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On the Cover:

Metal projectile point from 48CR301 See Eckles and Miller, this issue.

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PROJECTILE POINTS FROM THE GARRETT ALLEN (ELK MOUNTAIN) SITE, 48CR301

by
David G. Eckles
and
Mark E. Miller

The Garrett Allen (Elk Mountain) archaeological site is located in southeastern Carbon County, Wyoming at the northern end of the Medicine Bow Mountains and southern edge of the Hanna-Carbon Basin. It is within a homoclinal valley adjacent to the perennial Quealy Spring which forms an ephemeral drainage flowing north-northwest. The site is surrounded by Upper Cretaceous sedimentary rocks, primarily of the Pine Ridge Sandstone (Hayter 1983:5).

Previously published articles on the site have discussed the excavation history and chronology of the site (Eckles 2013), chipped stone raw materials and obsidian sourcing (Eckles and Guinard 2015), and research potential of the collection (Clauter 2013). The intent of this article is to more fully examine the chipped stone projectile points, with emphasis on the identified types as well as discussion of several unknown or questionable types.

Four hundred and forty-nine whole and fragmentary projectile points were recovered from the excavations, over half of which have sufficient attributes suggestive of a type. Several points were also found on the surface, including a Protohistoric metal point, Late Prehistoric side-notched, tri-notched, Rose Spring, Besant, corner-notched dart (Pelican Lake/Elko), and McKean types. Most points were found in excavated context and depth ranges below surface for the broad type categories (Table 1). Date ranges for the periods follow Frison (1991).

Overall, the sequence is what would be expected: as depth increases, the known age of the point types increases. Even so, there is some overlap in the elevations below surface of the broadly defined types (Table 2). This likely indicates some vertical displacement of artifacts, as well as the probability of recording error. Additionally, since all depth

measurements were taken from the surface of each unit, it is likely artifacts from the same elevation in one part of the site may not be of the same age in another part of the site. No well-defined, well dated components have been established as a result of the original excavations.

PROTOHISTORIC POINT

One metal projectile point (Figure 1) was recovered from the site's surface. It appears to have been manufactured from a piece of thin iron strap metal such as a barrel band. It is roughly lanceolate with a relatively long, but thin, stem.

LATE LATE PREHISTORIC TO PROTOHISTORIC

Three arrow points from the later part of the Late Prehistoric period were found in the same component. The points include variants of the Plains side-notched (PLSN), Tri-notched (TRI) and unnotched triangular (UNN) types. The distinctive Shoshone Knife (SHKN) is sometimes found in these components. Identification of these types was based on Kehoe (1966), Frison (1971; 1991) and Kornfeld et al. (2010). The Plains side-notched points and Tri-notched points are similar to some small arrow points from sites in the Great Basin often grouped into what is termed the Desert side-notched cluster (Justice 2002:379-381). The term Cottonwood is also used as a type name for unnotched triangular points in the Great Basin (Justice 2002:367-369).

Larson and Kornfeld (1994) have referred to this group of diagnostics as the "Shoshonean Suite" of artifacts common in Wyoming sites dating from about 650 to 100 radiocarbon years before present. This suite includes the above diagnostics as well as ceramics and sometimes steatite artifacts. Dated

Table 1: Diagnostic Chipped Stone Projectile Points Identified from 48CR301.

Time Period	Type	Selected Reference	Depth
Protohistoric	Metal point		0 in.
late Late Prehistoric	Plains side-notched (PSN) Tri-notched (TRN) Unnotched triangular (UNN) Shoshone Knife (SHKN)	Kehoe (1966), Frison (1991), Kornfeld et al. (2010)	0-18 in. 0-12 in. 0-12 in. 0-8 in.
middle Late Prehistoric	Prairie Side-notched (PRSN)	Kehoe (1966)	12-18 in.
early Late Prehistoric to late Late Archaic	Rose Spring Other corner-notched (CN) arrow	Lanning (1963), Justice (2002)	12-24 in. 10-18 in.
Late Archaic	Besant	Wettlaufer (1955), Hughes (1981), Frison (1991)	16-32 in.
early Late Archaic to late Middle Archaic	Pelican Lake/Elko corner-notched dart (PLK/ELKO)	Wettlaufer (1955), Eakin (1989), Thompson and Pastor (1995)	18-68 in.
Middle Archaic	McKean stemmed	Mulloy (1955), Frison (1991)	46-58 in.

Table 2: Typed Projectile Points from Excavations by Depth in inches.

