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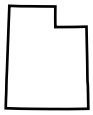

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Cover: Front and back sides of the Benson Mound figurine (see page 27 this volume). Cover image generated from a photograph courtesy of the Museum of Peoples and Cultures**.**

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Utah Archaeology Editor
256 ALLN-BYU
Provo, Utah 84602

E-mail: utaharch@gmail.com

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Message from the Editors

From its inception, Utah Archaeology has been a place where archaeologists from a variety of backgrounds can come together to share information about the prehistory of this great state. As reflected in the fantastic contributions to this volume, submissions to the journal regularly come from academic, professional, student, and avocational archaeologists. These diverse perspectives all contribute to Utah Archaeology's unique flavor, and allow the journal to serve as a voice for the larger archaeological community.

It has been a great pleasure to contribute to the journal's continued success for the past several years. We appreciate the wonderful support that the archaeological community continues to pour into Utah Archaeology. We also gratefully acknowledge the on-going administrative support of the Brigham Young University Department of Anthropology. As the editorship passes to new hands, we are confident that Utah Archaeology will continue to be a successful forum accessible to all.

The Editors

Christopher N. Watkins
David T. Yoder

The Dawson Site: A Paleoindian Camp in the San Rafael Desert

David A. Byers
Department of Sociology, Social Work, and Anthropology, Utah State University, Logan, Utah

This paper presents an overview of the artifacts, site structure, and geochronology of the Dawson Site, a large and rich Paleoindian site located in the San Rafael Desert of central Utah. The collected lithic assemblage contains 222 late Pleistocene artifacts. The projectile point assemblage includes Clovis-like fluted bifaces, Folsom, Cody, and Western Stemmed Tradition projectile points. Numerous bifaces, scrapers, and other chipped stone tools were also recovered from the site where a large debitage assemblage was observed as well. Analysis of the spatial distribution of tools suggests a campsite located around what is now likely an extinct spring. Finally, subsurface testing in combination with two OSL dates, suggests that although the Dawson Site contains an extensive and rich lithic assemblage, that the site likely represents a deflated palimpsest of occupations now covered with a thin layer of late Holocene sand.

Although fluted projectile points are known from archaeological contexts throughout Utah, sites containing large assemblages of such artifacts are rare (see Hunt and Tanner 1960; Davis 1989). In most cases fluted points occur either as isolated artifacts or as parts of surface assemblages otherwise dominated by later Holocene materials (Copeland and Fike 1988; Kohl 1991; Mullins et al. 2009; Schmitt et al. 2007; Schroedl 1991; Simms and Lindsay 1989). This article presents an overview of the artifacts, site structure, and geochronology of the Dawson Site (42EM3695). The Dawson Site produced a large assemblage of fluted points and chipped stone tools dominated by Folsom material. Given the paucity of sites in Utah containing artifacts more often associated with Plains Paleoindians than the Paleoarchaic occupation of the Great Basin to the west, the Dawson Site appears unique within the local record and presents an important window into the late Pleistocene occupation of Utah.

A TRC Mariah survey crew first located the Dawson Site in November 2006, approximately 25 miles south of the town of Green River, Utah (Figure 1), on Bureau of Land Management (BLM) land, during the class III inventory of the Dawson San Rafael Saddle 3D seismic project. The site was originally recorded as a large debitage scatter along with ten projectile points, eight bifaces, 15 modified flakes, and 12 scrapers. Further fieldwork was funded by the Utah Division of State History and conducted between October 7–10, 2007 by a University of Utah field crew under BLM permit. This second visit documented an extensive lithic scatter containing numerous late Pleistocene and early Holocene lithic artifacts and resulted in a surface collected assemblage of 222 artifacts. This article details this collection and presents the results of both subsurface testing at the site and a series of optically stimulated luminescence (OSL) dates on the local sand sheet.

The Dawson Site assemblage contains abundant bifacial thinning flakes, a wide range of tools, and numerous Paleoindian projectile points; many made from high quality lithic materials. These artifacts concentrate in blow-outs within the sand sheet deposits that mantle the site and include Clovis-like fluted bifaces, Folsom, Cody Complex, and Western Stemmed Tradition projectile points. The Dawson Site assemblage also includes a wide variety of flaked tools ranging from scrapers and blades to simple modified flakes, in addition to numerous biface fragments. All projectile points and tools exposed

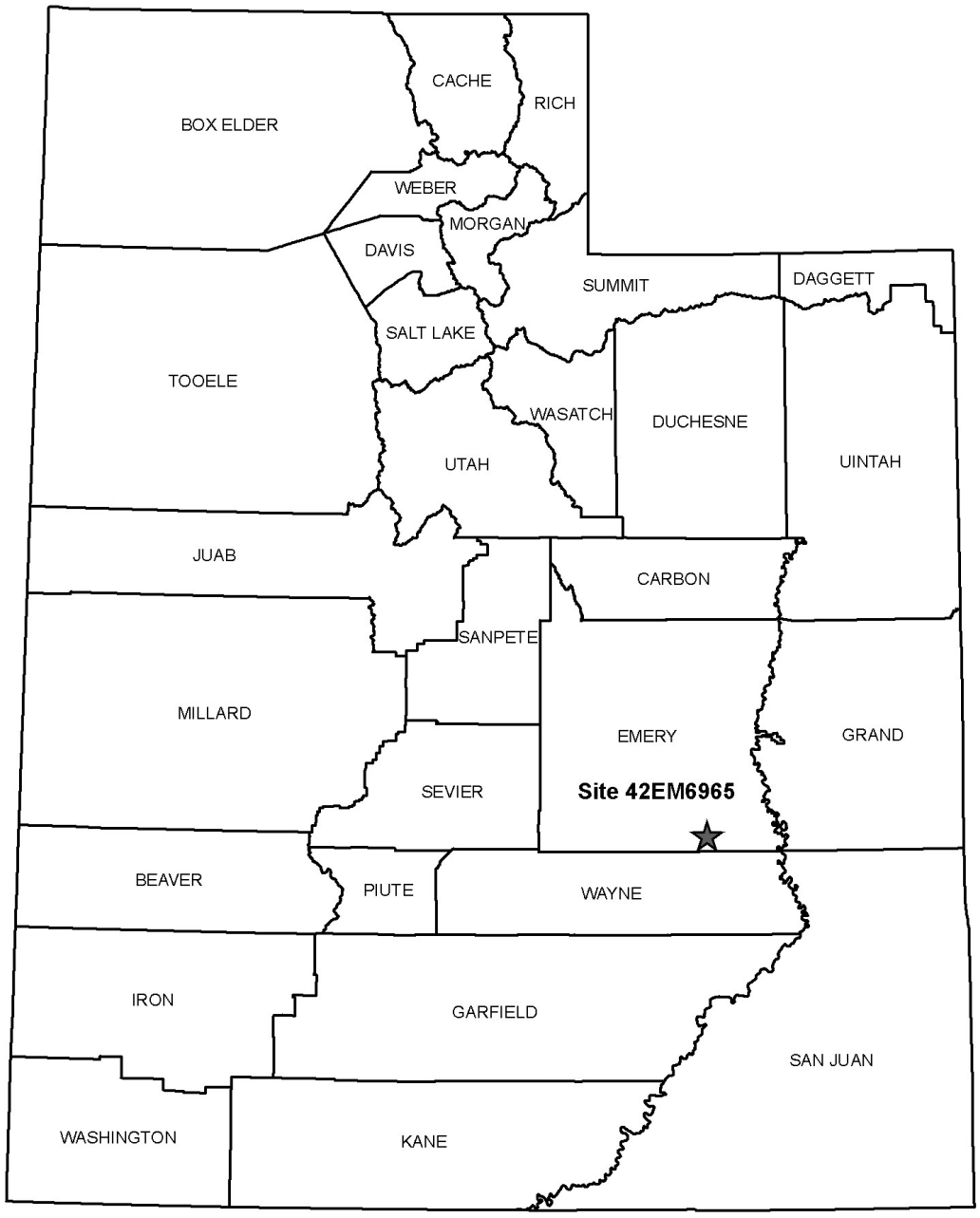

Figure 1. Location of Site 42EM3695 in Emery County, Utah.

on the surface were collected during both the original site visit associated with TRC Mariah's class III inventory of the Dawson San Rafael Saddle 3D Seismic project area and during the October 2007 University of Utah testing project. These artifacts were accessioned to the College of Eastern Utah Prehistoric Museum where they currently reside.

The Dawson Site is located in, and eroding out of the aeolian sand sheet along the east margin of a low north/south trending, dune-capped ridge (Figure 2). Within the eastern portion of the site

Figure 2. Dawson Site, view West.

lies a broad basin that contains a geomorphic feature that may be an extinct spring mound (Figure 3). Deposits within the site boundary include up to at least two meters of medium to fine aeolian sands overlying residual sediments. Across much of the site the aeolian sand sheet has completely deflated, exposing the underlying deposits. Tufa-like and potentially spring deposited sediments outcrop in several places in the eastern portion of the site surrounding the suspected spring mound. A proper geoarchaeological investigation of the site would help to better define the local sedimentology and confirm the presence of an extinct spring, but such a study has yet to be conducted.

At the time of its discovery, the Dawson Site may have contained one of the largest and potentially most complete late Pleistocene lithic assemblages known from central Utah. This site is even more unique given the observation that when first encountered, it had suffered little to no obvious looting. The surface collection and test excavations focused on addressing two research goals. First, the test excavations sought to discover whether or not the site contained buried late Pleistocene deposits. In this case, the goal was to determine if the site contained buried deposits in primary context or if the archaeological materials exist only as a surface scatter in a deflated setting. Second, testing sought to build an understanding of the geomorphic history of the site. To date, the late Quaternary geomorphology of the Colorado Plateau in Utah has received relatively little

Figure 3. Possible Spring Mound, view East.

attention especially as it relates to the aeolian deposits that cover much of the Dawson Site and the San Rafael Desert more broadly (see Biggar and Adams 1987; Longpre' 2001; Reheis et al. 2005; Renolds et al. 2006). Subsequently, the study outlined here offers an opportunity to better understand the aeolian history of the Dawson Site and help to determine if the local sediments are contemporaneous with the cultural assemblage or represent later periods of deposition.

The Dawson Site Lithic Assemblage

The vast majority of the Dawson Site artifacts were surface collected. To provide spatial control for the surface collection, the University of Utah research team placed a mapping datum on the low ridge to the east of the site and assigned the coordinates 1000 m East, 1000 m North and 100 m elevation to provide a reference point for point proveniencing specimens relative to one another. A Sokkia total station was set up over the mapping datum and used to collect spatial information for all surface collected artifacts, as well as create a topographic map of the site and surrounding area. All projectile points and tools collected from the surface were point provenienced, individually bagged, and collected.

Surface collection resulted in the recovery of 222 specimens (Table 1). The projectile point assemblage includes basal fragments of two Cody Complex points, 14 complete and/or partial Folsom points and preforms, six Clovis-like/ fluted points and preforms—although these may represent large, robust Folsom artifacts—two Midland/unfluted Folsom points, three untyped lanceolate projectile points, nine Western stemmed projectile points, and a single Elko dart point (Figures 4 and 5). Visual inspection of this collection suggests that, with one exception, the larger, more robust fluted points appear to have all broken during use and likely represent discard during retooling events. The unambiguously Folsom assemblage, however, includes both broken and expended bifaces likely discarded at the ends of their use-lives, as well as at least three examples that failed during fluting or

Table 1. Summary of artifacts surface collected at Site 42EM3695.

			Dimensions (mm)			Meters from Datum	
CEUM	Field	Class	L	W	T	East	North
74029	40	Folsom Point	25	20	23	1081.673	946.582
74030	65	Folsom Point	25	25	5	1160.211	940.687
74031	79	Folsom Point	20	23	4	1090.780	997.942
74032	67	Stemmed Point	43	18	8	1120.980	925.783
74033	45	Cody Point	35	22	6	1186.691	944.761
74034	61	Folsom Point	13	21	4	1147.184	928.436
74035	33	Folsom Point	46	24	6	1051.605	1011.820
74036	84	Fluted Point	35	29	7	1035.125	947.851
74037	85	Folsom Point	45	26	4	1038.125	977.851
74040	87	Stemmed Point	50	32	7	1035.125	788.851
74042	86	Fluted Point	30	26	5	978.125	839.851
74043	93	Stemmed Point	39	20	6	1008.125	791.851
74044	90	Fluted Point	26	26	6	1059.125	1025.851
74045	89	Stemmed Point	56	28	8	1029.125	959.851
74046	59	Fluted Point	41	26	5	1148.756	926.150
74047	91	Modified Flake	27	22	3	1119.125	938.851
74048	94	Fluted Point	19	24	5	1065.125	1022.851
74049	95	Fluted Point	42	25	6	1059.125	1016.851
74050	55	Bone Fragments	NA	NA	NA	1144.796	920.721
74051	88	Stemmed Point	43	24	7	1044.125	986.851
74052	42	Modified Flake	55	28	96	1114.337	933.330
74053	15	Modified Flake	46	18	64	1037.886	1012.672
74054	14	Modified Flake	59	43	13	1028.284	998.532
74055	29	Modified Flake	54	41	10	1065.186	980.189
74056	35	Modified Flake	55	34	9	1058.882	943.628
74057	13	Modified Flake	55	23	7	1042.036	1002.423
74058	50	Modified Flake	80	41	12	1154.208	936.036
74059	9	Modified Flake	44	33	10	1030.788	967.320
74060	64	Modified Flake	46	32	9	1138.457	922.329
74061	4	Modified Flake	55	23	8	1028.544	956.059
74062	66	Modified Flake	64	39	19	1165.418	906.110
74063	24	Modified Flake	57	29	9	1063.264	1009.431
74064	3	Modified Flake	31	23	7	1034.297	934.680
74065	63	Scraper	40	31	13	1142.194	921.411
74066	41	Scraper	58	45	14	1116.328	939.152
74067	56	Scraper	41	23	89	1146.218	921.760

Table 1. Continued.

