THE MALLI GOSHEN SITE, CAMPBELL COUNTY, NORTHEASTERN WYOMING

by
Mavis Greer and John Greer

ABSTRACT

A large single-component Paleoindian site was found on a short tributary to the Powder River during a recent energy survey. The intact site occupies a sand-covered bench bordered by intermittent drainages and a semi-permanent seepage area. Surface artifacts include a variety of chipped stone tools, retouched pieces, debitage, and hearth remains. The site contains buried cultural deposits, with a good potential for future contributions to regional Paleoindian studies. No subsurface testing or excavations have been conducted.

INTRODUCTION

This report provides basic site information, gathered during initial surface inspection, on a Paleoindian site in northeastern Wyoming. More details, including the site map and artifact distribution, are on file with the Wyoming SHPO and the BLM (Greer and Greer 2002). The site (48SH1162) was recorded during a surface reconnaissance survey for coalbed methane development. Several artifacts and a potential hearth were noted, with cultural materials eroding from shallow subsurface deposits. No subsurface testing or excavation was done. Brief descriptions of the 26 observed artifacts provide preliminary information on the artifact assemblage since sites of this age, especially in such a relatively undisturbed condition, are not common.

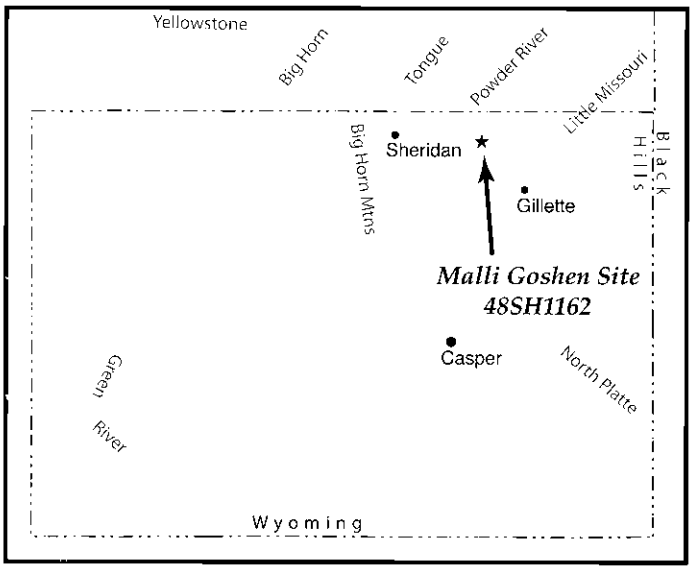

Figure 1. Location of the Malli Goshen Site.

SETTING

The site is in an upland area east of the Powder River and on the dry to intermittent drainage of Cross H Creek, a tributary that flows northwest between prominent clay and sandstone ridges and extensive bench systems toward the Powder River (Figure 1). The main river valley is visible in the distance, and access down this lateral drainage to the river is easy. This area is within the Powder River Breaks, although the main heavily dissected zone, with more junipers and pines, is downstream from the site but is easily seen from it. The surrounding site area is characterized by long ridge and spur systems with occasional sculpting along the crests. Ridges have tentacle-like fingers and spurs with flat benches that stair-step down to adjacent drainages. Vegetation through the immediate area is dominated by dense sage on the southwest side of the main drainage, across the lower flats and benches and up on to the steeper hillslopes. Benches and spurs east of the creek mostly are covered with scattered grasses and much less sage. Most sites in this area are along these more open lower benches bordering and overlooking the main dry creek channel (Figure 2).

Cultural materials on the site are somewhat widely and sparsely scattered across the crest and upper sides of a broad bench. This appears to be a remnant of what was once the old valley bottom terrace and now is a gently sloping finger within the eroded bottomland. The wide flat finger is bordered on the southwest by the northwest-flowing Cross H Creek, a prominent, dry channel with high, sloping, eroded silt embankments. The north side of the site is bordered by a prominent tributary drainage that drops rather steeply into the main creek arroyo just northwest of the site. The eastern end of this tributary, just north of the site, is a large seasonally swampy area now recognized as an alkali zone with dense grass. The large seasonal seep area has been active for at least the memory of the present landowner, and water runs down the drainage and into the main creek. The concentration of lithic scatter sites around this area and the presence of the Goshen point at this site indicate that this probably has been an active spring for at least 11,000 years. Lateral slopes dropping into this northern tributary are relatively gentle but are very eroded.

Figure 2. Site area, looking southeast.

