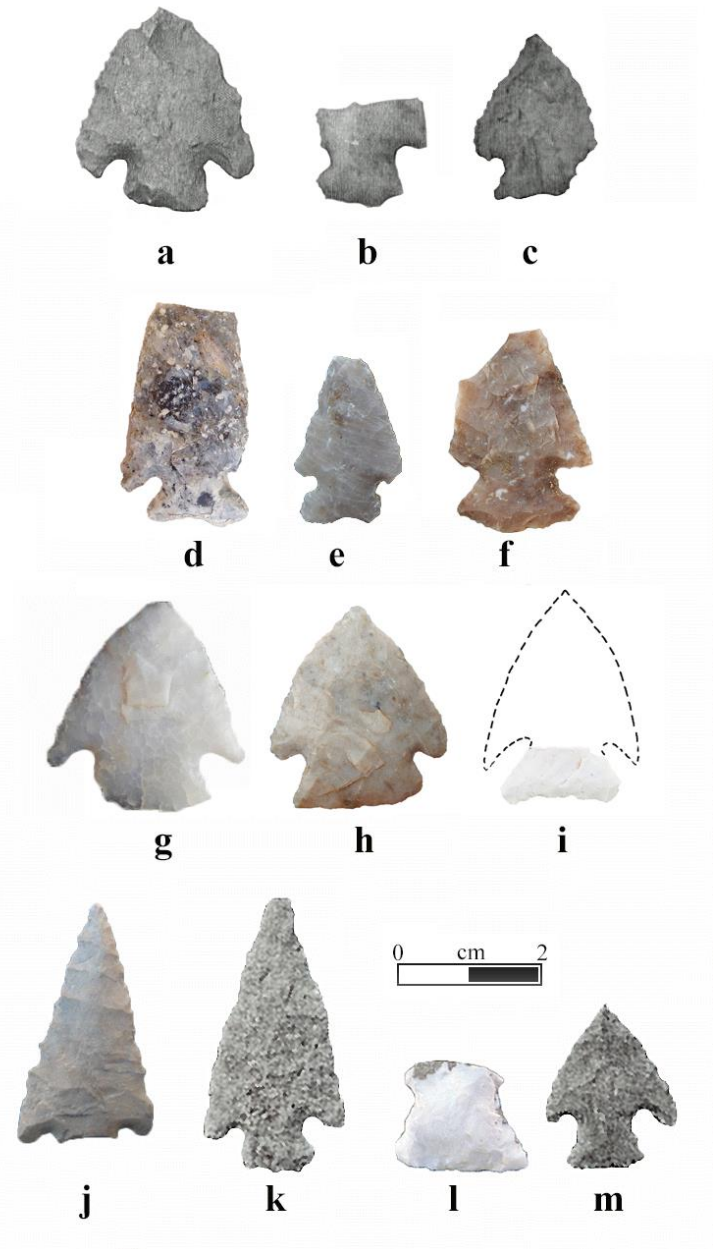
2 McKean Lanceolate, 1 Sinbad Side-notched, 2 Middle Plains Archaic stemmed

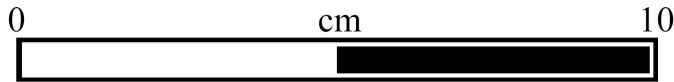


Middle-Late Archaic Corner-notched points:

Points a-i are stylistically comparable to ones radiocarbon dated ca. 1480-800 BC

Points j and l from 5ME21185 are directly comparable to k and m -- two Late Archaic types recovered from the Battlement Mesa Culture pithouse, radiocarbon dated ca. 900 BC.



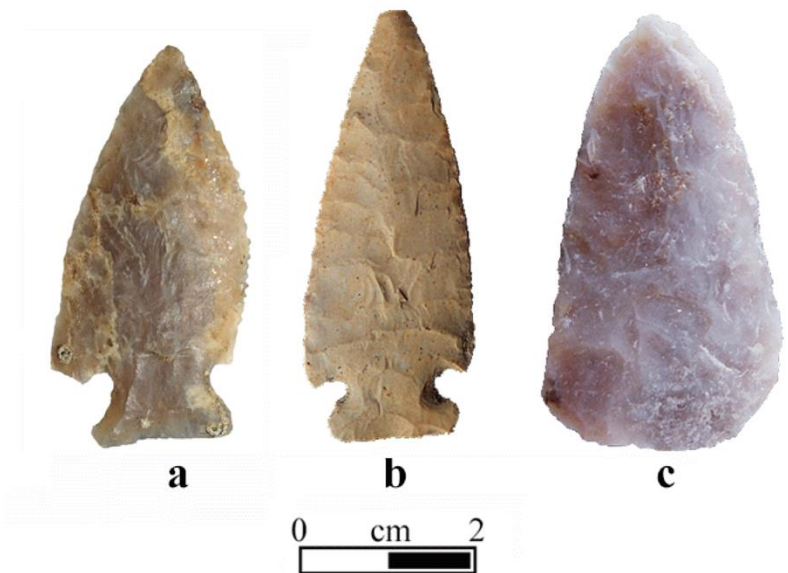


Diagnostic Groundstone: Battlement Mesa Culture, Late Archaic

This distinct mano from 5ME21185 is of a dense, quartzitic sandstone material. Manos of this type have been found at sites 5GF101 (one complete mano from surface collection), 5GF126 (one complete mano from pithouse floor), 5GF1184 (one fragment from surface) and 5ME16786 (three complete manos from cache in pithouse). Radiocarbon dates from the pithouses at sites 5GF126 and 5ME16786 are ca. 900 BC.