			Dimensions (mm)			Meters from Datum	
CEUM	Field	Class	L	W	T	East	North
74068	57	Scraper	27	23	6	1147.330	920.991
74069	72	Scraper	37	35	9	1022.905	906.466
74070	58	Scraper	37	40	12	1146.792	920.825
74071	48	Scraper	30	25	7	1176.416	907.316
74072	20	Scraper	36	22	9	1066.663	1021.642
74073	11	Scraper	52	35	53	1043.297	999.549
74074	37	Scraper	28	30	5	1066.706	920.677
74075	17	Scraper	42	32	83	1031.500	1025.912
74076	25	Scraper	33	28	11	1063.763	1007.871

NA - Not applicable

otherwise late in the manufacturing process. The remainder of the points, Cody Complex, Western stemmed or unidentified lanceolate, all appear to represent examples that broke during use or were otherwise expended and subsequently discarded during retooling.

The Folsom/fluted points and the Great Basin stemmed examples also exhibit a striking difference between toolstone used, knapping skill, and level of resharpening. The fluted specimens all derive from high quality, fine-grained cherts, exhibit fine flaking patterns, and in several cases, were discarded even though they could still be fashioned into functional weapons. In contrast, the majority of the stemmed points derive from low quality cherts and quartzites, were poorly flaked and thoroughly expended, in some instances resharpened down to the hafting element.

In addition to the projectile points, the surface collection also resulted in the recovery of 61 bifaces and biface fragments, 61 modified flakes/chipped stone tools, 50 scrapers, one fragmentary bison-sized bone specimen, and 12 pieces of debitage (misidentified as tools in the field). Together these artifacts represent a large and diverse toolkit that suggests a wide range of behaviors from hunting and food processing, to tool manufacture and maintenance, and hide preparation. Given the available data, the Dawson Site likely contains the remains of several campsites that served as the focus for many aspects of late Pleistocene and early Holocene lifeways.

Lithic Sourcing

Three obsidian Western Stemmed projectile point fragments were collected during the various site visits (CEUM 74032, 74257, 74258) and submitted for sourcing to Richard Hughes at the Geochemical Research Laboratory. This analysis identified the source obsidian as consistent with the Wild Horse Canyon chemical type, Mineral Mountains, Utah. In addition to the obsidian examples, one Folsom specimen, an expended/discarded point base (CEUM 74126), appears to derive from chert consistent with reference samples taken from outcrops near Green River, Utah. Once again, currently unidentified outcrops of a similar lithic may exist much closer to the Dawson Site. Finally, one discarded Folsom preform (CEUM 74035) was knapped from the local Tidwell chalcedony, available in cobble form throughout the surrounding landscape.

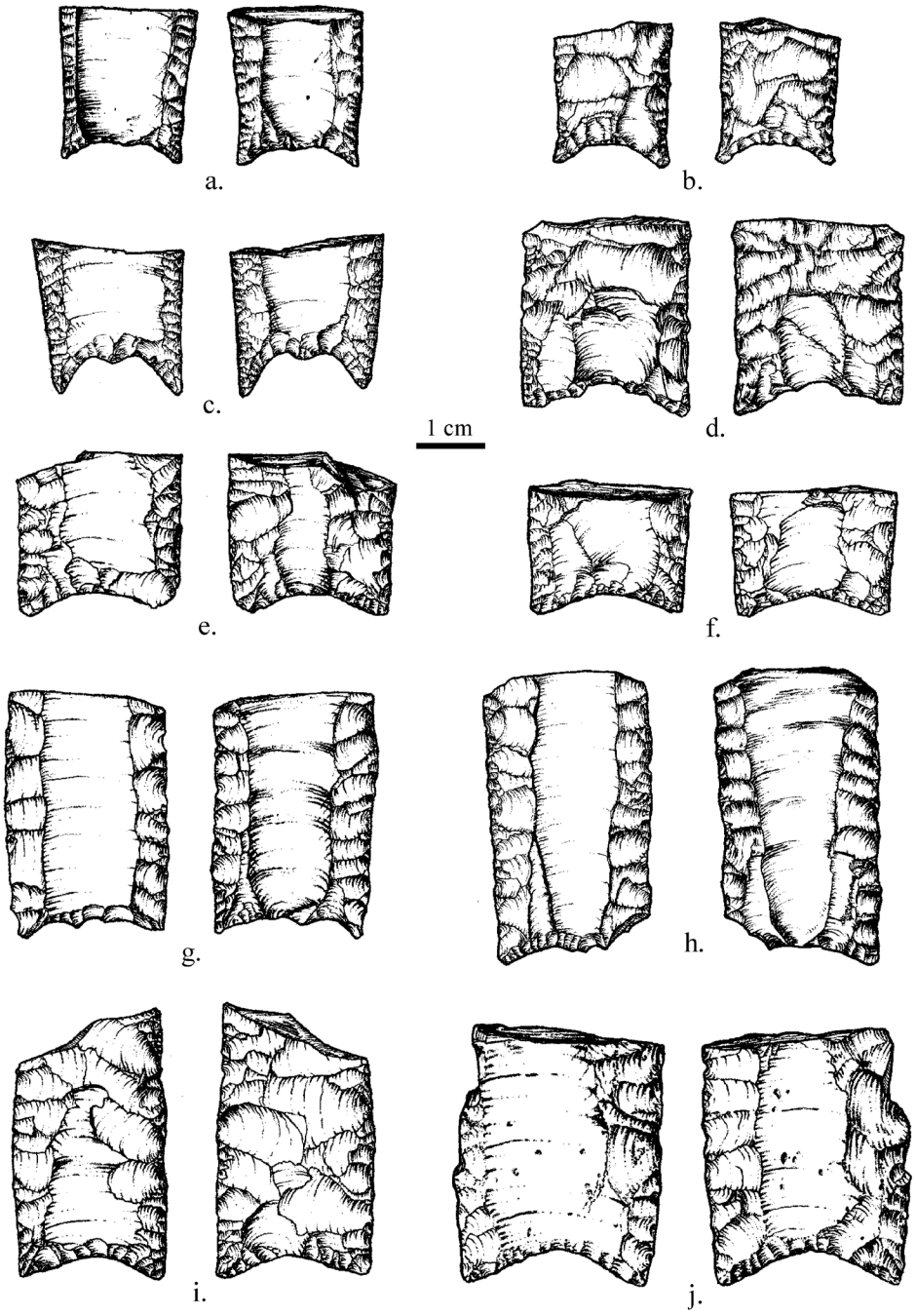

Figure 4. Selected Fluted Points from the Dawson Site (scale = 1:1): a. CEUM 74120, b. CEUM 74132, c. CEUM 74126, d. CEUM 74042, e. CEUM 74044, f. CEUM 74048, g. CEUM 74127, h. CEUM 74037, i. CEUM 74049, j. CEUM 74035.

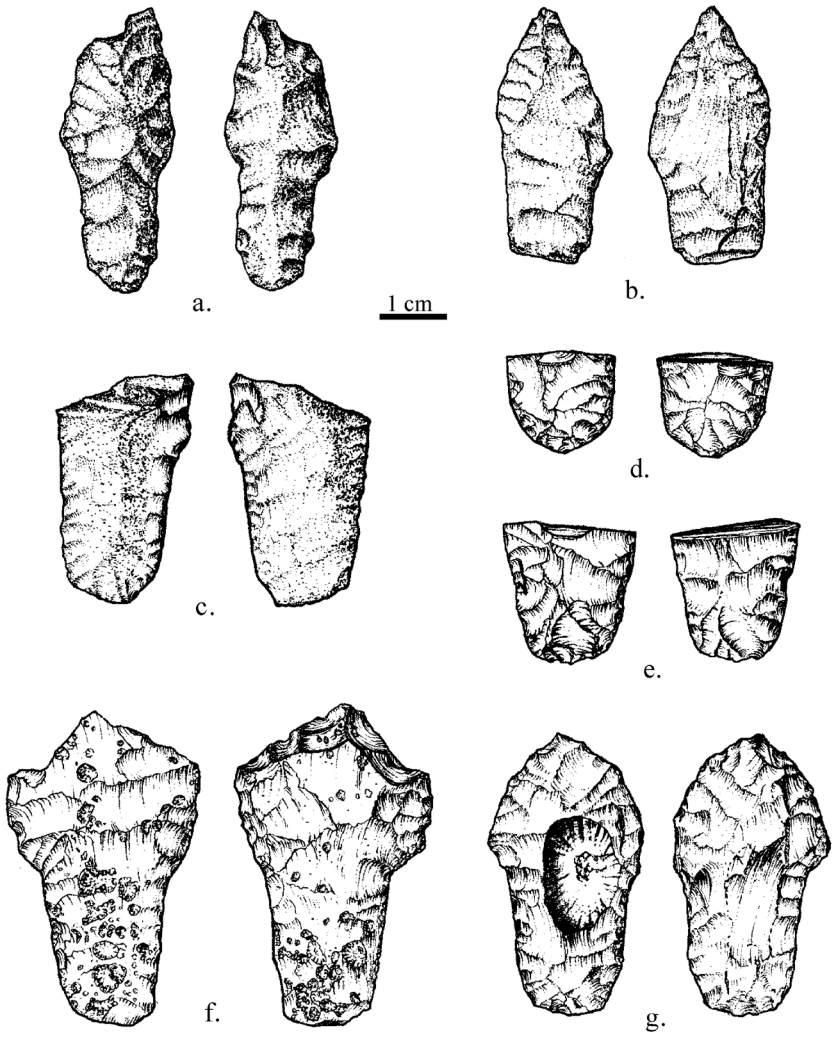

Figure 5. Selected Stemmed Points from the Dawson Site (scale = 1:1): a. CEUM 74032, b. CEUM 74043, c. CEUM 74045, d. CEUM 74257, e. CEUM 74258, f. CEUM 74040, g. CEUM 74051.

Spatial Distribution of Cultural Material

The University of Utah field crew recorded numerous lithic artifacts across an approximately 100 m x 200 m area at the Dawson Site. These include not only the tools described here, but also an extensive, uncollected debitage assemblage. Since lithic assemblages inform directly on technological organization, and the projectile points from the site document several thousand years of occupation, the Dawson site possesses the potential to document the ways that people adapted to changing environments of the western Colorado Plateau during the late Pleistocene and early Holocene. In the case of the Dawson assemblage, however, doing so requires the association of distinct artifact clusters with temporally discrete point styles. Artifact distributions also have the potential to inform on why the Dawson Site, today located in a place offering little to no resources or natural shelter, was such an attractive campsite in the past.

In an attempt to link tool concentrations with discrete projectile point types, as well as the unrecovered debitage assemblage, the spatial data for the 222 surface collected artifacts were plotted as a density map. Figure 6a illustrates the distributions of all artifacts regardless of tool type. These data illustrate a broad northeast facing arc of artifacts with two high-density areas, one to the northwest and one to the south of the feature tentatively identified as a spring mound. The distribution of bifaces illustrates a similar pattern. In this case, although the bifaces (Figure 6b) once again describe a northeast facing arc, two pronounced concentrations exist to the northwest and a third lies to the southeast of the possible spring mound. The distributions of chipped stone tools and scrapers (Figures 6c and 6d), describe similar patters as well.

Regardless of tool type, these distributions form a broad northeast-facing arc that surrounds the lowest part of the site. If indeed the Dawson Site contained an active spring during the Late Pleistocene, then this low point in the local topography would have likely contained the spring outflow and possibly an associated wetland. Unfortunately, none of the artifact concentrations identified in this analysis clearly associate with a single point type. The densest concentration of Folsom diagnostics, however, does appear consistent with the tool concentrations in the northwest portion of the site. Notwithstanding this apparent association, it is nonetheless difficult to assess whether the artifact concentrations represent distinct occupations at different times, contemporaneous occupations, or more simply topographic constraints on available living space.

Subsurface Testing

The University of Utah field crew excavated six 1x1 meter test units into the sand sheet covering the Dawson Site. These were excavated in an attempt to identify any intact, buried deposits and investigate the site's formational history. The distribution of limited pockets of aeolian deposits in combination with artifact densities identified during the survey, were used to guide the placement of the test units. All of the test units were excavated in 10 cm arbitrary levels and all sediments were passed through 1/4 in. hardware cloth. Excavation level forms were used to record any and all observations associated with each 10 cm excavation level within a specific test unit. Upon completion, all test units were profiled and then backfilled. Artifacts were bagged in the field, provenienced to unit and level, and then returned to the University of Utah Archaeological Center for analysis.

Five of the test units (TU 1,2,3,4, and 6) encountered shallow aeolian sand deposits of approximately 40–55 cm resting on apparent spring mound deposits or the local regolith. These excavations recovered 16 lithic artifacts including one tested cobble and 15 flakes. In every case, the artifacts were recovered from the contact between the aeolian sands and a stratum of pale yellow, silty clay deposits that underlie the sand sheet.

A single test unit (TU5) was placed in an area of potentially deep, aeolian deposits that included several small dunes. This unit was excavated to a depth of approximately 160 cm below surface and documented three stratigraphic units (Figure 7). Stratum I consisted of a layer of yellowish-red, massive, well-sorted, fine to very fine sand. Stratum II consisted of a layer of reddish yellow, massive, well-sorted, fine to very fine sand with numerous pale yellow nodules that may document some mixing of the lower sediments or the leaching of these sediments upward in response to a fluctuating water table. Stratum III consists of the pale yellow, silty clay substrate noted both in the other units and exposed in deflated areas of the site.