Artifacts of this large campsite are exposed on eroded slopes and deflated areas on and just off the broad bench crest. They are being exposed by erosion of the compact silty soil which underlies sandy deposits held in place with sod. Between large erosional bare patches, which provide excellent surface visibility and where most of the artifacts are being exposed, remnant humps on the north side of the ridge are held in place by a layer of short grass and prickly forb sod. Sage, prickly pear, rabbitbrush, and occasional yucca are scattered mostly off the crest. The flat ridgecrest has localized areas of ponded erosion, with lateral erosion around the edges of the crest. Sand deposits across the crest mostly are undisturbed, suggesting that the main portion of the site in this area is buried and intact. Across the site there is minimal natural pebble gravel, which is dominated by very fine ferrous sandstone, scoria, shale, and low-grade porcellanite, with some burned quartzitic material. Vantage is open but is oriented northwest down the creek, toward the Powder River breaks. Elevation is about 3870 feet.

SITE CONTENTS AND DESCRIPTION

Hearth remains and lithic artifacts were noted in an area about 100' North-South by 600' East-West, with the possibility that buried cultural materials and deposits extend out beyond those boundaries. Of the 26 lithic artifacts observed, ten tools were noted (Figures 3-4) and are described below. Details of unaltered flakes and chunks are listed in Table 1.

FEATURE 1, HEARTH

A small cluster of three burned quartzite pebbles and one dark gray scoria chunk are believed to be the remains of a small hearth. The three pieces of quartzite appear to be reddened from intensive burning. The feature covers an area only about 25 cm across. There is no charcoal or staining exposed on the surface, but no subsurface probing was done and the firepit may still be intact below the surface. It should be excavated as part of a larger block to determine its form, contents, and context.

ARTIFACT 1, GOSHEN POINT

The basal half of a very thin Goshen dart point is made of very fine-grained high quality semi-translucent brown chert. The dorsal face is partially covered with white patina. This is a wide lanceolate point with fairly straight, distally expanding lateral edges, dully pointed basal corners, and a fairly deeply concave base. Lateral and basal edges are not ground or smoothed. There is fine collateral flaking and very fine marginal retouch on both faces. The fragment measures 38 x 34 mm x 4 mm thick. It is estimated that the point originally was about 9-10 cm long when complete.

ARTIFACT 3, BLANK

A retouched initial decortication flake is of variable medium gray, medium brown, and purple fine-grained chert.

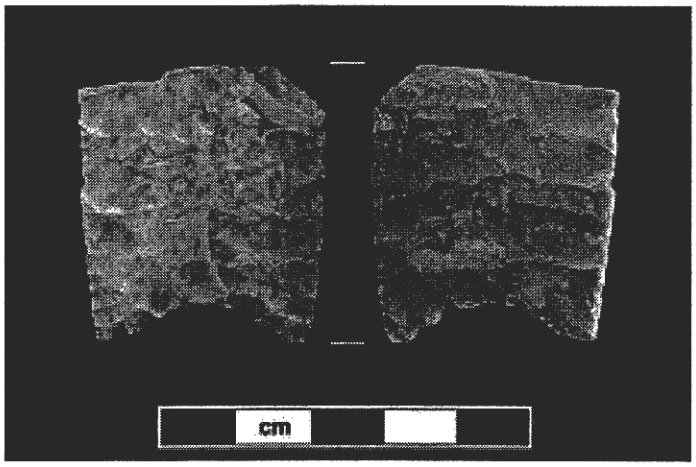

Figure 3. Artifact 1, dart point.

The dorsal face is mostly covered with cortex, although the three edges of the face have been very steeply beveled. The opposite or interior (ventral) face has been flaked around its subrectangular circumference. This perhaps was intended as an initial stage blank, although it could have been intended as a possible tool. It measures 50 x 40 mm x 14 mm thick.

ARTIFACT 6, END SCRAPER

An interior thinning flake is of light tan fine-grained chert with minute black dendritic inclusions. It is high-grade and minimally translucent. This is an expanding flake with a very small multi-faceted platform as if struck from a fairly thin biface. The expanding flake has been unifacially retouched on the straight lateral edges. The distal bit is highly rounded and somewhat irregular. Lateral bit corners are angular and pronounced. The flake is very thin, and all flaking is unifacial. The artifact is complete and measures 33 x 26 mm x 4 mm thick.