Early Formative Dart Points/Knives

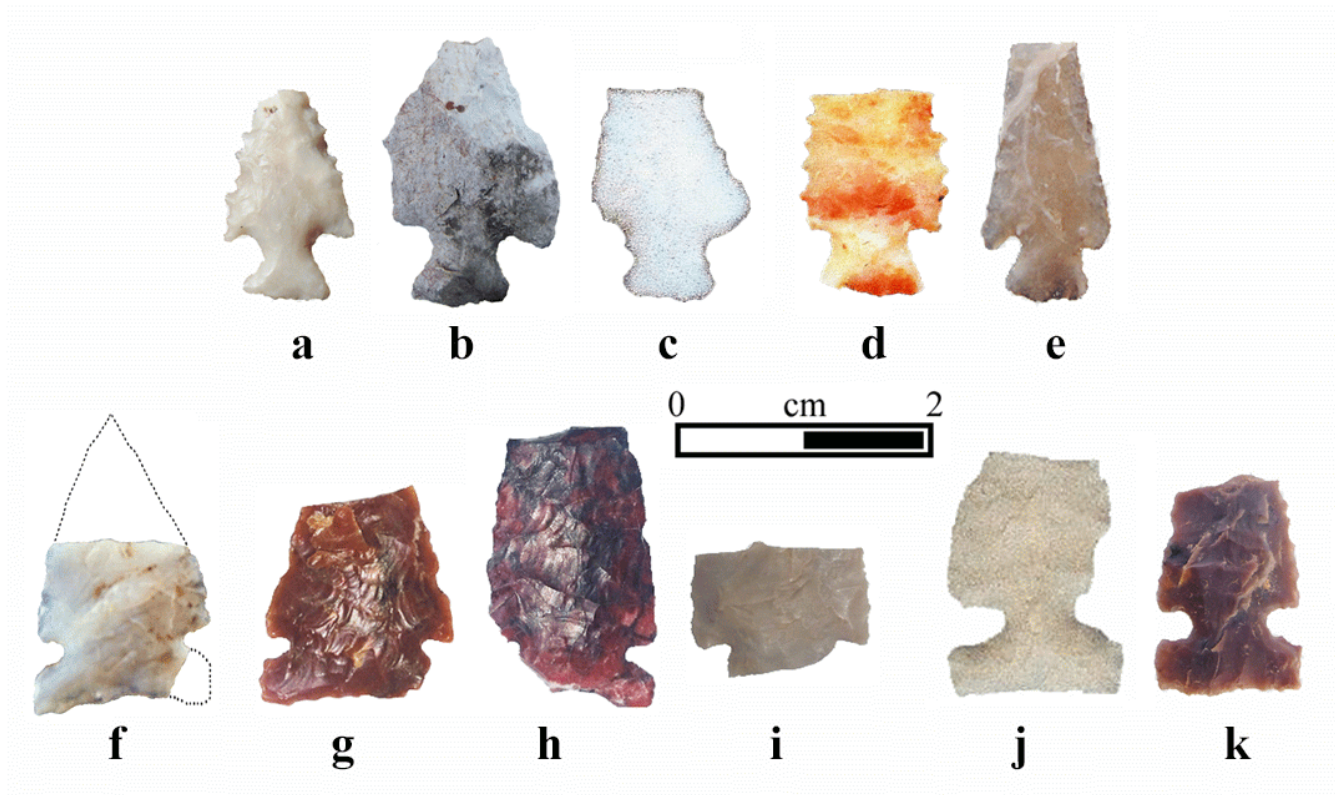
These large points are comparable to ones recorded at Cave 7, Level II – the Basketmaker level – of a rockshelter site in southeast Utah (Hurst and Turner 1993: 160-162). Radiocarbon samples obtained from Cave 7 indicates median date of AD 92-137 (Michael Berry, personal communication 3/8/2018).



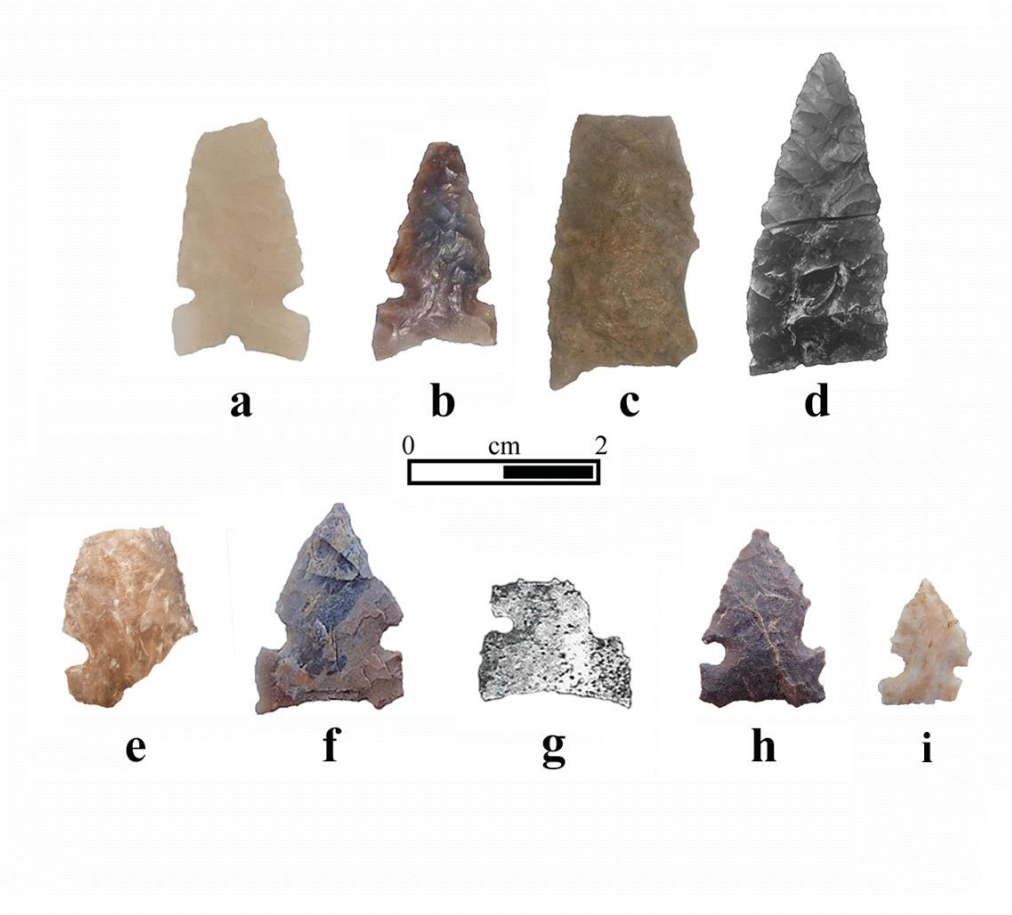
Hurst, Winston B. and Christy G. Turner II
1993 Rediscovering the "Great Discovery:" Wetherill's First Cave 7 and its Record of Violence. In: *Anasazi, Papers from the 1990 Wetherill-Grand Gulch Symposium*, ed. by Victoria M. Atkins, pp. 158-163. Bureau of Land Management Cultural Resources Series No.24. Salt Lake City.