The boundary between Strata I and II documents an abrupt change in the stratigraphy and appears to represent an unconformity. Two OSL samples were taken from the south wall profile to document the maximum age of the aeolian sediments and provide a minimum age for the unconformity (Figure 7). OSL sample

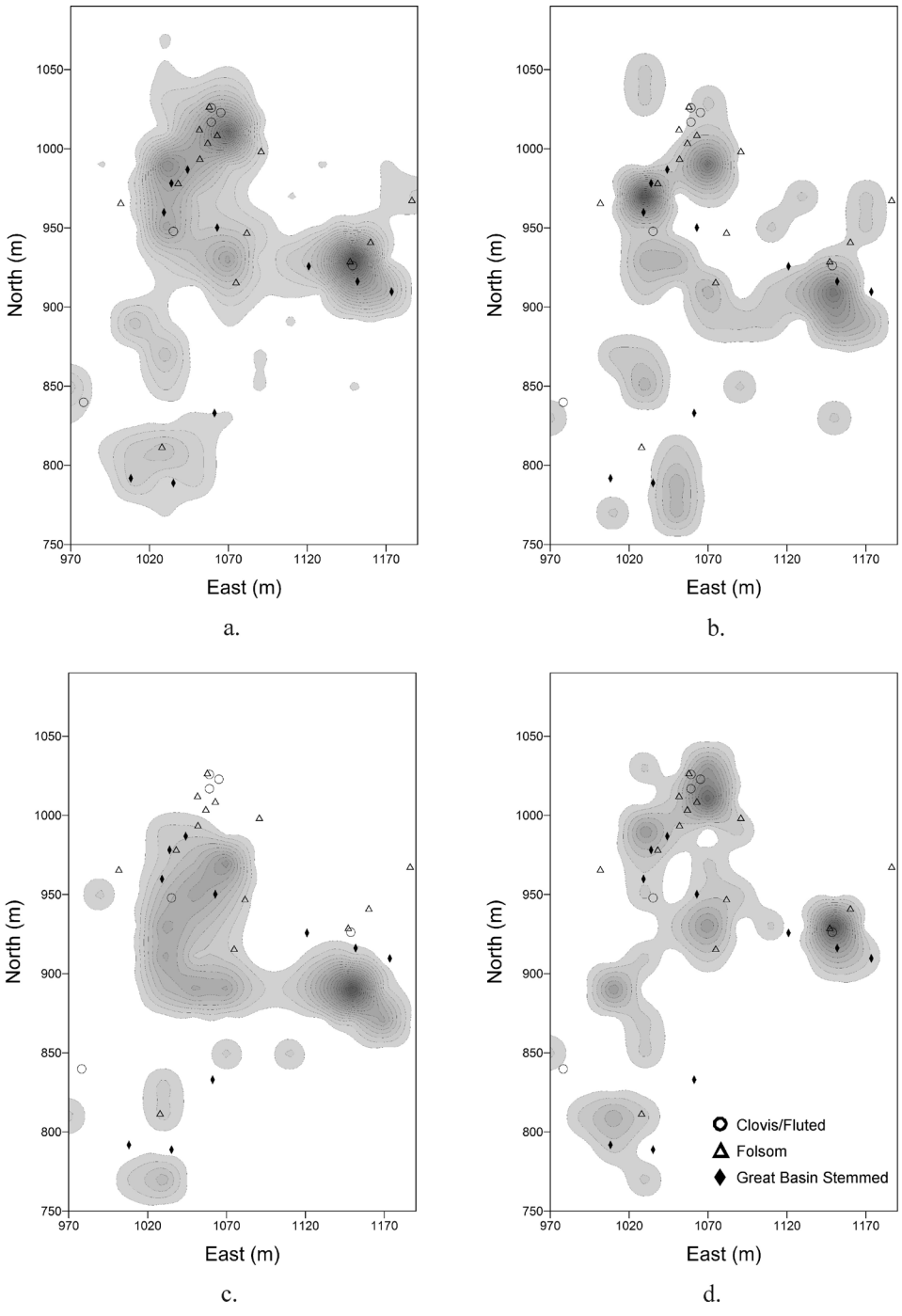

Figure 6. Spatial Distribution of Various Artifact Classes at the Dawson Site.

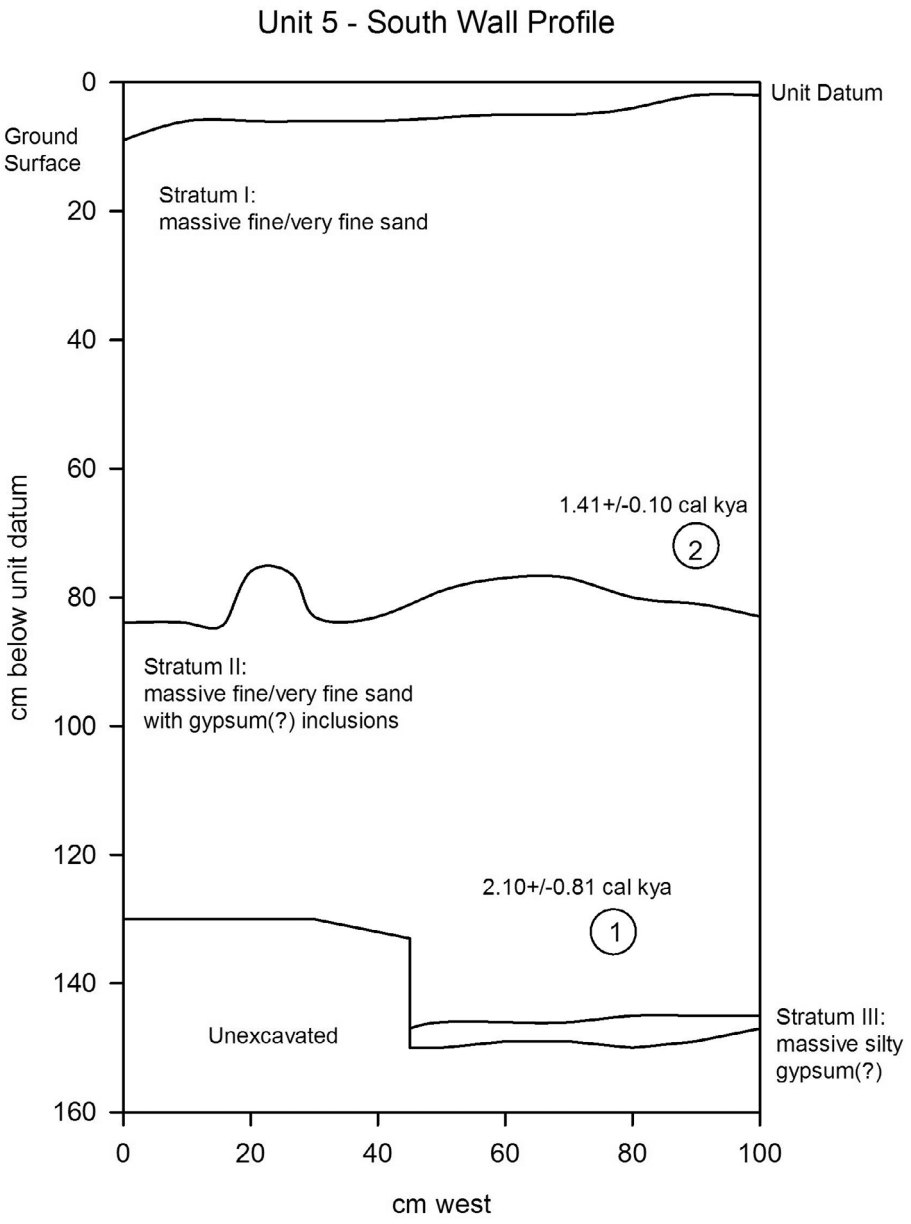

Figure 7. Profile of Test Unit 5.

1 was taken from Statum II at ~130 cm below surface and provided an age of 2.10 ± 0.81 cal kyr (USU-273). Sample II was taken from Stratum I at ~70 cm below surface and directly above the boundary between Strata I and II. Sample II returned an age of 1.41 ± 0.10 cal kyr (USU-274).

Summary and Conclusions

Surface collection of the Dawson Site recovered 222 artifacts concentrated in areas of blow-out within the sand sheet deposits. The projectile point assemblage includes two Cody Complex points, 14 Folsom points and preforms, six Clovis/fluted points and preforms,

two Midland points, three untyped lanceolate projectile points, nine Western stemmed projectile points, and a single Elko dart point. In addition, 61 bifaces and biface fragments, 61 modified flakes/flake tools, 50 scrapers, one fragmentary bison sized bone specimen, and 12 pieces of debitage were also recovered.

Six test units were excavated during the Dawson Site investigation. One test unit was dug into the spring mound and encountered dense, sterile deposits. The five other test units were excavated into the aeolian sediments that mantle much of the site. These units encountered deposits ranging from approximately 40 to 160 cm in depth. Artifacts were found in four of the test units and the cultural materials were most commonly encountered at the boundary between the overlying aeolian sediments and the underlying substrate.

Notwithstanding the artifacts from TU5, the majority of the artifacts encountered in the test units rested on the sediments underlying the sand sheet. Whether the artifacts were originally deposited on this surface or were originally deposited on a surface that deflated prior to the aggrading of the sand sheet is unclear at this time. Regardless, two OSL dates indicate a late Holocene age for the aeolian deposits that mantle the site. In fact, the deepest deposits encountered during testing date to no more than 3,000 years ago. This result suggests that it is unlikely that any intact Paleoindian-age deposits remain at the Dawson Site and that the assemblage now lies in a deflated secondary context.

Given the available evidence, a conservative assessment of the depositional context suggests that the Dawson Site contains a deflated palimpsest of Paleoindian occupations. However, the antiquity of the assemblage, in combination with the dense artifact scatter, diversity of tool types, and the presence of both Plains and Great Basin diagnostic artifacts make this site unusual and perhaps unique in Utah. Future research will focus on the large and dense surface debitage assemblage. A total surface collection and intensive attribute-based analysis of the debitage from portions of the site may both illuminate spatial pattering in the artifact scatter that could help to tease apart the various occupations and provide a dataset for understanding the ways that Late Pleistocene/Early Holocene peoples visiting the western Colorado Plateau organized their lithic technologies. ■

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David A. Byers
Department of Sociology, Social Work, and Anthropology
Utah State University
0730 Old Main Hill
Logan, UT 84322
E-mail: david.byers@usu.edu

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A Clovis Point Find in the Uinta Basin, Duchesne County, Utah

Cody Newton
Department of Anthropology, University of Colorado Boulder

James A. Truesdale
A.I.A. Archaeological Consultant

A Clovis point fragment was recorded by An Independent Archaeologist (AIA) while conducting archaeological survey in the southern unit of the Ashley National Forest in the Southwestern portion of the Uinta Basin. The point is a rare find in northeastern Utah. This article reports a description of the point and discusses its comparison to other Utah and interregional Clovis point finds.

In July of 2009, a Clovis point fragment was found by An Independent Archaeologist (AIA) in the southwestern portion of the Uinta Basin, in the southern unit of the Ashley National Forest 10 miles (4.5 km) south of Duchesne, Utah, during a cultural resource survey at a surface site designated 42DC2628/AS-2089 (Truesdale et al. 2011). The specimen was situated on the top of a narrow south-to-north trending ridge located in the pinyon/juniper vegetative zone above a steep canyon at an altitude of 7,500 ft. (2,286.5 m). This find is only the second reported Clovis point in the Uintah Basin as well as in Duchesne County (Crouse 1954).

Owing to Ashley National Forest Heritage Division collection policies the artifact was in the possession of AIA for only a few days before it was returned to its original recorded location. Therefore, further in-depth analyses and research of the artifact by geologists and additional paleo-indian archaeologists could not be conducted.

The Clovis point is a base plus midsection portion that is missing a small lateral portion of its base and is broken nearly perpendicular to its long axis across the blade (vvs 1 and 2). This break has burinated a small portion of one lateral edge. It measures 43.47 mm in length, 30.04 mm in width, 7.75 mm in thickness, has a hafting width of 34.12 mm, and a hafting length of 23.56 mm. The point is made from a semi-translucent white chert containing small (≤ 1mm) roughly circular red and black inclusions along with other small voids of non-crypocrystalline cortex-like material. The blade break bisects two of these voids indicating they were a factor in the falilure of the point. One side of the point exhibits a light patina of opaque white areas. The lower lateral edges and the concave base are heavily ground with only one side exhibiting a distinct fluting scar (Figure 2).

The tool stone used appears to be a 'Utah' agate—found in east-central Utah just east of the Green River—as described and pictured by Frison and Bradley (1999:79) as a lithic source for the Fenn cache. Personal review of this point by Dr. George C. Frison confirmed this assessment. However, the visual review by Dr. Frison and comparisons with the pictured Fenn cache specimens made of this tool stone indicates that the match is not exact enough be unequivocal.

Utah Sample

As mentioned earlier, the find represents only the second reported Clovis point in the Uinta Basin (cf. Crouse 1954) and joins a sample of 39 published and recently reported projectile points described as Clovis or Clovis-like found in Utah (Amme 1985; Copeland and Fike 1988; Davis et al. 1996; Janetski and Nelson 1999; Larson 1990; Mullins et al. 2009). However,

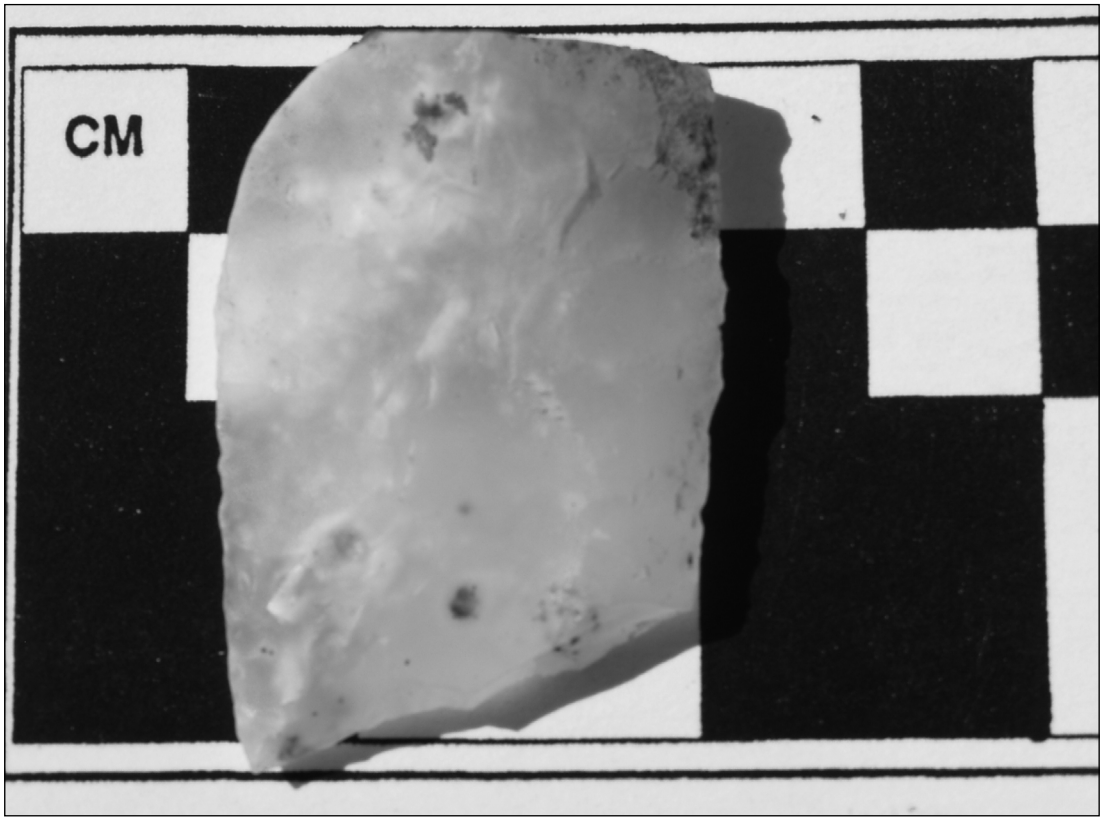

Figure 1. Photograph of Clovis point at 42DC2628/AS-2089.

a single reported date of 11,900±240 RCYBP (Beta-27681) (2σ cal BC 12,616–11,264) from a soil-sediment profile in nearby Dinosaur National Monument, Colorado (McFaul and Truesdale 1989) indicates that late Pleistocene deposits exist in the Uinta Basin, although thus far buried cultural deposits of Clovis age have gone undetected. Copeland and Fike's (1988:7) Utah fluted point survey documented 18 known Clovis points in the state: 12 from the Colorado Plateau, two from the eastern Great Basin, and one from the Uinta Basin. The Hell'n Moriah Clovis Site (42MD1067) in southeastern Utah yielded an additional seven Clovis points/point fragments (Davis et al. 1996). All but one (with an unknown context) of the Utah Clovis points are surface finds. This sample of points is compared to fluted points from the Great Basin and Clovis points from the Great Plains and Southwest to ascertain if, as a regionally intermediate sample, it can be differentiated from either. Beck and Jones (2010:96-97) demonstrated that statistically significant differences (using t-tests) exist in terms of total length, maximum thickness, basal indentation, and basal indentation/basal width ratio, between a sample of fluted points primarily from the Great Basin (Beck and Jones 2007; Taylor 2003), and non-cache Clovis points from the Great Plains/Southwest (Tomkins 1993).