ARTIFACT 8, BIFACE

A small biface is of purplish very fine-grained smooth chert. This is a tear-dropped shaped biface with a highly rounded almost pointed proximal end and a dully pointed constricted distal portion. It has been highly bifacially flaked, and one narrow thinning flake scar runs all the way across one face. At least one face and parts of the other have been somewhat smoothed as if from use. It is possible that this originally was a functioning tool and not simply a preform. Thetool measures 43 x 30 mm x 7 mm thick.

ARTIFACT 9, GRAVER

A unifacially retouched flake is of purplish gray fine-grained chert with some brownish yellow near the exterior part of the original cobble. This core reduction flake has been unifacially retouched around its circumference. It does not appear to have functioned as a scraper but probably was a graver with a broad short chisel type point. The tool is complete and measures 37 x 40 mm x 9 mm thick.

ARTIFACT 10, END SCRAPER

A small end scraper is made of high quality somewhat semi-translucent dark brownish gray chert with some variegated flow patterns in the material. This is an expanding interior core reduction flake with a very small platform and greatly expanding lateral edges. The highly rounded distal bit has been steeply unifacially retouched. Lateral bit edges are highly rounded. The bit area has had a flake removed on the ventral face which produced a typical slight undercut. The bit edge is considerably rounded from use, and both the dorsal and ventral faces are somewhat polished from use. The artifact is complete and measures 42 x 30 mm x 7 mm thick.

ARTIFACT 18, SCRAPER

A small scraper is made of light to dark gray very high quality chert with a white cortex. It is a somewhat asymmetrical secondary core reduction flake, which expands considerably from a moderately small platform. The distal portion has been somewhat ventrally thinned to undercut the distal bit. Lateral edges and the entire rounded distal bit have been very finely and intensively unifacially retouched to form a scraper. The edge is still sharp, apparently from resharpening. Part of the distal face still has old flake scars from the somewhat discolored and smoothed original surface. This indicates that the dorsal face at one time was heavily smoothed and discolored from use and that most of that face has been revitalized through reshaping or resharpening. The scraper measures 39 x 33 mm x 11 mm thick.

ARTIFACT 23, SCRAPER

A scraper is made of fairly low-grade grayish purple porcellanite, as judged from the surface. A snap across the distal bit shows the interior material to be very high-grade and smooth, while the exterior is somewhat weathered and granular. It is assumed that when the flake was originally retouched and used the material was the exposed high quality characteristics of the interior part of the flake. This is an interior core reduction flake from a fairly high angle multi-faceted platform. The flake expands slightly, with straight lateral edges that are moderately steeply unifacially beveled. The lateral edges both coincide with stem like features that extend 27 mm from the base and then flare slightly outward in shoulder like proportions. From there distally the very slightly convex edges begin to constrict toward what is believed to have been a rounded distal bit. All flaking on the piece is unifacial. Alternatively, this could have functioned as a hafted point, knife, or scraper, with the hafting element approximately 30 mm long and the remainder of the piece about 30 mm long. The entire piece, therefore, when complete, was probably about 60 mm long. The remaining fragment measures 50 x 35 mm x 7 mm thick. Its overall shape similarity to Hell Gap points seems noteworthy.

ARTIFACT 24, BIFACE

A small biface is of grayish purple fine-grained high quality chert. The circular piece has been completely bifacially flaked around its circumference. Flaking is crude,