Formative Period Projectile Points

Top row contains stemmed points of the Rose Spring series that has been dated between AD 300-950. The bottom row contains Avonlea (AD 500-1100) side-notched and one stemmed point on the left, and two Nawthis Side-notched points (San Rafael Fremont AD 950-1250) on the right.



Late Prehistoric (Early Numic) Projectile Points



a-b) Tri-notched points
(Sheepeater Shoshone style);

c-d) unnotched triangular
preforms (Cottonwood
Triangular, Sheepeater Shoshone
style);

e-i) side-notched, concave base
(Desert Side-notched,
Uncompahgre Complex Type 2).

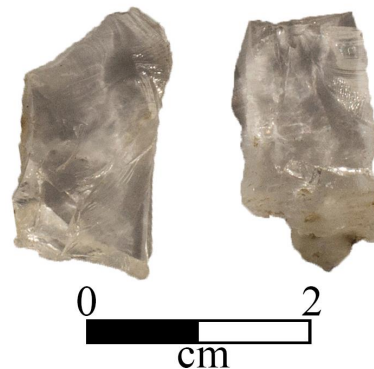
Early Numic Projectile Point:

This point was collected from a hearth feature in 5ME21418 that dated 600 +/- 40 BP, Cal AD 1294-1411.



Historic Period Worked Glass:

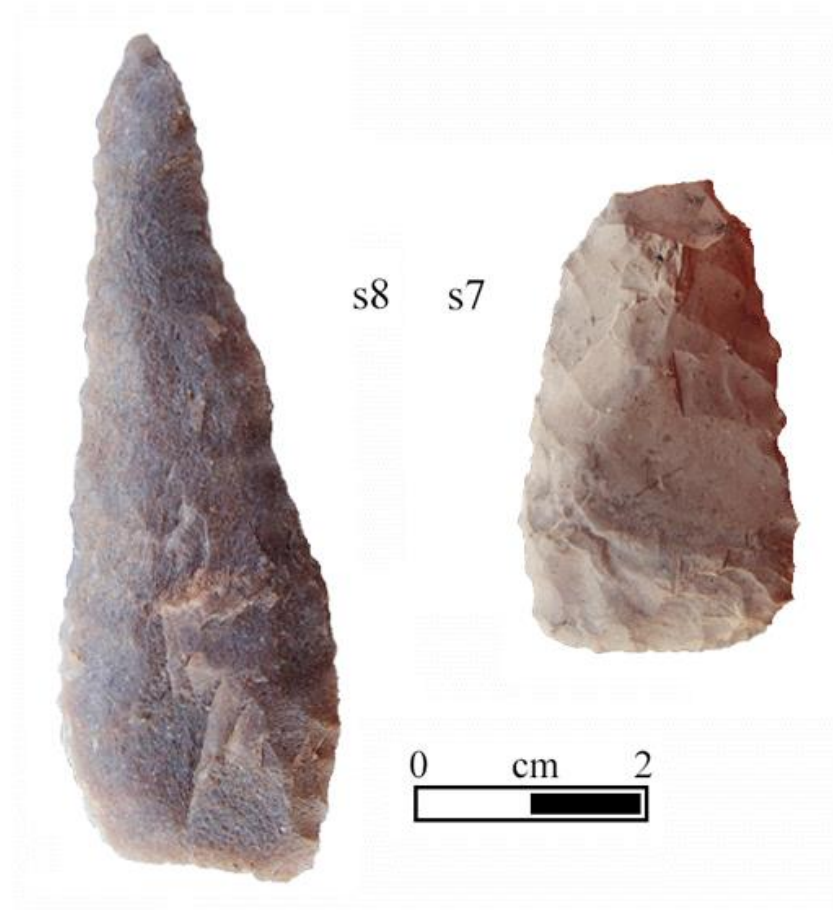
Collected during testing of 5ME4393.



Diagnostic tools were found at 5ME18908, Locus B. These tools include a Shoshonean Knife (s8) and an end scraper (s7) that are comparable to types that were recorded at the Bugas-Holding site near Cody, Wyoming. That site was occupied for four to five months as a winter camp between AD 1400 – 1600, and is associated with the Sheepeater Shoshone (Kornfeld et al. 2010: 317). A significant bone bed was present there that contained mainly sheep and bison.