Depth inches	PLSN UNN	TRI	PRSN	Rose Spring	Other CN arrow	Besant	PLK/ ELKO	McKean	Radiocarbon Dates, Hayter (1981)
0-6	39								510 B.P.
7-12	80		4	2	1				630 B.P.
13-18	6		4	3	10	5	3		920 B.P.
19-24				6	1	7	13		1670 B.P.
25-30						3	9		
31-36						1	17		
37-42							10		
43-48							21	2	2363 B.P.
49-54							6		
55-60							7	3	3120 B.P.
61-68							1		
Totals	125		8	11	12	16	87	5	

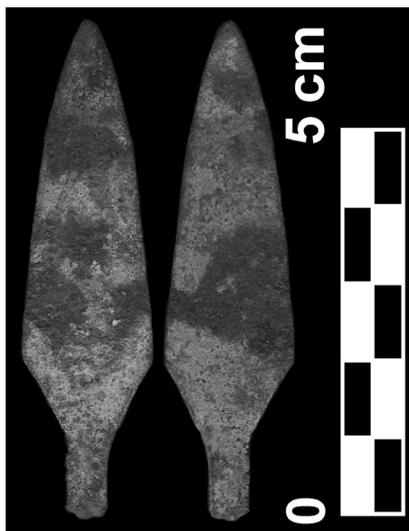


Figure 1: Metal projectile point from 48CR301.

sites in Wyoming with components in which these chipped stone diagnostics occur are presented (Table 3). These data indicate widespread representation of Shoshonean Suite artifacts throughout Wyoming.

The Garrett Allen site contains several Shoshonean Suite diagnostics including a Shoshone Knife, Plains or Desert side-notched, tri-notched, and unnotched triangular points. Most of these diagnostics were recovered from 0-12 inches below surface across the site. Probable Late Prehistoric ceramics and one steatite pipe bowl fragment were also found within that depth increment (Eckles 2013). In addition, several large spalls from granite and metaquartzite cobbles were found at this depth, all of which show signs of use wear. These artifacts may be Teshoa Knives, another potentially diagnostic

Table 3: Selected Dated Sites in Wyoming with Shoshonean Suite Diagnostics.

Site	SHKN	P L S N Point	TRN Point	UNN Point	Radiocarbon (and other) Years B. P.	Location	Reference
48AB301	Yes	Yes	Yes	Yes	570+/-110	SE WY	Zeimens 1975
48CR301	Yes	Yes	Yes	Yes	510+/-110, 630+/-100	SE WY	Eckles 2013
48CR303	Yes	Yes	Yes	Yes	340-430 B.P. (obsidian dates)	South-central WY	Miller 1981
48FR5891	Yes	Yes	Yes	Yes	130+/-40, 420+/-50	Central WY	Adams 2010, Morgan et al. 2012
48NA202	?	Yes	Yes	Yes	ca. 100-250 years B.P.*	Central WY	Buff 1983, McKee 1988
48NA969	No	Yes	Yes	Yes	240+/-70	Central WY	Eckles et al. 2008
48NA1425	No	Yes	?	Yes	580+/-60	Central WY	Martin 2000
48SH313	Yes	Yes	Yes	Yes	450+/-110, 530+/-110	North-central WY	Frison et al. 1978
48JO311	Yes	Yes	Yes	Yes	340+/-100, 370+/-100	North-central WY	Frison 1967
48LN2041	Yes	No	Yes	No	100+/-30, 150+/-30, 160+/-30	SW WY	Pool et al. 2012 Pool 2016
48LN317	Yes	Yes	Yes	Yes	300+/-50	SW WY	McGuire 1977
48SW304	Yes	Yes	Yes	Yes	230+/-100	SW WY	Frison 1971
48SW1217	No	Yes	Yes	Yes	625+/-50, 645+/-45	SW WY	Lubinski et al. 2007
48SW5176	?	Yes	Yes	Yes	500+/-50, 570+/-50	SW WY	Hoefer et al. 1992
SW336	No	Yes	?	?	100-150 years B.P.***	SW WY	Gardner 2013
48PA201	No	Yes	Yes	Yes	370+/-90	NW WY	Husted 1978
48PA563	Yes	Yes	Yes	Yes	380+/-100	NW WY	Kornfeld et al. 2010
48PA2665, 48PA2706	Yes	No	Yes	Yes	ca. 100-250 years B.P.**	NW WY	Eakin 2005, Scheiber and Finley 2010
48TE576	No	No	Yes	?	ca. 133-220 years B.P.****	NW WY	Wright 1983
24BH1001	Yes?	Yes	Yes	No	480+/-100	South-central MT	Fry 1971

*Age estimate based on association with metal artifacts and horse bone.

**Age estimate based on association with metal artifacts and trade beads.

*** Age estimate based on association with metal point, musket ball and percussion caps, and post 1790 A.D. historic ceramics.

**** Includes obsidian hydration date and radiocarbon date reported as less than 220 radiocarbon years B.P.

artifact within the Shoshonean Suite (Eakin 2005).

Radiocarbon assays from the excavations at the 0 to 12 inch depth increment include one date of 510±110 B. P. and one date of 630±100 B. P. (see Eckles 2013). As mentioned above, there are no well-defined components represented by the Shoshonean Suite of artifacts and the depths at which these artifacts occur may represent separate occupations spanning several hundred years.

Examples of side-notched arrow points are

presented (Figure 2). The top row shows examples of side-notched points with asymmetrical bases and what appears to be a spur on one side of the base. The second row shows points with generally symmetrical concave bases without a spur, and the third row shows points with straight and generally symmetrical bases. The bottom row shows three points with an extra notch (Figure 2p-r) and one triangular point with deep side notches, short blade and wide base (Figure 2s).