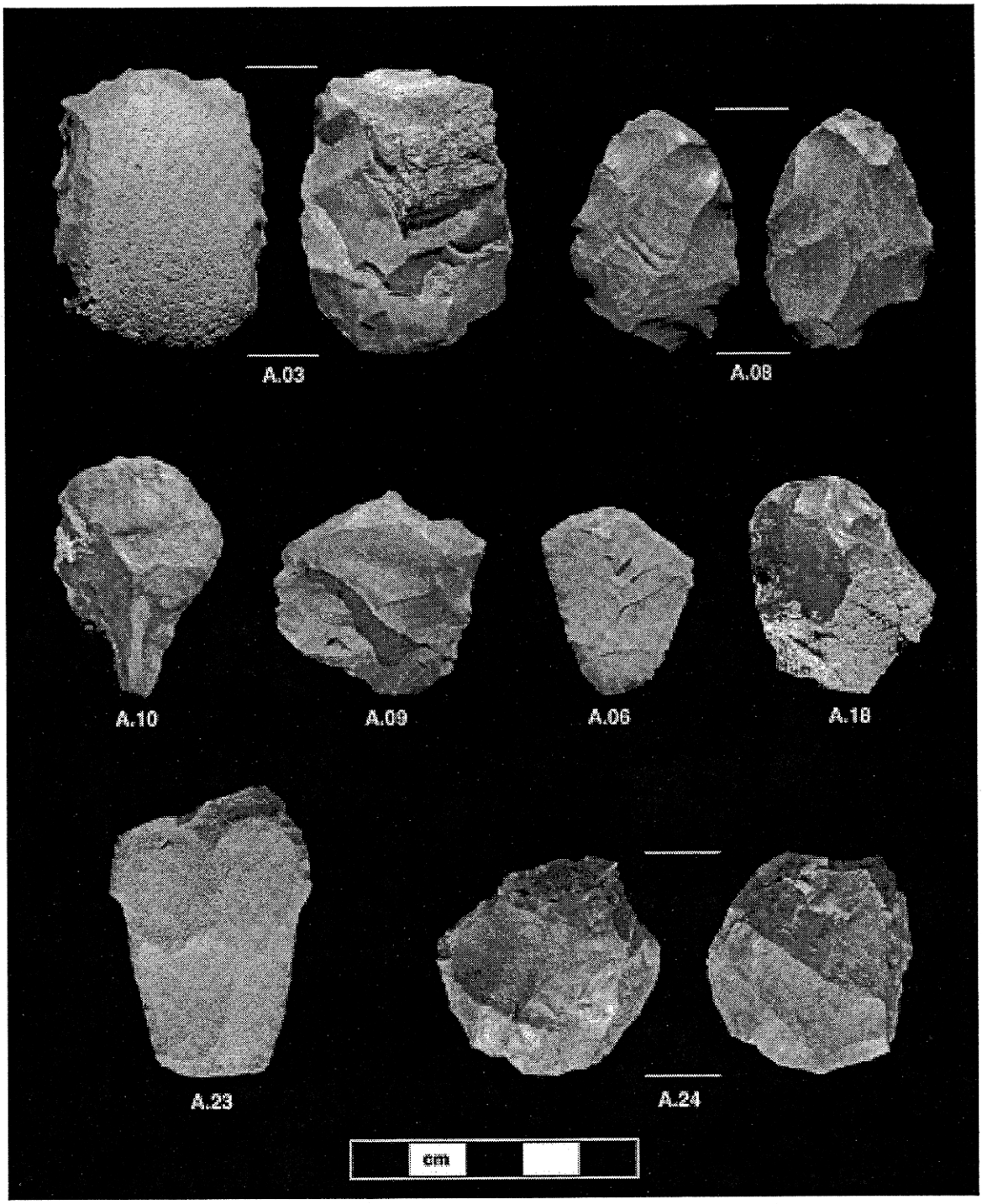

Figure 4. Other artifacts.

and there is no fine lateral retouch. It is not certain if this was a tool, but flakes mostly are fairly broad, expanding, and elongated. There is no evidence of use. The piece measures 40 x 38 mm x 10 mm thick.

DISCUSSION

The site is a Goshen period Paleoindian site, and everything seems to suggest it is a large, intact, single-component occupation area. At the time of this inventory, cultural remains were observed only in linear erosional areas along the edge of the crest, suggesting only a small portion of occupational debris has been exposed and most of the site is still intact under the grass-covered deposits to the south. The hearth and artifacts are exposed in somewhat deflated blow-out areas. It is estimated materials originated from just below the surface to about 20 cm deep. Deposits are probably even deeper on the crest to the south. Therefore, the erosional pattern, topography, and information from previously excavated Goshen age sites (Frison 1996) suggest the site area may be at least as large as 300' north-south, which would at least triple the size of the observed