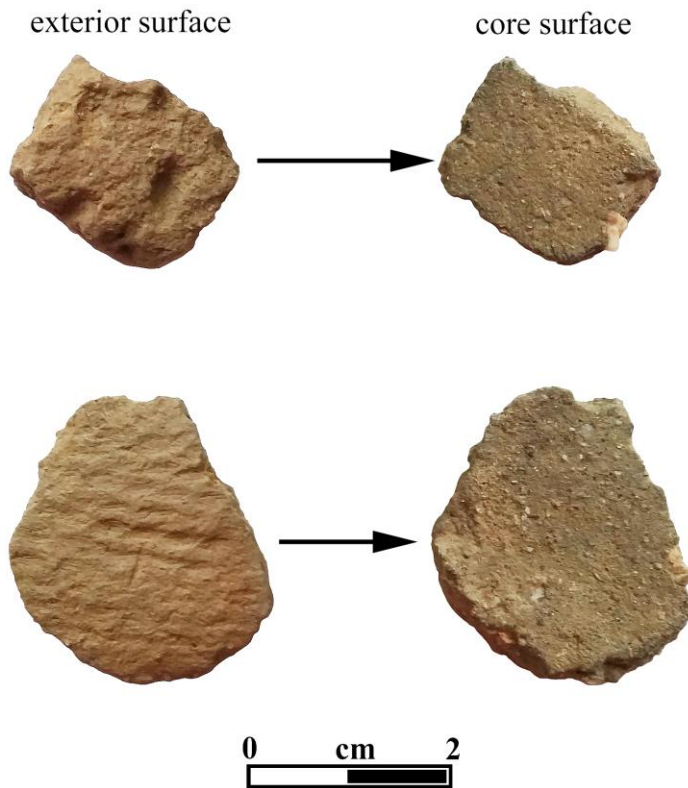
The tools at the site were subject to intensive use-wear analyses. Interestingly, the Shoshonean knife class of artifacts showed wear traces related to wood-working. The end scrapers were all hafted showing haft-wear on the dorsal surfaces, and were extensively resharpened and heavily used in hide processing.

Late Prehistoric (Early Numic) Tools



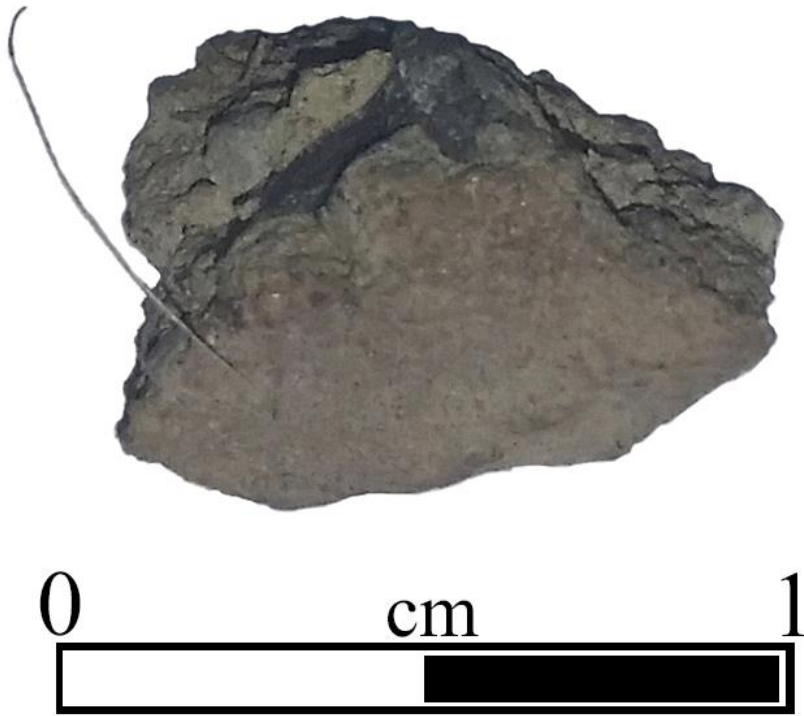
Diagnostic Ceramics: Avonlea Cord-marked, Early Athapascan

5ME19888.s6



The sherds from 5ME19888 were found in association with projectile points representing the Avonlea Complex, dating ca. AD 500-1100 (comparison, Kornfeld 2010:131). One sherd was sent for AMS dating to ICA, but yielded no date. A second was sent to Dr. James Feathers, University of Washington, Luminescence Dating Laboratory. A date of AD 970 \pm 120 (ca. AD 840-1090) was derived from the luminescent analyses.

Diagnostic Ceramics: Emery Grey, Fremont Culture San Rafael Variant



This very small sherd of gray ware ceramics was found on an anthill in site 5ME19899. Construction method of this type is coiled and scraped; and, the observed temper of this fragment was basalt ~ 30% (angular, largest piece - 4mm), quartz ~ 10% (small, angular to sub-rounded), one small piece of mica; one apparent piece of yucca fiber. Associated date of AD 800-1200.

Diagnostic Groundstone: Cache at 5ME19899 including an open-end metate, a loaf mano, an arrow shaft smoother, and a awl sharpener

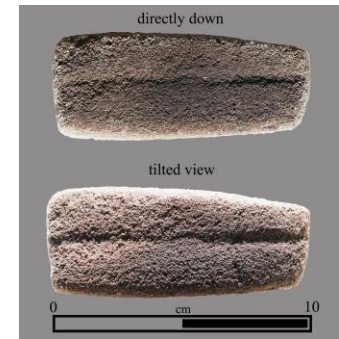
This cache was found at the same camp as the Emery Grey Pottery fragment.