Interregional Comparisons

Using the same statistical analyses of these variables shows that the Utah sample, as a whole, does not differ significantly from a slightly smaller sample of Great Basin fluted points (Beck and Jones 2009; Taylor 2003). However, in this comparison of means, the Utah sample is significantly shorter (t=-2.07, df=65, p=0.04)

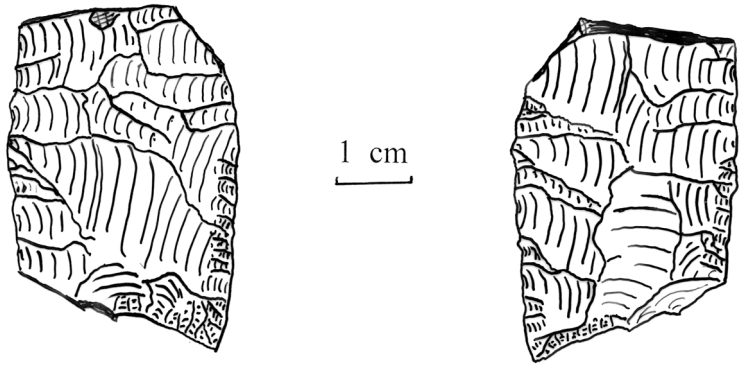

Figure 2. To scale illustration of Clovis point at 42DC2628/AS-2089.

and thinner (t=-3.54, df=69.39, p=<0.01) than the aforementioned sample of non-cache Clovis points. Dichotomizing the Utah Clovis sample into points found within the Great Basin (n=24) and those found without (n=15) and comparison with the Great Basin fluted points beyond the state and the Great Plains/Southwestern Clovis indicates that although neither Utah sample can be statistically differentiated from the former in that both are significantly thinner (Utah Great Basin: t=-3.14, df-78, p=<0.01; outside Great Basin Utah: t=-2.79, df-67, p=0.03) than the latter. The significant differences in the first-order metrics among the samples, at least nominally, demonstrate there is a greater technological affinity between the Utah Clovis or Clovis-like points and the Great Basin fluted points.

Regionally the Utah specimens join the eight to ten Clovis points/point fragments found in the western Colorado counties of Moffat, Rio Blanco, Garfield, Montrose, and San Miguel (Colorado OAHP COMPASS Database accessed 8/1–2/09). An additional six Clovis sites/isolates have been found in the southwestern Wyoming in Sweetwater County (Wyoming SHPO Database; Prasciunas et al. 2008). Together these finds indicate that, although present in the area, Clovis finds are rare. The Colorado finds include points recorded on Cross Mountain (Gardner 1981), near Cimarron, Colorado (Carpenter et al. 1976), and in the Skull Creek Basin (Weber et al. 1977).

Based on its width and thickness measurements, the 42DC2628 point cannot be statistically differentiated (at a=0.05, using t-test) from either the Fenn cache Clovis points (n=20, mean width= 37.53 mm, mean thickness= 7.92 mm) or the Utah sample (n=25, mean width 28.45, mean thickness=6.73). However, the Utah sample (including the 42DC2628 point) can be statistically differentiated from the Fenn cache points in both width (t=-5.646, df=38, p<0.001) and thickness (t=-2.915, df=41, p=0.006). This may be evidence that the Fenn cache represents specimens which show less use (or reworking) compared to the Utah Clovis points indicative of the caching of more pristine points versus the discard/loss context of the latter sample.

Conclusions

The Clovis point was found less than five meters down slope from a fairly concentrated (within 200 m^2) scatter of 100 pieces of chipped stone debitage composed entirely of a local tan to brown banded chert that comprised the remainder of site 42DC2628 (Truesdale et al. 2011). There was no evidence (large blades, overshot flaking, bifacial tools) or any other artifacts that might be attributed to Clovis lithic technology in the scatter and it is likely the remains are of an Archaic, Late Prehistoric, or more recent knapping event. The occurrence of the Clovis point in proximity to this temporally

incoherent lithic scatter could be evidence of a diachronic use of this ridge top by Clovis and later peoples. However, it is postulated by the authors that the Clovis point was scavenged by the mid- to late-Holocene groups that dominate the archaeological record of this upland area from another location, used and eventually discarded or lost at 42DC2628/AS-2089. This scenario could also explain a single Agate Basin point, recorded by Montgomery Archaeological Consultants (MOAC) in the fall of 2008, which was found in a similar setting along with a single-handed sandstone mano and other non-diagnostic surface debitage (Whiting 2009).

Clovis point distribution is significantly related to many factors associated with point visibility such as modern population density, agriculture, the level of archaeological research, oil and gas development, and environmental productivity (Prasciunas et al. 2008). The paucity of Clovis points in northeastern Utah may be due to similar factors discussed by Prasciunas et al. (2008) for the state of Wyoming. These factors include, but are not limited to, geologic and site formation processes, unauthorized collection, and finally the fact that there may have been a low population density of early-Paleoindian in northeastern Utah. ■

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Cody Newton
Department of Anthropology
University of Colorado Boulder
Campus Box 233 UCB
Boulder, CO 80309
E-mail: cody.newton@colorado.edu

James A. Truesdale
A.I.A. Archaeological Consultant
P.O. Box 153
Laramie, WY 82073
E-mail: aiaarchaeo@aol.com

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Utah Valley Fremont Figurines: Function and Ritual Abandonment

Mark L. Bodily
Helena and Lewis & Clark National Forests

Over the last half century, 368 complete or fragmented Fremont figurines have been recovered from throughout Utah (25 percent are from the Utah Valley) in various archaeological contexts. These combined old and new data are beneficial for examining figurine context, function, and possibly meaning. Fremont figurine use and meaning has been problematic for Fremont scholars; however, ethnographic data from the Southwest suggest that the figurines could have been used as objects in fertility cults, as village people, and as children's play toys. While recognizing that these analogies only offer a few of the possible explanations for how Fremont figurines may have been used, they also illustrate that when figurines were discarded, they were deposited into the archaeological record in different ways for different reasons. Ritual abandonment of structures and artifacts may also account for various figurine contexts.

Over the years, Fremont figurines have been recovered from numerous sites throughout the Fremont culture area (see Aikens 1966, 1967; Ambler 1966; Allen and Munsey 2002; Berry 1972; DeBloois 1967; Fry and Dalley 1979; Green 1964; Marwitt 1968, 1970; Madsen and Lindsay 1977; Montgomery and Montgomery 1993; Morss 1954; Sharrock and Marwitt 1967; and various others) (Figure 1). Documented discoveries of figurines at sites in the Utah Valley area began as early as the 1930s (see Berge 1966; Christensen 1947; Davis 1967; Green 1961, 1964; Jones 1967; Madsen 1969; Mock 1970; Reagan 1935; Richens 1983; Steward 1933, 1936; Wolfe 1969; and various others). Some of these specimens are published (i.e. Green 1964), but the majority have not seen the light of day since discovery.

Fremont figurines are best known by the beautiful Pillings specimens reported by Morss in 1954; however, many are not as spectacular as the Pillings specimens. Generally, they are made from unfired or underfired, untempered clay, most have trapezoidal or elongated bodies without appendages, and many are sexually differentiated by the presence or absence of breasts. While their overall morphology tends to be similar, there is some variability—most particularly in decoration. The appearance of figurines range from a few exquisite specimens elaborately decorated with paint and/or appliqué (i.e. Pillings, Old Woman, and Pectol-Lee babe-in-cradle figurines) to crude and simple specimens with no or little body decoration (i.e. many Fremont figurines from the Eastern Great Basin and specifically the Utah Valley figurines).

Fremont figurine function and meaning has been problematic for scholars; however, ethnographic data from the Southwest suggest that figurines could have been used as objects in fertility cults, to represent village people, and used as children's play toys (Morss 1954). These documented ethnographic practices should result in recognizable archaeological manifestations that can be compared to contextual data of certain individual specimens or collections of Fremont figurines.

Other Southwestern (Cameron 1990; Walker 1999, 2008; Wilshushen 1986) and European (Bradley 2005) archaeological data suggest that ritual practices can account for certain depositional manifestations that also should be factored into the consideration of Fremont figurine context, function, and possibly meaning.

While explanations for Fremont figurine function and meaning are still debatable,

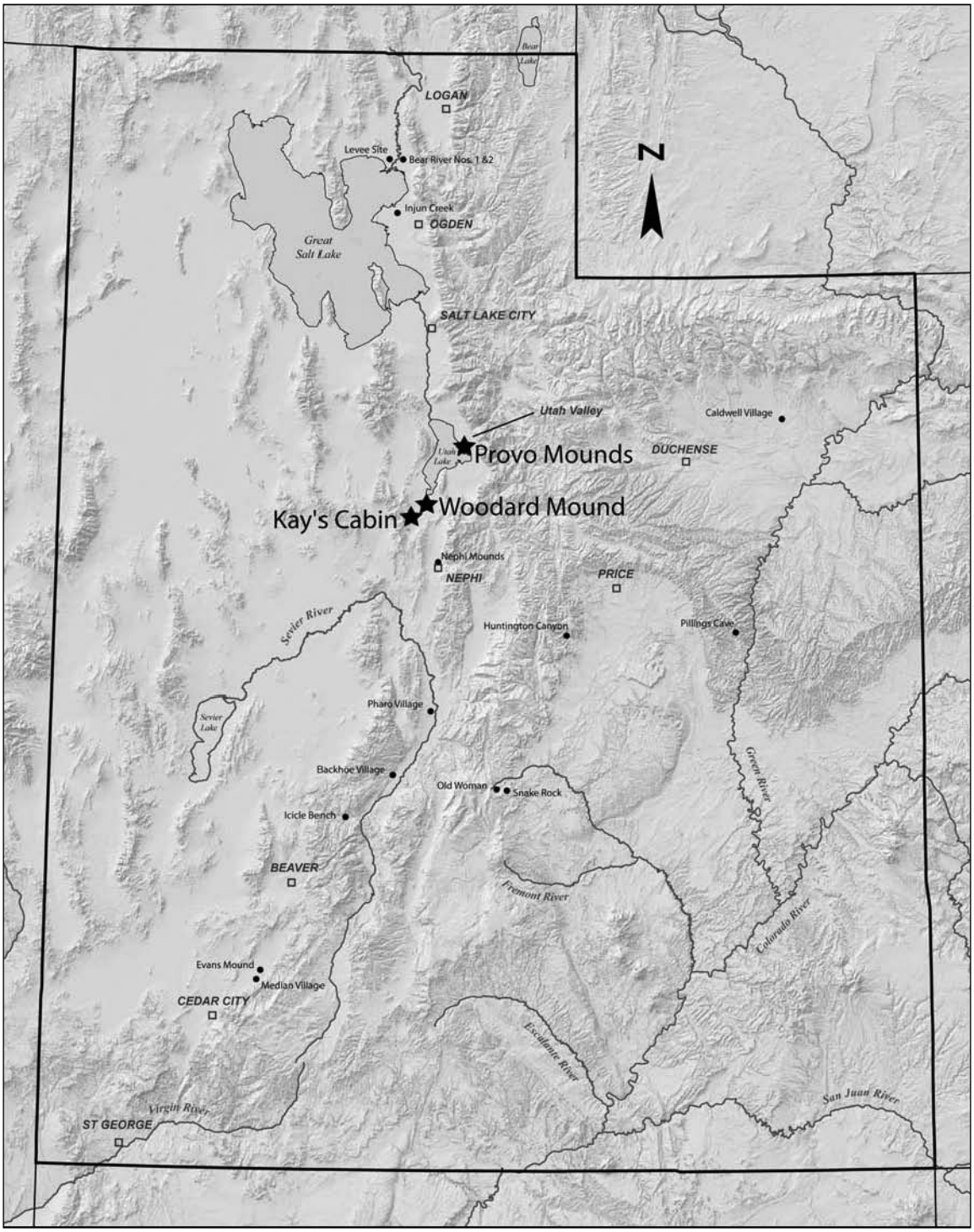

Figure 1. Map of Utah showing select Fremont sites discussed in this article.

additional data and discoveries are still coming to light that may help in their understanding. This article is not intended to be an exhaustive review of all Fremont figurines; however, it incorporates data from new discoveries as well as old collections (i.e. the majority of the Utah Valley figurines) to examine various implications of use and ritual abandonment. Figurine meaning still largely remains unaddressed.