ART #	MATERIAL	COLOR	L X W X TH MM	TECHNOLOGY
2	petrified wood	dark brownish yellow	* 20 x 20 x 5	interior
4	fine-grained chert	chocolate brown	* 50 x 40 x 14	interior
5	petrified wood	dark yellow	* 13 x 5 x 2	interior
7	very high grade non-local chert	semi-translucent brownish-gray with dark red dendritic inclusions	* 19 x 19 x 3	interior thinning
11	petrified wood	dark yellow	* 18 x 15 x 3	interior
12	low quality non-local porcellanite	grayish-purple with a reddish cortex	60 x 50 x 24	chunk
13	high quality chert	dark gray chert with some white patina	* 21 x 24 x 6	secondary decortication flake
14	fairly low quality chert	light to medium gray with granular cortex	50 x 26 x 22	chunk
15	very fine-grained chert	pinkish to purplish medium gray with a yellowish smooth cortex	38 x 24 x 12	chunk
16	very fine-grained chert	purplish gray	21 x 15 x 3	interior core reduction; very tiny heavily multi-faceted striking platform; from a fairly thin bifacial core, presumably an advanced stage blank or a low stage preform
17	somewhat granular, very low quality porcellanite, almost high quality scoria	light gray	* 32 x 17 x 6	initial decortication
19	very fine-grained chert	yellowish to grayish brown, from small pebble with a thick smooth fairly dark yellowish brown cortex	16 x 13 x 4	initial decortication
20	low quality petrified wood	light gray to white	* 20 x 23 x 5	exterior decortication
21	fairly fine-grained chert, somewhat granular, almost like quartzite	medium greenish-yellow from small pebble with a thick smooth yellowish-brown cortex	32 x 21 x 8	initial decortication
22	very fine-grained non-local chert	dark brownish red with black dendritic inclusions; originally yellowish brown, burned or heat-treated to dark red	* 26 x 14 x 5	interior
25	low quality porcellanite	high quality light gray interior; outer layer low quality light gray; surface oxidized rougher and coarser	* 17 x 23 x 5	interior core reduction; multifaceted platform with a highly battered edge
26	petrified wood	dark gray, with lighter color cortex	47 x 34 x 14	secondary decortication chunk

Table 1. Unaltered flakes and chunks. * = fragment.

area of exposed artifacts. The buried portion of the site almost certainly extends into the uneroded and undisturbed area on the higher crest of the spur.

Tools exposed at this time include a high quality chert Goshen dart point, two chert end scrapers, two additional scrapers (one chert, one porcellanite), two chert bifaces, and a chert graver. Flakes are chert (8), petrified wood (4), and porcellanite (2). The four chunks noted are chert (2), petrified wood (1), and porcellanite (1). Most materials probably were collected from gravels in the general vicinity of the Powder River, although the source for the gravels is not known. Cherty materials occur in rounded pebbles with a fairly thick and highly smoothed cortex. The high percentage of finished tools, the high quality of the chert, and the diversity of chert suggest all artifacts, including the Goshen point, are contemporary. Paleoindian period sites, in general, are known for their generally high tool:flake ratio and for their use of high quality raw materials (Frison 1996:212).

The single observed dart point is clearly within the morphological range of the Goshen type. Similar points have been reported from several sites across the Northwestern Plains and are known to date about 11,000 years ago (Frison 1991:25, 44-46, 52; 1996:8, 212). Other sites also contain similar kinds of end scrapers, other unifacially retouched pieces, gravers, and various bifaces and preforms. This site, then, seems to fit well with other Goshen sites and is representative of that cultural complex.

Thus, the site appears to be a relatively large, single episode campsite utilized about 11,000 years ago during the Goshen part of the Paleoindian period. Sites from that period are relatively rare, and the fact that this one appears to have such a large portion of the occupational area intact increases its importance immeasurably. If this is indeed a single component site, as suggested by the kinds and distribution of artifacts, then this would mean that all site characteristics and contents are directly and closely related and represent a single group of people at a single moment in time. Study of such sites, in aggregate and from constantly accumulating new information, such as this site, is essential for advances in

regional archeology and cultural history. The relation of this site to other nearby lithic scatter sites in immediately surrounding areas and extending northward down the east side of the main draw, particularly from the standpoint of an extended integrated community with dispersed associated outliers, may be attainable from additional work here and in surrounding sites. Because artifacts are being exposed in an erosional context, the site appears to have a potential for additional buried materials and possibly features, such as hearths, which could provide information on the use, function, absolute age, and archeological affiliation of the occupation, and its position within the region. Because of its potential to contribute additional research information, additional intensive study, in the form of extensive excavation, is recommended.

ACKNOWLEDGMENTS

We would like to thank Richard Taylor, Devon Energy Production Company, for the opportunity to conduct the survey that produced this site. Don Malli, owner of the property, allowed access and discussed this and other sites on the family ranch. The survey report (Greer and Greer 2002) and 48SH1162 site form, with more details (including site sketch and location map) are filed with the Wyoming SHPO Records Office. It is hoped that the Malli family will protect this site from disturbance and preserve it for future detailed, careful scientific investigation.

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Dr. Mavis Greer
Dr. John Greer
Greer Services
2599 S Paradise Dr
Casper, WY 82604 USA