0 cm 10



0 cm 10

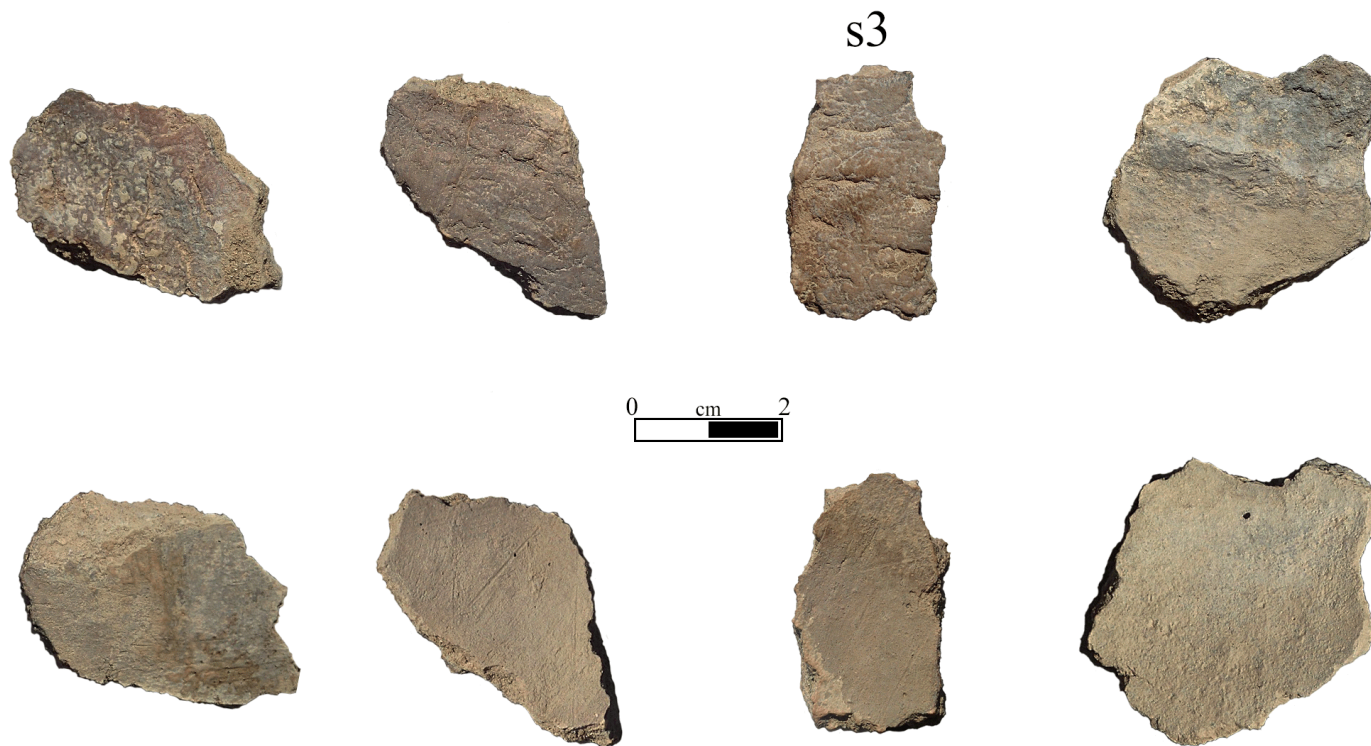


0 cm 10

Diagnostic Ceramics: Uncompahgre Brown Ware, Early Numic

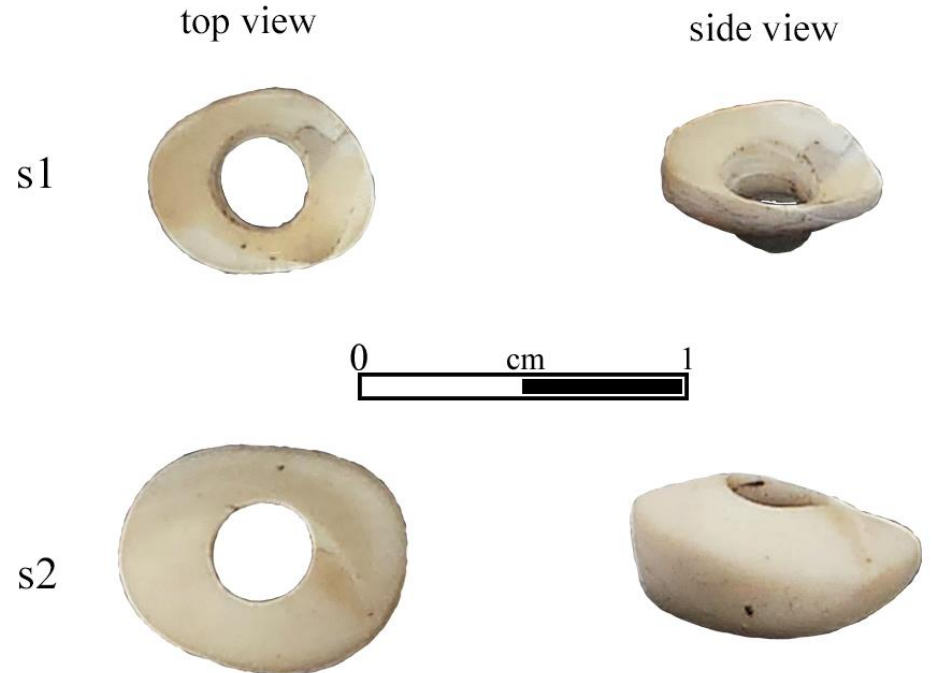
5ME15308 vessel 1, Ceramic Cluster
collected as "s3" showing two sides.

Luminescent dates for this type occur between AD 1400-1650.