Utah Valley Data

Provo Mounds

There are multiple Fremont mounds located on the Provo River Delta west of Provo, Utah, which include the Hinckley Mounds, the Seamons Mound, and the Benson Mound. Figurines from these mounds are first mentioned in the works of Steward (1933, 1936) and Reagan (1935). In 1932, Steward—then at the University of Utah—excavated a portion of Mound 2 on the Hinckley property and discovered structural remains as well as the head of a figurine (Steward 1936).[1] In 1934, Reagan, while a special professor of anthropology at BYU, also excavated one of the Hinckley Mounds.[2] He reports recovering some "fragments possibly of figurines," although additional information on these possible figurine fragments is non-existent (Reagan 1935:67).

Hinckley Mound 42UT110

Site 42UT110 was described as being about three feet higher than the surrounding area when BYU excavated portions of it in 1959, 1963, and 1966 (Berge 1966; Connor 1967). This mound consisted of the remnants of residential structures, and included an infant burial (Berge 1966; Connor 1967; Green 1959; Jones 1967; Matheny 1959; Nackos and Tucker 1964). Excavator notes suggest that the structures may have been burned. Multiple radiocarbon samples from this site indicated dates ranging from A.D. 650-1221 (Forsyth 1991). In 1966, 13 figurines and fragments were discovered on the northwestern slope of the mound (Figure 2). They were found placed together on top of a sticky clay chunk in a bell shaped cache pit (Feature 3) about 35 inches in diameter and 36 inches deep (Anonymous 1966; Connor 1967; Davis 1967; Swensen 1967). The figurines are all of untempered and unfired clay. Excavators noted that three specimens were unintentionally and unevenly fired, possibly from a burned structure (Davis 1967). They are unelaborate and lacking punctated or applique decoration. One is a possible zoomorph (Figure 4*h*). Seven specimens are sexually identifiable: four have breasts and three do not.

Hinckley Mound 42UT111

Just southwest of 42UT110 lies site 42UT111. It was partially excavated by BYU in 1956, 1959, and in 1960 (Green 1961, 1964). This mound dated between A.D. 880–1277 (Forsyth 1991), and also contained residential structures and a burial. Twenty-one total figurines and fragments were found from the excavations (Figure 3). Two specimens were recovered from the general fill, three were recovered from the fill of Structure A, and 16 were recovered from Structure B fill in a concentrated area (Green 1964). Structure A is a square-shaped residential structure that was likely burned and Structure B is a pithouse. These figurines are also of untempered and unfired clay. They are unelaborate, but a few specimens exhibit minimal decoration in the form of applique eyes and aprons, and punctated designs. Seven specimens are sexually identifiable: four have breasts and three do not.

Hinckley Mound 42UT112

Site 42UT112 is located between mounds 42UT110 and 42UT111 and is still visible today. When BYU test excavated this mound in 1946–1949, it was described as being "roughly six feet high and 70 feet in diameter [and] relatively untouched" (Christenson 1947:20). Although there are no radio carbon dates available for this site, excavations revealed that this was another Fremont mound. Only one figurine head (Figure 4c) was found at this site. Excavation notes state

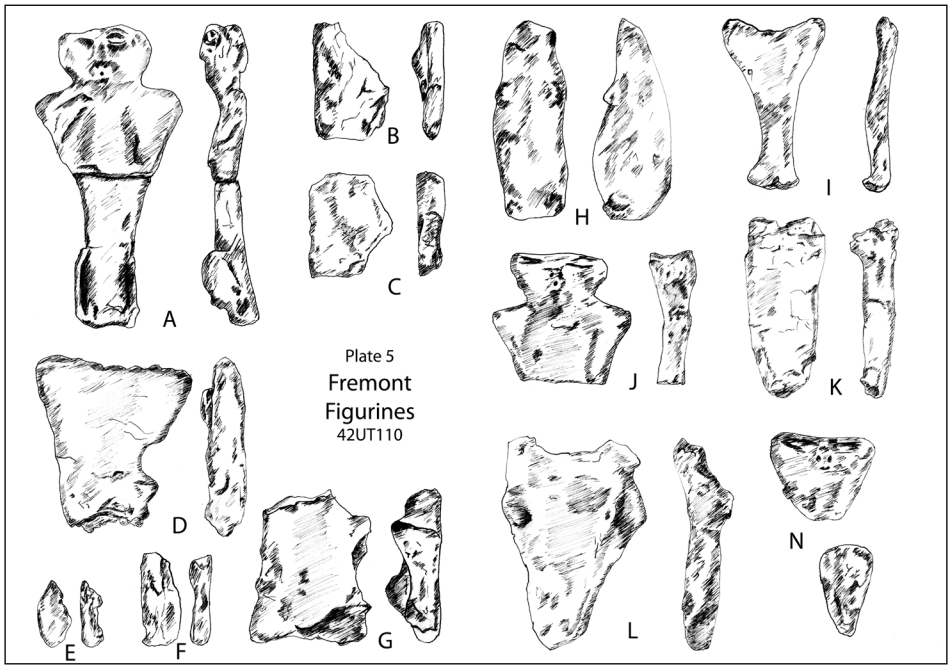

Figure 2. Drawings of 13 figurines recovered from Feature 43 at site 42UT110 (adapted from Connor 1967: plate 5). Photo courtesy of the Museum of Peoples and Cultures.

Figure 3. Selected figurines recovered from 42UT111. Note that figurines a and b are likely a male/female pair.

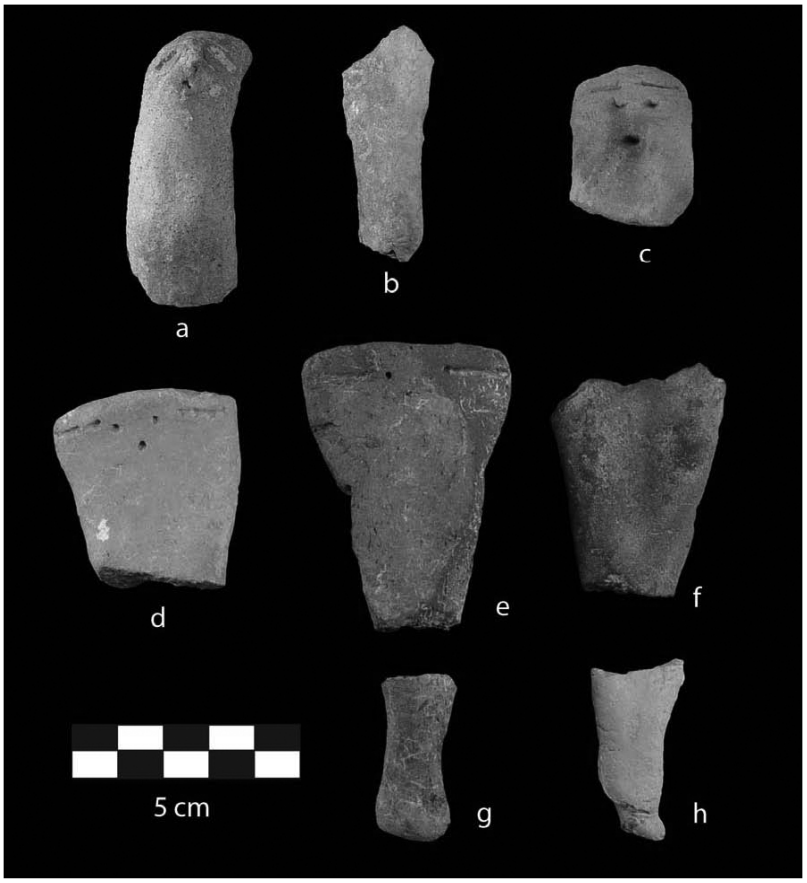

Figure 4. Figurines from multiple Utah Valley mounds. a–b) Seamons Mound (42UT271), MPC accession number 72.38; c) Hinckley Mounds 42UT112, MPC accession number 67.50; d–h) Kays Cabin (42UT813).

that it was found on a layer of packed sand that may have been the floor of a structure and that the specimen had traces of fire blackening across its right half (Christenson 1947:44). As there is no more detail on this specimen's context, it will have to be considered as coming from the site general fill. The figurine is an unelaborate head fragment made from untempered and unfired clay and is not sexually identifiable.

Seamons Mound (42UT271)

The Seamons Mound lies about ¼ mile to the west of the Hinckley Mounds. Madsen (1969) described the mound as rising about two feet above the surrounding ground surface, being extensively pot-hunted, and having been plowed over. In 1968, BYU excavators found a burial without burial goods on the western portion of the mound below adobe structural remains (Ure 2009; Wolfe 1969). Dates from this mound range between A.D. 780 and A.D. 1154 (Forsyth 1991; Ure 2009), yet late-Prehistoric pottery found on top of this mound reveal that it is multi-component (Forsyth 1986). Two figurines were found in this mound. The first is atypical as it is part of a ceramic handle with a molded face similar to those found on other figurines (Figure 4*a*). The other specimen is an undecorated, unfired figurine terminus (Figure 4*b*). The context of these figurines is unclear; however, the figurine terminus was found in proximity to a circular hearth. Both figurines are sexually unidentifiable.

Figure 5. Front and back sides of the Benson Mound figurine. This figurine is part of the MPC Bee collection, accession number 1987.7 (18-42).

Benson Mound

The Benson Mound is another Fremont mound located on the Provo River Delta just over ½ mile northeast of the Hinckley Mounds. In 1942, the property owner dug a hole into this mound while constructing a root cellar (information compiled by Bee and Bee 1934–1966), and in the process, discovered a complete figurine made of green slate (Figure 5). Little else is known about this site or figurine provenience. This figurine is abnormal. It is carved from green slate, and portrays drilled faces on both sides. This specimen does not have breasts, but that may be the result of medium inhibition.

Other Utah Valley Area Sites

Woodard Mound (42UT102)

Woodard Mound lies at the south end of Utah Valley near the town of Goshen. This mound was excavated in 1966, 1968, 1971, and 1980 by BYU (see Richens 1983 for a summary of these excavations). Radiocarbon dates for this site range from A.D. 657–1379 (Forsyth 1991; Richens 1983). The earlier excavations encountered evidence of burned structures and numerous figurines. In 1980, excavators documented a clearly defined residential structure, indications of other structures, and a burial. Richens (1983:32) describes the one clearly documented structure as a “square pit

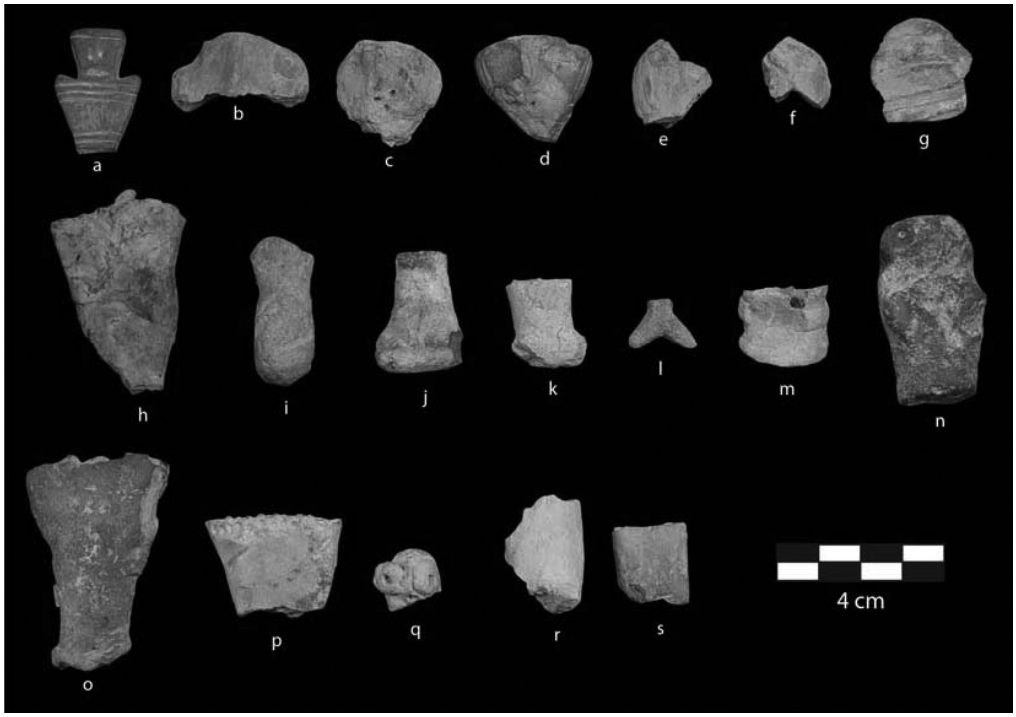

Figure 6. Selected figurines from Woodard Mound (42UT102) recovered in 1966, 1968, and 1971. MPC accession numbers 72.29; 73.480; 84.11; and 89.38.

dwelling with round corners" measuring roughly 5 m by 5 m and dug 20 cm into the ground. A burial was discovered under the corner of this structure. Forty-eight figurines (five are nearly complete) and fragments came from the multiple excavations of this mound, although, the majority (n=33) were found in 1980 (Figures 6 and 7). These figurines came from multiple proveniences: non-structural fill (n=26), structure fill (n=6), structure floor (n=6), structure subfloor (n=4), and other proveniences (n=6) (Gilsen 1968; Johnson 1972; Mock 1970; Richens 1983). These figurines (with the exception of Figure 6a) are unelaborate, untempered, unfired clay specimens of which seven are sexually identifiable. Again, four have breasts and three do not. Only a couple of the specimens exhibit minor decoration in the form of applique eyes and a possible hair bob. One figurine (Figure 6*a*) is made of grey slate and has incised bands across its body. It does not have breasts, but that again may be the result of medium inhibition.

Kays Cabin (42UT813)

Kays Cabin, located on Kimball Creek at the south end of Utah Valley, was excavated as a BYU field school in 1996 and 2002 (Joel Janetski, personal communication 2008). Excavation revealed the presence of two structures: Structure 1 is a shallow circular feature with postholes and a hearth, possibly a ramada; Structure 2 is a circular pithouse with three vent shafts. This site was dated to A.D. 1250 and A.D. 1285 (Joel Janetski, personal communication 2008). Four figurines (Figure 4*e–h*) were found in the fill of Structure 2 with an additional specimen (Figure 4*d*) found in a pit between the two structures. All five are unelaborate, untempered, and unfired clay and only three are sexually identifiable with breasts.