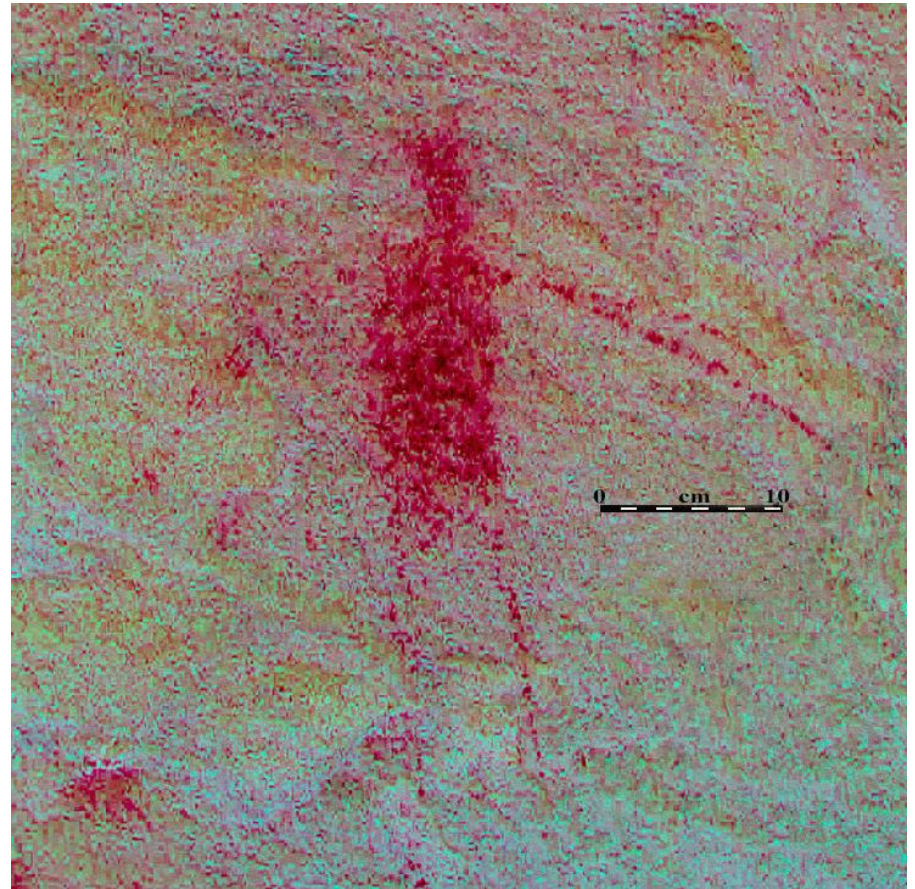
Olivella Shell Beads

Olivella shell beads recovered from site 5ME21152. Potential cultural associations are numerous, but similar beads have been found in Fremont Culture sites in Utah and one site at Battlement Mesa in Colorado. They have also been found in Avonlea Culture sites in Wyoming. Archaic sites in the Great Basin dating to as old as 6000 BC have also contained shell beads. These trade items were brought in from the California Pacific and Gulf coasts.



Diagnostic Rock Art: Bird Shaman Panel 3 of 5ME4021 – Rock Shelter

Sally Cole indicates that this style is characteristic of the Abajo-LaSal rock art, which she assigns to the Anazazi Basketmaker II - Pueblo I period that she dates Pre-AD 1 to AD 900 (1990:151, 157). Winged anthropomorphs in rock art are interpreted as symbolic of shamanistic flight and transformation (Hedges 1985:86-89).



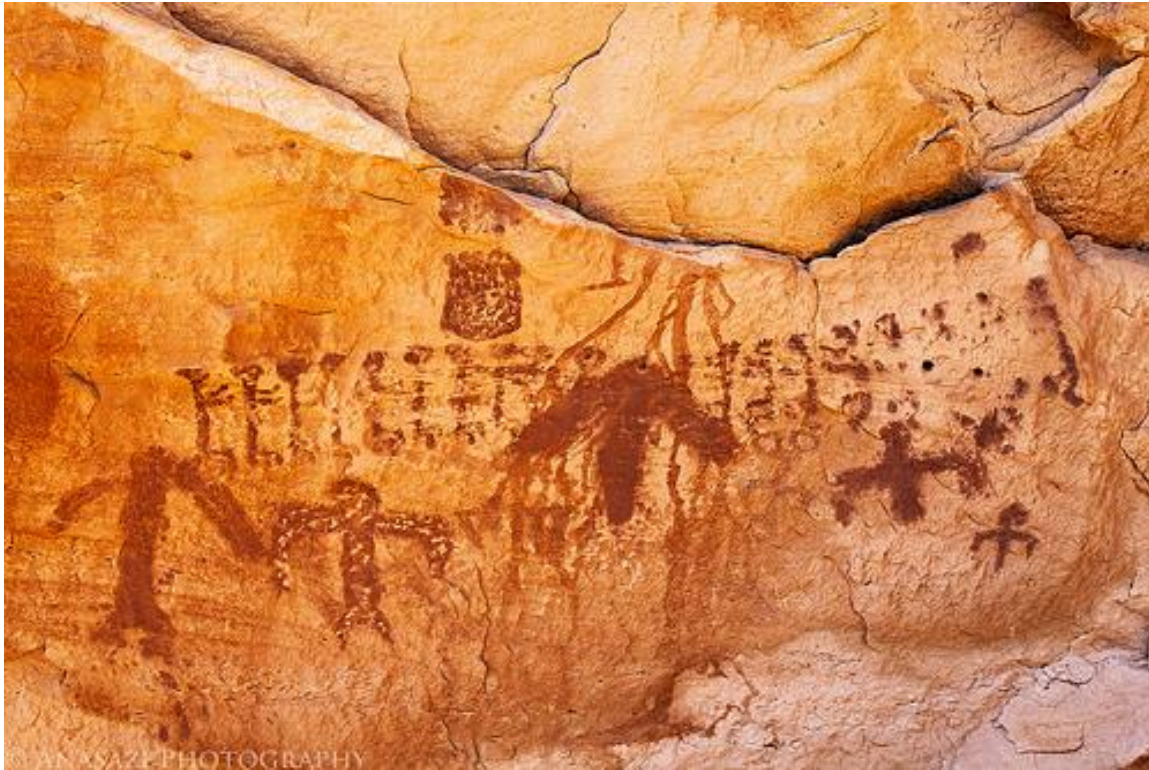
Cole, Sally

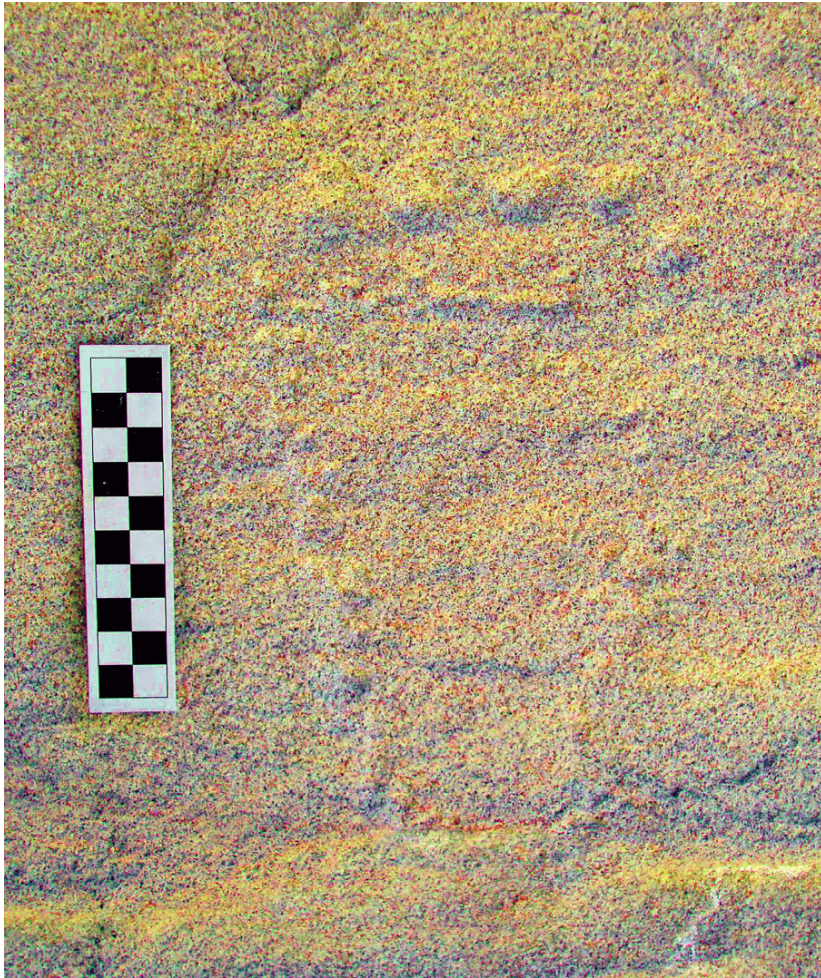
1990 *Legacy in Stone: Rock Art of the Colorado Plateau and Four Corners Region.*
Johnson Printing, Boulder.

Hedges, Ken

1985 Rock Art Portrayals of Shamanic Transformation and Magical Flight. In *Rock Art Papers vol.2, San Diego Museum Papers 18*, Ken Hedges, ed., 83-94. Museum of Man, San Diego.

**Flag Point rock art and dinosaur track site,
Escalante-Grand Staircase National Monument, Utah**





Diagnostic Rock Art of 5ME4021 – Rock Shelter

The large track element found in Panel 8 at 5ME4021 measures 20cm x 7cm, and is outline pecked with pecked cross bars. Its length to width ratio and the fact that it has no claw indications, suggests it may be a human rather than animal track although the toe pattern is more bear-like. Similar tracks have been found in association with Sieber Canyon style Fremont rock art at 5ME792. Cole dates this style roughly AD 550-1200 (Cole 2009).

Cole, Sally

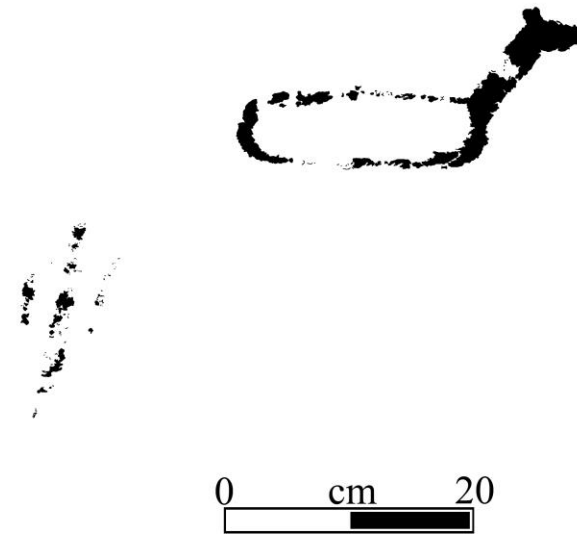
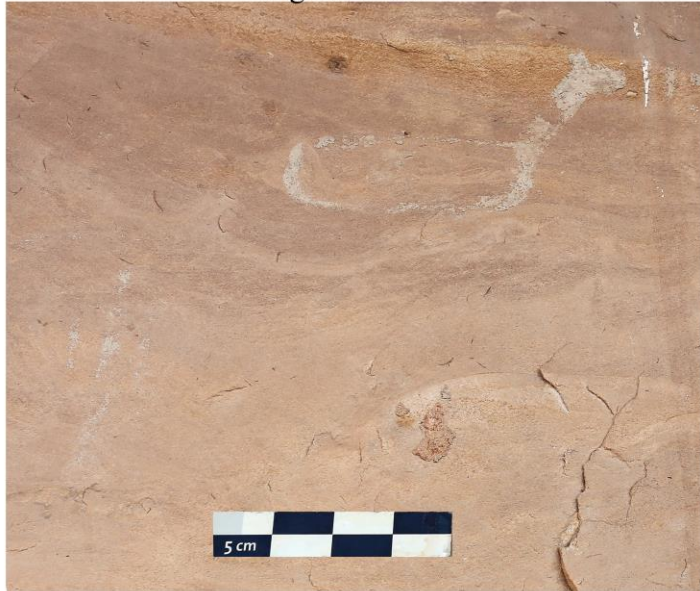
2009 *Legacy in Stone: Rock Art of the Colorado Plateau and Four Corners Region.*
Revised and updated edition. Johnson Books, Boulder.