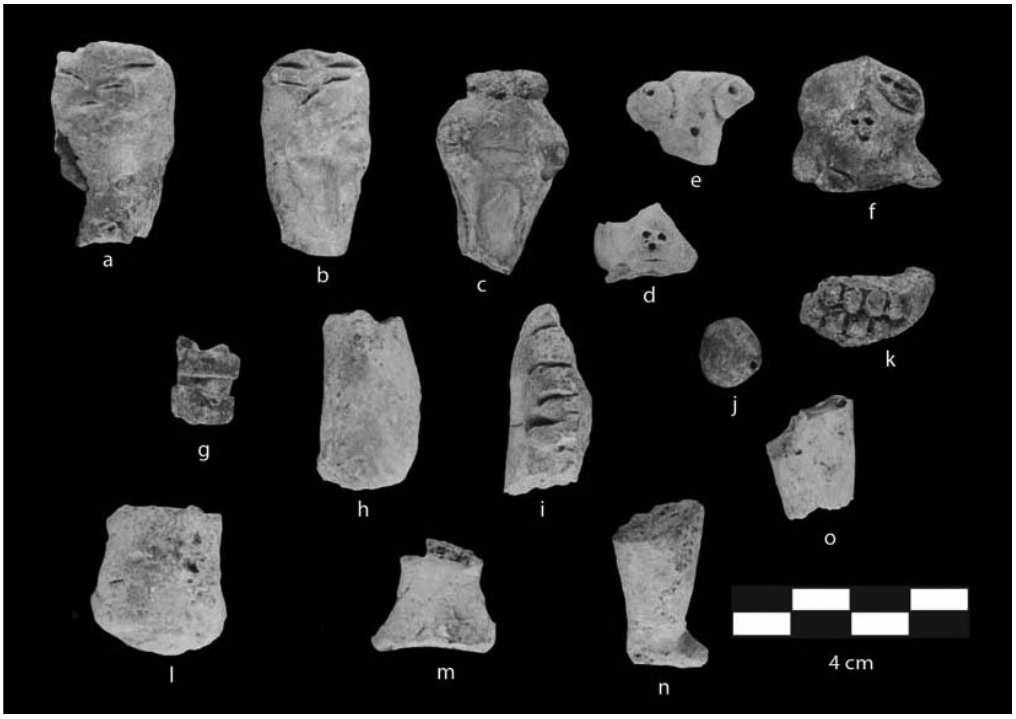

Figure 7. Select figurines from the 1980 excavations at Woodard Mound (Richens 1983: plate 12). MPC accession number 84.11.

Analysis

Information regarding figurine provenience was gleaned from excavation notes or the available literature (Table 1). While there was some good information, regrettably most was unclear, lacking sufficient detail, or entirely lacking. This is likely the result of their being recovered before modern-day excavation practices and documentation. Only the Utah Valley figurines housed in the Museum of Peoples and Cultures at BYU were analyzed in person, and even then, a few figurine specimens were lost from the collections or misplaced.

Site locations were differentiated by their location on the Colorado Plateau or in the Eastern Great Basin (Table 2). A few sites (Pharo Village, Backhoe Village, and Icicle Bench) were in an area of overlap between the two regions, but were classified as being on the Colorado Plateau. Elaborate specimens were defined as those that were neatly formed and significantly decorated with applique, paint, and punctated designs (the Pillings figurines are great examples of elaborate specimens). Clay specimens that contained a sufficient portion of the chest to identify the presence or absence of breasts were considered as sexually identifiable. Stone specimens were considered as not being sexually identifiable as the medium tends to be inhibitive for creating breasts.

Ethnographic Data and Analogy

Ethnographic data from various Southwest cultures demonstrate figurines were used as objects in fertility cults, as village people, and as children's play toys (Morss 1954). Meighan (1953) and Morss (1954) were among the first to explore possible Fremont figurine function (Allen and Munsey [2002] also conducted similar research) using ethnographic analogies based on the Southwest data.[3] The various analogies are examined in turn below and compared with the Fremont figurine data from Utah Valley and other select sites.

Table 1. Counts and provenience of Utah Valley & other select Fremont figurines.

Site	Non-Structure Fill	Structure Fill	Structure Floor	Structure/ Cave Shelf	Subfloor Pit	Cache Pit	Other/ Unknown	Total	References
Backhoe Village	–	–	1	–	3	–	–	4	Madsen and Lindsay 1977
Bear River #1	25	–	–	–	–	–	4	29	Aikens 1966
Bear River #2	–	–	–	–	–	–	63	63	Aikens 1967
Benson Mound	–	–	–	–	–	–	1	1	Bee & Bee 1934-66
Caldwell Village	–	25	–	–	–	2	2	29	Ambler 1966
Evans Mound	1	–	–	–	–	–	4	5	Berry 1972; Dodd 1982
Hinckley Mound 42UT110	–	–	–	–	–	13	–	13	Berge 1966 & various others
Hinckley Mound 42UT111	2	19	–	–	–	–	–	21	Green 1961 & 1964
Hinckley Mound 42UT112	1	–	–	–	–	–	–	1	Christenson 1947
Huntington Canyon	–	1	8	35	–	–	–	44	Montgomery and Montgomery 1993
Icicle Bench	–	–	3	–	–	–	–	3	Talbot et al. 1999
Injun Creek	–	7	–	–	–	2	25	34	Aikens 1966

Table 1. Continued.

Site	Non-Structure Fill	Structure Fill	Structure Floor	Structure/ Cave Shelf	Subfloor Pit	Cache Pit	Other/ Unknown	Total	References
Kays Cabin 42UT813	–	4	–	–	–	1	–	5	Janetski , Personal Communication
Median Village	3	–	–	–	–	–	–	3	Marwitt 1970
Nephi Mounds	–	–	–	–	–	–	16	16	Sharrock and Marwitt 1967; DeBloois 1967
Old Woman Site	–	–	–	–	6	–	–	6	Taylor 1957
Pharo Village	1	1	1	–	–	–	–	3	Marwitt 1968
Pillings Cave	–	–	–	11	–	–	–	11	Morss 1954
Seamons Mound 42UT271	2	–	–	–	–	–	–	2	Madsen 1969 & various others
Snake Rock Village	–	8	–	–	–	–	3	11	Aikens 1967
The Levee Site	6	3	3	–	–	–	4	16	Fry and Dalley 1979
Woodard Mound 42UT102	26	6	6	–	4	–	6	48	Richens 1983 & various others
Total	67	74	22	46	13	18	128	368	–
Percent	18.2%	20.1%	6.0%	12.5%	3.5%	4.9%	34.8%	100.0%	–

Table 2. Basic figurine characteristics.

Site	Colorado Plateau	E. Great Basin	Elaborate	Non Elaborate	Breasts	Non Breasts
Backhoe Village	x	–	–	x	–	–
Bear River #1	–	x	–	x	2	–
Bear River #2	–	x	–	x	1	1
Benson Mound	–	x	–	x	–	–
Caldwell Village	x	–	–	x?	–	–
Evans Mound	–	x	–	x	–	–
Hinckley Mound 42UT110	–	x	–	x	4	3
Hinckley Mound 42UT111	–	x	–	x	4	3
Hinckley Mound 42UT112	–	x	–	x	–	–
Huntington Canyon	x	–	x?	x?	14	9
Icicle Bench	x	–	x	–	1	–
Injun Creek	–	x	–	x	3	1
Kays Cabin 42UT813	–	x	–	x	3	–
Median Village	–	x	–	x	2	–
Nephi Mounds	–	x	–	x	5	1
Old Woman Site	x	–	x	–	2	2
Pharo Village	x	–	–	x	1	–
Pillings Cave	x	–	x	–	5	5
Seamons Mound 42UT271	–	x	–	x	–	–
Snake Rock Village	x	–	x	–	–	–
The Levee Site	–	x	–	x	4	–
Woodard Mound 42UT102	–	x	–	x	4	3
Total	–	–	–	–	55	28

Fertility Increase

Various Southwest cultures used figurines in fertility increase ceremonies (Morss 1954). Some figurines were made by women desiring offspring upon which the desired sex of the child was depicted. After a one day ceremony, the figurines were thrown out or buried as seed. Other circumstances involved figurines being placed in cradleboards and treated as real babies, after which the figurine was guarded and preserved as the heart of the child. Archaeological manifestation for these types of activities would likely result in sexual differentiation of figurines, figurines found in association with cradle boards, prehistorically curated figurines, and casual (thrown out) and/or intentional (buried) figurine deposition.

Numerous Fremont figurines are complete enough to sexually differentiate by the presence or absence of breasts, and in this dataset, 55 have breasts and 28 do not. Out of the sexually identifiable Utah Valley figurines, 15 specimens have breasts and nine do not.

Few Fremont figurines have been discovered in association with cradle boards; however, preservation may be a factor. In the literature, three examples of Fremont figurines associated with cradleboards were found. At the Huntington Canyon site (Montgomery and Montgomery 1993), sixteen figurines were discovered on an earthen shelf associated with miniature clay vessels and a clay cradleboard in Structure 1. Structure 1 also had a subfloor burial and was burned. The Pectol-Lee babe-in-cradle is another unfired clay Fremont figurine—not too unlike the Pillings figurines—secured inside a one-half life-sized, but fully functional, cradle board (Allen and Munsey 2002). Based upon a use-wear analysis of the cradleboard, Allen and Munsey conclude that the Pectol-Lee babe-in-cradle was carried around as if it were a real baby. Although this is reminiscent of how some figurines were used in ethnographic fertility increase examples, it is possible that this specimen could have been used as a child's toy (see below). The final example is a possible miniature clay cradleboard recovered from the Nephi Mounds possibly in association with figurines (see Figure 11i in DeBloois 1967). None of the Utah Valley figurines were discovered in association with a cradleboard.

Prehistoric artifact curation may be reflected by specimens located in cache pits or on shelves in structures and caves. Twenty-one percent (n=77) of the figurines identified in this article from nine different sites were recovered from one of these locations that may depict artifact curation. Noteworthy examples include the 11 Pillings figurines found curated on a cave shelf (Morss 1954), the 35 total figurines found on earthen shelves inside of pithouses (Structures 1 and 3) at the Huntington Canyon Site (Montgomery and Montgomery 1993), the five figurines at the Old Woman site which were found carefully placed in a cache pit beneath House 5 (Taylor 1957), and the 13 figurines recovered from a bell-shaped cache pit at Hinckley Mound 42UT110 (Gilsen 1967). Two other Utah Valley sites (Woodard Mound 42UT102, and Kays Cabin 42UT813) also contained figurines in cache pits.

Linking casual figurine deposition to fertility increase in ethnographic examples is problematic as figurines may have been thrown out with common household trash for a myriad of reasons and may not be related to ritual practices at all. On the other hand, intentional figurine deposition is more likely related to ritual practices. Recognizing that there are other factors (see discussion below about ritual abandonment) that are tied to artifact deposition, intentional deposition reflective of fertility increase practices is most likely evident by figurines found in cache pits, on structure floors and shelves, and possibly even in structure fill. Approximately 47 percent (n=173) of Fremont figurines were found in contexts that could be considered as intentional deposition.

Children's Toys

Figurines were also used as dolls by some native Southwest groups. Hopi children played with clay dolls, and many elders viewed them as educational toys representing supernatural personages (Morss 1954). It is not indicated if the children, adults, or both made the figurines and if they were fired or not. Archaeological manifestations of this particular use may result in evidence of use wear (i.e. polished surfaces, chipped edges, and broken specimens), association with other children's play toys, and possibly fired figurines to increase durability.

Allen and Munsey (2002) surmise that this was one possible function of the Pectol-Lee babe-in-cradle. As previously mentioned, this specimen showed evidence of use wear indicating it was carried around and used as a cradleboard with the figurine inside of it. Since the cradleboard was half-life-sized, it likely was carried around by a child rather than an adult—possible evidence for this figurine being used as a child's play toy. Polished surfaces or chipped edges indicating use

wear have not been identified on other Fremont figurines (including the Utah Valley figurines); however, the vast majority of the figurines are broken. It is not clear if any of these figurines were broken intentionally, as a result of use, or as a result of post depositional factors. There is only one good example of Fremont figurines found in association with other possible children's play toys. The sixteen figurines discovered on an earthen shelf in Structure 1 at the Huntington Canyon site were associated with miniature clay vessels and a clay cradleboard that could have been children's play toys (Montgomery and Montgomery 1993). While there may be instances where figurines and miniature clay vessels and/or cradleboards are recovered from the same site (for examples see DeBloois 1967 and Marwitt 1968), their direct association to each other has not been established.

If clay figurines were children's play toys, and were manufactured by adults, then it is reasonable to assume that they should have been fired to increase specimen durability. Fremont cooking vessels and other clay objects were fired, so the technology existed and it would be very apparent for increased durability over unfired clay vessels or objects. However, if the figurines were expediently made and/or made by children, then it is possible that they would remain unfired. Regardless, almost all of the clay Fremont figurines were not intentionally fired. The only exception is the ceramic mug handle with a figurine face recovered from the Seamons Mound (Madsen 1969). This specimen is abnormal and can be argued as not functioning as a figurine at all since it was a decoration on a utilitarian vessel. Two other examples of figurine durability are demonstrated by the non-clay specimens recovered from Utah Valley, one from the Benson Mound (Bee and Bee 1934–1966), and one from the Woodard Mound (Richens 1983). Both are made from slate and would have been realistically durable enough to be used as children's play toys. A final example of figurine durability is one constructed of bone from Pharo Village (Marwitt 1968).

Village People

Among the Keresan pueblos, paired male and female clay figurines represented the collective members of the village and were looked after by the village chief (Morss 1954). This practice was observed by the Spanish when the Awatovi chief presented the Oraibi chief with two sexually paired figurines and said, "Here I have brought you my people" (Parsons 1939:101, 336). The archaeological manifestations of this practice would likely be the sexual pairing of figurines, and prehistoric figurine curation.

As previously identified, Fremont figurines were sexually differentiated. Sexual pairing; however, requires additional evidence of matching shape, style, decoration, and/or physical placement. The elaborate Pillings figurines were found on a natural shelf in the back of Pillings Cave in a straight row, sexually paired, and elaborately decorated (Morss 1954). The Old Woman figurines found in the cache pit beneath House 5 were also elaborate and sexually paired (Taylor 1957). Previous discussion provided evidence for possible prehistoric figurine curation and both of these examples fit that profile. It is also noteworthy to point out that two figurines recovered from Hinckley Mound 42UT112 visually look paired; however, it is not known if they were found physically paired.

Ritual Abandonment & Deposition

Some archaeological data and research from the Southwest (Cameron 1990; Walker 1999, 2008; Wilshushen 1986) and Europe (Bradley 2005 and various others) suggest that ritual may account for certain instances of artifact and/or structure contexts (i.e. structure burning or intentional collapse at the time of abandonment). Directly or indirectly, they suggest that the deposition of artifacts inside of these structures at abandonment is part of the larger notion of ritual abandonment.

Various Southwestern pit structures show evidence of ritual closure at the time of abandonment. For example, Wilshusen (1986)

examines Pueblo I pit-structures from the Dolores River area and argues for ritual abandonment of ritual structures in the form of burning or the intentional collapse on top of burials (and in some cases, artifacts). Cameron (1990) looked at Basketmaker III and Pueblo I period pit structures in the Four Corners region and further argued that structure burning may be a ritual activity or a response to insect infestations. As part of her argument, she cited Schiffer (1985, 1987) presenting evidence for *de facto* refuse in structures being the result of either catastrophic or ritual abandonment. Walker (2008:153) described evidence for structured or ritual deposition as the "burning . . . and the inclusion of whole artifacts on [structure] floors . . . and in superimposed fill strata". Bradley (2005) examined European data and notes multiple examples of burials placed beneath the floor after which the structure was burned and presented this along with deposition of meaningful objects as evidence in part for *the consecration of the house* (an European equivalent of ritual abandonment [Walker 2008]). These examples demonstrate it is not improbable to find that artifacts were left or inserted into structures as part of ritual abandonment.

There are seven examples of Fremont structures in which figurines have been recovered from their interior shelves, floors, or subfloor pits. A few even exhibit structural burning.[4] In all, 19 percent (n=70) of figurines are found in contexts suggesting that they were deposited inside of structures at abandonment.[5] The Huntington Canyon (Mongomery and Montgomery 1993) and the Old Woman (Taylor 1957) sites are two examples of structural burning associated with Fremont figurines. Structure 1 at Huntington Canyon containing the 16 figurines on an earthen shelf with miniature clay vessels and a clay cradleboard; also had a subfloor burial and was burned. At the Old Woman site, House 3 was burned on top of the cache pit containing five figurines. Three of the Utah Valley sites contain evidence for burned structures (Hinckley Mound 42UT110, Hinckley Mound 42UT111, and Woodard Mound 42UT102). Three figurines were recovered from the fill of burned Structure A at Hinckley Mound 42UT111 (Green 1961). At Woodard Mound 42UT102, three figurines were recovered from the floor and four additional ones from the fill of a burned structure uncovered in the 1966 excavations (Gilsen 1968; Mock 1970).

Deposition of artifacts inside of structures after abandonment may also reflect ritual practices. As cited in the previous paragraph, Walker's (2008:153) argument for structured or ritual deposition included "…whole artifacts… *in superimposed fill strata*" (italics added). Walker (1999:385) moves beyond archaeological manifestations of ritual abandonment and gets at meaning when he identifies "the action of ritually discarding an object creates a 'gateway' through which objects cross from the everyday to the spiritual realms." This suggests that not only could structures be ritually abandoned, but objects or artifacts could be as well. Similarly, Bradley (2005) suggests the apparent intentional deposition of meaningful cultural material in prehistoric European residential structures constituted (in part) *the consecration of the house* not only prior to construction, *but after abandonment*. What these examples imply is that some artifacts were intentionally deposited into structure fill as part of the ritual abandonment of the artifact itself or as part of the abandonment of the structure.

While it is commonly assumed that large depressions formed by abandoned pit structures provided good places for trash disposal, it is worthwhile to consider other alternative explanations. Some data for increased artifact concentrations in Fremont residential structural fill is intriguing and may not be best explained as simply it having been a good place to dispose of trash. For example, Five Finger Ridge reflects an average 8.5 to 1 ratio of artifact number per square meter of pithouse fill to storage fill (Talbot et al. 2000:204). Assuming that both pithouse and storage depressions provided good locations for trash disposal, these data suggest that Fremont pithouse depressions were preferred for garbage disposal over other types of structural depressions.

This apparent preference could reflect ritual abandonment of the pit structure and/or artifacts rather than just utilitarian disposal. Referencing Bradley (2005), Jardine (2007) suggests—as one of multiple possible explanations—a link between the large abundance of exotic Fremont beads and other exotic items found in clusters inside of and around Fremont residential structures of the Parowan Valley to intentional deposition at or after structural abandonment.

A portion of Fremont figurines are also found in structural fill and may reflect ritual deposition after structure abandonment. Seventy-four figurines (20 percent) were found in structural fill at nine of the 22 Fremont sites examined. Three of those sites are located in Utah Valley. On the other hand, 67 figurines (18 percent) were recovered from site non-structural fill and may indicate that ritual abandonment did not always factor into figurine disposal. However, when looked at from a slightly broader view (structure vs. non structure), Fremont figurines are found more often (39 percent) associated with pit structures than otherwise (23 percent) suggesting a ritual or utilitarian link between the figurines and structures.[6] This may be a result of figurines being a domestic item or included in common household debris as a little valued item (Morss 1954:58), or it may tie back to ritual abandonment of the structure and/or figurines themselves.

Discussion and Conclusion

Overall, the growing data for Fremont figurines is promising. As additional information is gleaned from old records, existing collections are re-examined, and new specimens are excavated, inferences for figurine meaning and function should become clearer. While this article is not wholly comprehensive and only scratches the surface of possible figurine function and meaning, there are a few patterns that I think are revealing.

First, the three ethnographic analogies considered here may account for some figurine use and meaning among the Fremont. It appears that the data best fit the fertility increase analogy; yet the other two cannot be discounted as there is some supporting evidence for those practices as well. It may even be possible that a figurine was used in all three ways throughout its life history.

Second, there seems to be an apparent—but not thoroughly examined—pattern between elaborate, sexually paired, and curated figurines of the Colorado Plateau region that strongly reflect the expected manifestations of the Keresan village people figurines. It is possible that figurine use and meaning were differentiated between this region and the Eastern Great Basin as those are primarily non-elaborate and better fit fertility increase or children's play toy analogies.

Taken together, the Southwest and European research provide for some rather intriguing notions for ritual deposition and abandonment of structures and artifacts that may explain (regardless of object function) why some figurines and other artifacts are found on floors/shelves of Fremont pit structures and in structure fill.

In conclusion, the Utah Valley figurines provide valuable data and make a significant contribution towards our understanding of Fremont figurines. Additional research clearly needs to be done to further explore figurine function and meaning and it would be extremely beneficial to visit existing figurine collections and documents to tease out better characteristic and provenience data. ■

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Mark L. Bodily
Helena and Lewis & Clark National Forests
1101 15th Street North
Great Falls, MT 59401
E-mail: mbodily@fs.fed.us

Endnotes

1. See figure 10c in Steward 1936. The exact location of Mound 2 is currently unclear.
2. Reagan excavated Mound H3. It is currently unclear which mound this is.
3. While Morss (1954) provided other possible figurine functions (i.e. witchcraft dolls, mother earth goddesses in Agricultural Fertility Cults), they were not tied to specific ethnographic data and is not explored in this analysis.
4. This dataset only looked at Fremont sites from which figurines were recovered. A systematic analysis of Fremont structures would need to be done to further examine the applicability for structure ritual abandonment.
5. Calculation does not include the 11 Pillings Cave figurines.
6. Calculation includes figurines recovered from structure subfloor pits, floors, earthen shelves, and fill (n=144); excludes the 11 Pillings figurines recovered from the cave shelf.

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Artiodactyla Phalange Mountain Sheep Figurines from Utah

Ronald J. Rood
Cultural Resource Analysts, Inc.

Four sites in Utah have produced carved zoomorphic bone artifacts made from artiodactyla second phalanges. In all of these cases, the second phalange has been carved to resemble a mountain sheep (Ovis canadensis)and these have been found in both Fremont and Anasazi archaeological contexts. The function of these figurines is unknown but they do further substantiate the significance this animal with these prehistoric cultures.

Anthropomorphic and zoomorphic figures made from wood, ceramic, unfired clay, strands of willow and bone have been documented from many archaeological sites and temporal contexts throughout the Colorado Plateau and Great Basin (Aikens 1970; Brown and Freeman 2010; Heizer and Beardsley 1943; Madsen and Lindsay 1977; Morris 1951; Mors 1954; Koerper and Hedges 1996; Shroedl 1977). Researchers have suggested human figurines represent fertility, the spread of agriculture, evidence of long distance trade, prestige, items used by shamans, witchcraft, deities, toys for children, and totems used in hunting rituals (Coulam and Shroedl 2004; Emslie et al. 1995; Morris 1951; Shroedl 1977). In reality they probably served as all of the above in one context or another across cultures, space and time.

Figurines carved from bone are common from Old World and Arctic sites (e.g. Chard 1974) and from Northwest Coast archaeological sites (e.g. Lee 1980). In contrast, bone figurines are seemingly rare from Fremont and Anasazi sites. There are some examples of carved bone from Fremont sites (Madsen and Lindsay 1977) and figurines made from bone splinters and woven materials (Aikens 1970), but carved bone zoomorphic figurines are uncommon from Fremont and Anasazi sites. This is somewhat surprising given the rich industry of bone tools known from both Fremont and Anasazi archaeological sites and from a variety of time periods. In Utah, the bone artifact assemblage from Archaic, Fremont and Anasazi period sites is often an astounding array of awls, needles, pins, fish hooks, gaming pieces, pendants, scrapers, fleshers and more (e.g. Jennings 1957; Madsen 1989). From Fremont period sites (ca A.D. 600–A.D. 1300) there is a rich bone tool industry and figurines, especially anthropomorphic trapezoidal clay figurines and rock art depictions are common. Horned figurines from sites like Hogup Cave may represent another type of figurine present in Fremont period sites (Aikens 1970; Madsen 1989).

Carved Mountain Sheep Effigies From Utah

Four sites in Utah have yielded bone figurines of mountain sheep carved from the second phalanx of an artiodactyla (*even-toed ungulates*) (Figure 1, Table 1). One was found at Bighorn Sheep Ruin, a Pueblo II – Pueblo III Anasazi cliff dwelling located in Canyonlands National Park; two were found at Nawthis Village, a large Fremont site in central Utah; one was found at the Round Spring site (42SV23), a large Fremont site in central Utah and one was found at 42SV2302, another large Fremont site in central Utah on the Fishlake National Forest. Nawthis Village and 42SV2302 are about 7 miles apart and both are roughly 20 miles northwest of Round Spring. Bighorn Sheep Ruin is situated approximately 100 miles southwest of the Round Spring Site.

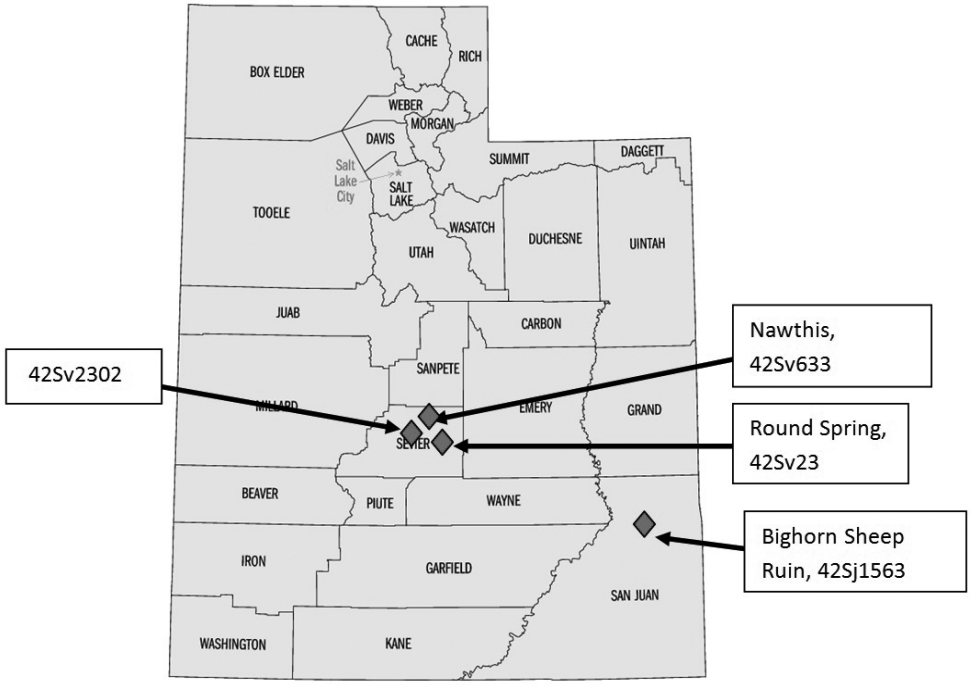

Figure 1. Map of Utah showing the locations of the sites where Mt. Sheep effigies made from phalanges have been discovered.

In these cases, mule deer (*Odocoileus hemionus*) or bighorn sheep (*Ovis canadensis*) second phalanges are represented. The second phalange in any even-toed ungulate is a dense and interesting bone. Located just above the "hoof" the second phalanges are weight bearing bones with rounded condyles on the distal end and inset grooves on the proximal end (Figures 2 and 3). The second phalange is very hard and dense and these would have been difficult elements to carve using stone tools. Phalanges are paired elements so for example a Mountain Sheep has a total of 8 first, second, and third phalanges. The Mountain Sheep effigies described here are all made from the second phalanx. These are interesting artifacts and although their function(s) may be unknowable they are part of a significant cultural pattern of iconography of the mountain sheep implying an important relationship prehistoric people in Utah had to this animal.

It would appear that abrasion, grooving, grinding and polishing were all used to form these effigies with the best example being the one from 42SV2032. It is interesting and fortuitous that with these examples there appears to be several stages of the manufacturing process represented. The two from Nawthis Village are in the early stages of manufacture while the examples from Hogan Pass, Bighorn Sheep Ruin and 42SV2302 are complete (Figure 4).