Diagnostic Rock Art: San Rafael Fremont

San Rafael Fremont rock art, a Formative Era style, is represented in site 5ME21143 Panel 4, which contains an open-bodied zoomorph and a barely distinguishable, stick-like anthropomorph. Similar figures were identified in site 5ME10 by Sally Cole, who assigns a date range to this style of AD 650-1150 (Cole 1987:147, 184).

Panel 4

Original Photo



Cole, Sally

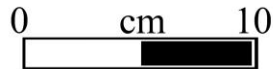
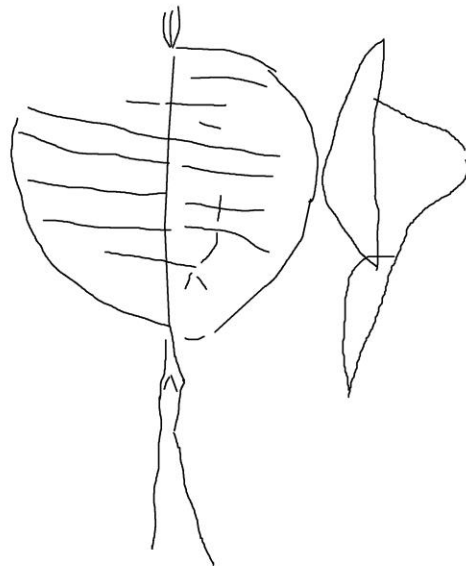
1987

An Analysis of the Prehistoric and Historic Rock Art of Western Colorado.

Colorado Bureau of Land Management *Cultural Resources Series No. 21*, Denver.

Diagnostic Rock Art: Panel 2, 5ME21143 showing Shield Bearing Warrior Style of the Eastern Shoshone dating ca. AD 1300-1700 (Keyser 1984:28).

Panel 2



edited photo



Keyser, James D.

1984 The North Cave Hills. In *The Rock Art of Western South Dakota* part 1, pp. 2-51.

Special Publication of the South Dakota Archaeological Society 9, Sioux Falls.

Diagnostic Rock Art: Eastern Shoshone

Panel 1, 5ME21143, Two bighorn sheep

Based on finds of projectile points and these rock art panels, occupation by the Sheepeater Shoshone is likely sometime during the Late Prehistoric ca. AD 1400 - 1600.



Project Radiocarbon Data – AMS Dates from Charcoal

5ME21179 - Vandalized rock shelter

- Stratigraphic Profile - 2150 ± 30 BP, Cal BC 234 - 90
- Stratigraphic Profile - 2180 ± 30 BP, Cal BC 360 - 169

5ME21181 - Vandalized rock shelter

- Stratigraphic Profile - 1480 ± 30 BP, Cal AD 557 - 614
- Stratigraphic Profile - 1490 ± 30 BP, Cal AD 549 - 605

5ME21182 - Vandalized rock shelter

- Stratigraphic Profile - 1720 ± 30 BP, Cal AD 248 - 391
- Stratigraphic Profile - 2020 ± 30 BP, Cal BC 49 - AD 21
- Stratigraphic Profile - 3580 ± 30 BP, Cal BC 1963 - 1889

5ME21415 - Open camp

- Auger Test 15 - 1510 ± 40 BP, Cal AD 534 - 607
- Auger Test 05 - 1600 ± 40 BP, Cal AD 384 - 556

5ME21418 - Open camp

- Feature 1 - 600 ± 40 BP, Cal AD 1294 - 1411

Summary of New Findings

- Isolated find 5ME21470 is a diagnostic of a newly described Middle Paleoindian, Alder Complex type called Ruby Valley, which is dated about 9400 BP [ca. 8680 BC].
- Site 5ME19888 contained ceramics and projectile points associated with the Avonlea Culture, which has not previously been identified in west-central Colorado. Cord-marked pottery dated AD 970 \pm 120 (ca. AD 840-1090).
- The occurrence of Abajo/LaSal rock art style in several sites indicates a potential Anasazi Basketmaker-Pueblo I presence.
- Nawthis Side-notched points, Emery Gray ceramics, “Utah” metate, and rock art indicate a San Rafael Fremont occupation that may temporally overlap the Anasazi Pueblo I through Pueblo III periods.
- Diagnostic projectiles, knives, scrapers and rock art point to occupation by Shoshone people during the Late Prehistoric ca. AD 1400 and AD 1600.
- Early Ute occupation demonstrated by test excavation at 5ME21418 where a hearth feature that dated 600 \pm 40 BP, Cal AD 1294-1411 also produced a small tri-notched projectile point.

Value of Single-component Sites

- This project provided an important view of the prehistoric occupation of the mid-range elevations of the Upper Colorado River Drainage. In the study area were a few sheltered camps, many more small open camps, and a wide distribution of single or clusters of a few artifacts that represent a single event. The smaller camps can have an important impact in interpreting the archaeological record.
- Whereas a diagnostic projectile point can provide a relatively broad indication of the period of occupation, a small site with one or two components, and AMS datable materials will provide a much more accurate and constrained period of use and a clearer data set of tool types. Limitations to the value of these small sites is the impact from the surface collection of points and other refined tools.
- An excellent example of a low-component site's value is found in 5ME21185. There, a few temporally diagnostic points and groundstone were found that identify a camp of the Late Archaic, pithouse-building, Battlement Mesa Culture. Also present were diagnostic points of a second component at the site -- two large dart/knife points of Basketmaker-age -- that are comparable to the assemblage of 69 hafted bifaces found in the Cave 7 burial site, located northwest of Bluff, Utah.