Carved bone effigies are not especially common in Fremont period sites but there are a few examples besides these mountain sheep phalange examples. Perhaps one of the best known is the bone figurine from Backhoe Village (Madsen and Lindsay 1977:72). This is described as a "spatula-like object" made from the femur of a deer or mountain sheep. The femoral head area has been modified through grinding to resemble an animal. Madsen and Lindsay (1977) suggest a "camel" and after viewing this artifact, I must

Table 1. Summary of Mountain sheep Figurines from Utah

Site	Length (mm)	Thickness (mm)	Species	Side/Element
42Sv2302	26.9	9.7	unknown	R/2nd Phalange
42sV633 FS2867-39 (Nawthis)	32.4	13.4	*Odocoileus hemionus*	L/2nd Phalange
42Sv633 FS2769-181 (Nawthis)	30.9	12	*Ovis canadensis*	L/2nd Phalange
42Sv23 (Round Spring)	27.1	12	*Odocoileus hemionus*	R/2nd Phalange

agree. They suggest it may have been a counting device or a weaving tool.

Anthropomorphic figurines made from plant fiber with horns made of bone splinters, cactus spines or twigs were found at Hogup Cave (Aikens 1970). Artifacts of this type have not been found at any other sites dating to the Fremont period.

The Mountain Sheep (*Ovis canadensis*)

Mountain sheep or bighorn sheep were a common faunal resource used by prehistoric people across the western United States. Their prehistoric distribution covered most of the western United States. They range from southwestern Canada to northwestern Mexico and most researchers agree several subspecies are recognized (Geist 1971; Wehausen and Ramey 2000). Males range in size from 57kg to 150kg while females range from 50 kg to 80 kg. Sheep typically breed in the late fall (November–December). Outside the breeding season, they roam in herds which may number more than 100 individuals. They move from upland settings in the summer to sheltered valleys during the winter and feed on a variety of shoots, twigs and shrubs. Mountain sheep can be found in alpine meadows, rocky side slopes, desert areas and sparsely vegetated foothills (Geist 1971). One aspect of mountain sheep behavior is their tendency to be easily injured when captured and their becoming docile when entangled in a net (Frison 1991:248). In addition, under the direction of someone knowledgeable in sheep behavior, these animals can be manipulated into corrals or traps used in communal hunting (Frison 1991).

Mountain Sheep and Humans

Human beings in western North America have been using mountain sheep for food and raw materials since the Early Holocene (Frison 1991; Jennings 1957). Records of mountain sheep from the early Holocene through historic times are well documented and from a number of Fremont period sites in Utah (Snake Rock Village, Backhoe Village and Old Woman) mountain sheep are the most common artiodactyls represented (Sharp 1989).

Depictions of mountain sheep in rock art, ceramic and basketry decorations are common throughout the southwestern United States and the Great Basin (Grant 1981:7). In fact, mountain sheep figurines made from bone, ceramics and stone have been documented from Hohokam, Mimbres, Anasazi and Fremont sites across the Southwest (Grant 1981; Chandler 1990; Rood and McDonald 1993). There can be no doubt the mountain sheep was an economically, culturally and ritualistically significant animal in the lives of ancient peoples in the southwest.

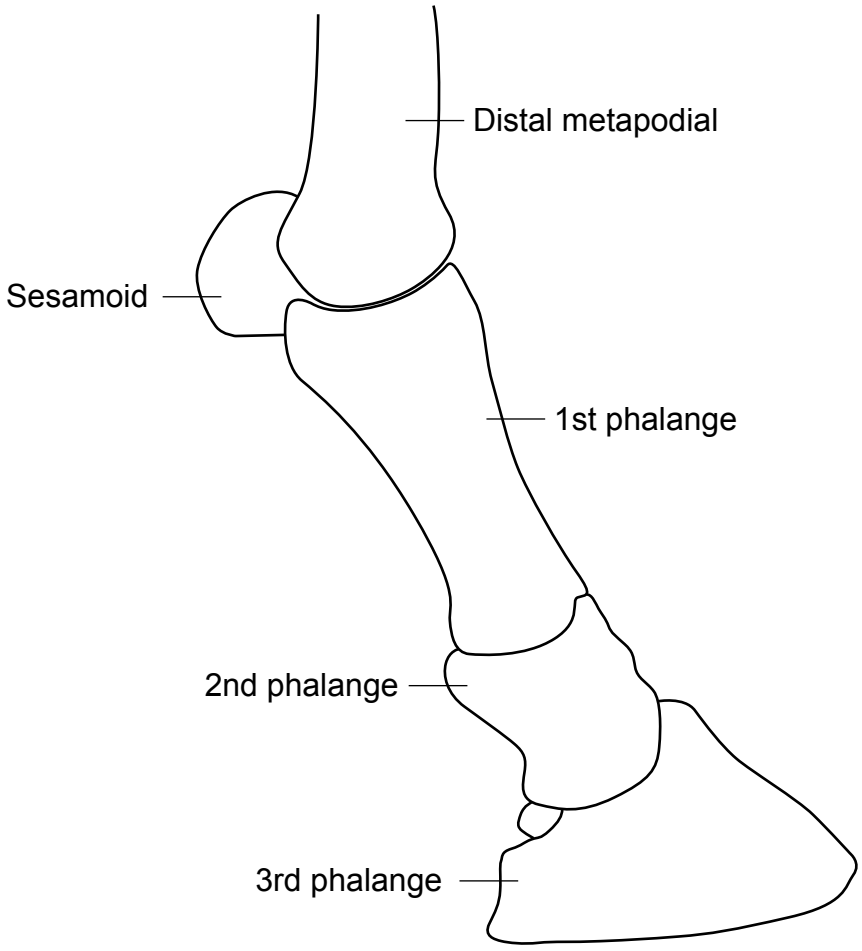

Figure 2. Lower limb of an Artiodactyla.

Phalange Mountain Sheep Figurines from Utah

Bighorn Sheep Ruin (42Sj1563)

Located in Canyonlands National Park, this site is described as a late Pueblo II–Pueblo III Anasazi cliff dwelling (Chandler 1990). The site was stabilized and some minimal testing was completed by Alpine Archaeological Consultants in conjunction with the stabilization efforts. Chandler (1990) describes various architectural aspects of the site along with a description of the material culture and rock art discovered during their work. The assemblage is interesting in that it includes an unfired clay figure fragment described as resembling Fremont style figurines (Chandler 1990:94). Some of the rock art from the site is also described as being "Fremont" (Chandler 1990:93).

The mountain sheep figurine/pendant from Bighorn Sheep Ruin is made from the second phalange of a bighorn sheep (*Ovis canadensis*) (Chandler 1990:99). It has a hole presumably drilled into the distal superior diaphysis near the distal end (Figure 5). Chandler (1990) describes this artifact as a pendant; however the hole may be

Figure 3. Distal End of a second phalange. Phalange on left is not modified while the one on the right has been carved into a mountain sheep effigy (example from 42SV2302).

from the modification of the phalange while the figurine was being carved. This artifact was not available for re-examination but the photograph in Chandler's (1990) publication indicates it is very similar to those described below from the Fremont period sites.

Round Spring (42SV23)

Round Spring is a large multi-component Fremont village located south of Fremont Junction, Utah (Metcalf et al. 1993). The site lies at an elevation of 7477 ft (2278 m) making it one of the highest elevation Fremont villages recorded. Excavations ahead of road construction revealed an extensive Fremont occupation spanning several hundred years (Metcalf et al. 1993).

The modified bone assemblage includes a carved mountain sheep effigy made from the 2nd phalange of a mule deer (*Odocoileus hemionus*) (Rood and McDonald 1993). This effigy (Figures 6 and 7) is at the College of Eastern Utah Prehistoric Museum in Price, Utah, and unfortunately was broken, possibly during excavation. The distal end is intact and shows extensive grinding and wear forming the distinctive Mountain Sheep form.

Nawthis Village (42SV633)

Nawthis is a large Fremont village with above-ground adobe structures and storage features. The site was excavated by the University of Utah and a preliminary report describes Nawthis Village as a series of 31 low mounds and 16 depressions at the south of Salina, Utah (Jones and O'Connell 1981). Excavations resulted in the exposure of several Fremont pithouses, and various features and above ground adobe structures. Radiocarbon dates for Nawthis Village range from 1065 BP to 790 BP with most falling between 1050 BP and 850 BP (Jones and O'Connell 1981:21).

There are two mountain sheep effigies from Nawthis Village. Both are considered to be

Figure 4. Examples of mountain sheep Effigies from Utah. Top and lower left are from Nawthis Village; lower right is from 42SV2302.

"unfinished" when compared to the example from site 42SV2302 (see below), but both are clearly modified to take the form of a sheep. The first of these, Catalog No. 42SV633.2567.39, is made from a mule deer second phalange. The groove between the distal condyles have been worked to the point where the posterior distal end have the shape of "horns" and the anterior distal end is beginning to take the shape of the mountain sheep head. Grinding, polish and striations are present on the distal articular surface and along the diaphysis of the bone. The proximal end of the bone is intact and shows no modification other than some light polishing around the lateral and medial edges (Figure 8).

The second example from Nawthis, Catalog No. 42SV633. 2769.181 is a second phalange from a bighorn sheep. As with the previous example from Nawthis, the proximal end of this bone shows no evidence of modification while the distal condyles have been carved on the posterior face to resemble sheep horns. Deep grooves (Figure 9) are evident along the lateral and medial side of the distal condyles where the maker was starting the process of removing bone from the interior area beneath the distal end. Deep grooves are also evident along the anterior proximal face where bone was being removed to form the "head" of the sheep figure.

When compared to the example from 42SV2302 and with each other, the examples from Nawthis Village appear to be unfinished mountain sheep effigies. The example fashioned from the mule deer phalange appears to be farther along in the

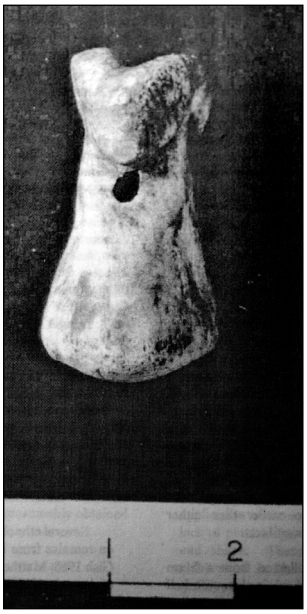

Figure 5. Mountain Sheep Effigy from Bighorn Sheep Ruin. Photograph courtesy of Chandler (1990).

manufacturing process than the example made from the sheep phalange.

42SV2302

This site is located on the Fishlake National Forest about 15 miles northeast of Anabella, Utah. This site is an extensive Fremont village covering a large area and it sits at an elevation of 6240 ft. Leonard (1991) describes this site as an extensive scatter of lithics and ceramics along with at least three "mounds" that likely represent Fremont structures. Since the original recording, some protective fencing has been placed at the site but there are still some problems with unauthorized collecting and excavation.

The mountain sheep effigy from this site was found during a site tour by members of the Utah Statewide Archaeological Society in 2002. A portion of the site is exposed in a large cut-bank where there are numerous structures and midden deposits eroding and being actively vandalized. The effigy was found on the ground surface at the base of the cut bank out of context but associated with the eroding Fremont materials at the site. Because of the ongoing erosion and vandalism, a decision was made to collect the effigy and it will be curated at Fremont Indian State Park.

Compared with the other examples discussed in this paper, this artifact represent the most complete and well crafted Mountain Sheep effigy yet recovered from any Utah sites. The proximal articular surface has been obliterated and the diaphysis of the bone has been shaped to form the back, abdomen and hind end of a Mountain Sheep. The distal articular surface has been modified to form the head (anterior face of the bone) and the horns (posterior face of the bone) of a sheep. Manufacturing modification in the form of striations, grooves and polish are evident over the entire surface of this artifact (Figures 10 and 11).

Function

Frankly, the function of such items may be unknowable through archaeological analysis. However, Emslie et al. (1995) and Coulam and Shroedl (2004) present a convincing case using the example of the split-twig figurine and suggest these artifacts are animal totems with varied functions, including hunting rituals. Split-twig figurines are archaic age artifacts made from a long branch of willow wrapped in such a fashion to form an animal representation. These are typically thought to represent artiodactyls and they have been discovered from over 30 archaeological sites in the southwest (Shroedl 1977). Their argument is the result of decades of work and a detailed analysis of this artifact type from across the southwest and from vastly different contextual settings. Figurines from habitation sites likely were used in a different manner than those found in remote caves associated with animal dung and cairns (Coulam and Schroedl 2004; Emslie et al. 1995).

The phalange effigies described here have all been found at residential sites where in fact, there is evidence of long-term occupations. None have yet been found in any "ritual" type settings but again, only five examples are known from the

Figure 6. Mountain sheep effigy from Round Spring, planar view.

Figure 7. Mountain sheep effigy from Round Spring, detail of distal end.

Figure 8. Mountain sheep effigy From Nawthis Village (Catalog No. 42SV633.2567.39).

Figure 9. Mountain sheep effigy from Nawthis Village (catalog 42SV633.2769.181).

Figure 10. Mountain sheep effigy from 42SV2302.

Figure 11. Detail of the mountain sheep effigy from 42SV2302.

archaeological record. The phalange effigies are, with the exception of the example from Bighorn Sheep Ruin, from pure Fremont contexts. Interestingly, in addition to the phalange effigy, several unfired clay artifacts were also found at Bighorn Sheep Ruin and one of these resembles Fremont-style figurines (Chandler 1990:94). Some of the rock art from the site is also described as resembling Fremont figurines, specifically the concentric neck bands observed on the "Faces Motif" pictographs at the site (Chandler 1990:93).

Summary

What these items represent is unknown at present but they are quite likely fetishes, totems, toys, perhaps artistic expressions or all of the above. They are associated with large Fremont habitations and in one case, Bighorn Sheep Ruin, an Anasazi site with some interesting "Fremont" attributes where perhaps both Fremont and Anasazi occupations are present. With only five known examples, these artifacts are rare but represent another facet of Fremont life not previously described. In a review of Noel Morss's (1954) article on clay figurines from the southwest, Clement Meighan wrote, and I tend to agree:

> As distressing as it may be to the archaeologist, it seems clear we cannot accurately reconstruct the cultural meaning of figurines any more than we can recover an unwritten language from an archaeological site. The best we can hope for is a well-reasoned approximation to the truth. [1955:896]

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Ronald J. Rood
Cultural Resource Analysts, Inc.
596 West 750 South, Suite 210
Woods Cross, UT 84010
E-mail: rjrood@crai-ky.com

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