Plains side-notched points with a single spur

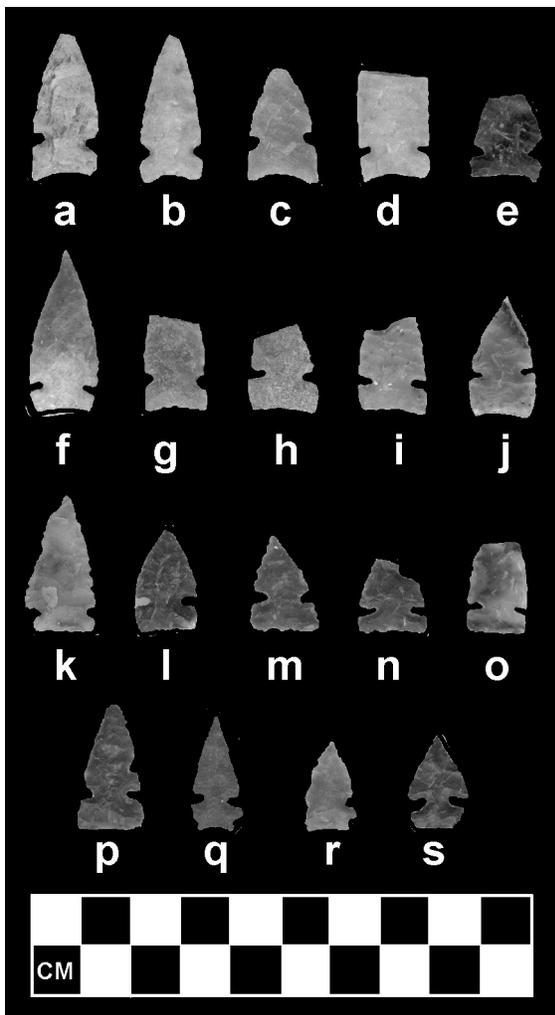


Figure 2: Examples of side-notched arrow points from 48CR301.

have been found in western Canada (e.g., Matson and Magne 2007), Central Plains sites (e.g., Gunnerson 1960), the Colorado high country (Gilmore and Larmore 2008) and sites in central Wyoming (e.g., Eckles et al. 2008) and south-central Wyoming (e.g., Garrett Allen site, this article). Ormerod (2004:82) has argued this is a diagnostic trait of Athapaskan groups migrating from Canada. Other common Athapaskan traits include asymmetrical bases, including examples with spurs, but few points with basal notches (Matson and Magne 2007).

The Dismal River complex originally defined from sites in western Nebraska and Kansas is generally considered a manifestation of Plains Apachean (Athapaskan) culture (Gunnerson 1960; Tucker et al. 2005:8). It was originally thought to a Protohistoric development, but recent research in Colorado

(Brunswig 2012) has suggested an earlier entry into the Wyoming and Colorado high country. The Dismal River complex can now be dated to about 200+ to 600+ years before present (Gilmore and Larmore 2008:2). Its appearance in the Central Plains has been argued as a representation of the Athapaskan migration from western Canada onto the Plains and Rocky Mountains. On the other hand, given the variation in Dismal River sites and artifacts, Gulley (2000) has argued this complex represents the mingling of many groups, possibly including Apachean groups. Matson and Magne (2007) have also argued Dismal River does not represent Apachean groups.

Recent research in the Colorado Front Range has indicated the presence of Dismal River assemblages referred to as the Western Dismal River. These are groups of mobile hunter-foragers with a known range in eastern Colorado and southeastern Wyoming. This is in contrast to groups of semi-sedentary, quasi-horticultural groups in western Nebraska and Kansas called the Eastern Dismal River (Tucker et al. 2005:8). Brunswig (2012) has indicated the boundary of the Western Dismal River to include the eastern Colorado plains west to the Continental Divide, and Apachean groups were present in the High Plains and Rocky Mountains of Colorado and Wyoming from about 400-650 years ago.

The Dismal River complex has all three of the arrow point styles defined as part of Shoshonean Suite, minus perhaps the Shoshone Knife, but plus the spurred side-notched point. The Garrett Allen site late Late Prehistoric arrow points are similar to both Shoshonean Suite and Dismal River points.

Raw material frequencies among these arrow points are presented (Table 4). What is interesting here is most (76 percent) side-notched points with a spur are made on materials from eastern Wyoming and northeastern Colorado. The concave base without spur, straight base and unnotched points are represented by raw materials from more diverse source areas in Wyoming and surrounding states. The predominance of eastern Wyoming source areas among the spurred points might lend some credence to the idea of a regional group (Athapaskan?) having interacted with other groups at the Garrett Allen site.

The points with concave or straight bases are common within the Shoshonean Suite and common in sites assigned to the Dismal River complex

Table 4: Proportion and Number of PLSN and UNN Points by Raw Material Source. *

Point Variety	Source area	EC WY	NE WY	SE WY NE CO	SW/SC WY	NW WY Obsidian	Cobbles	Total NISP
Concave asymmetrical base with spur		54.2 (11)	9.5 (2)	14.2 (3)	4.7 (1)	0.0	19.1 (4)	21
Concave base without spur		21.1 (8)	0.0	7.9 (3)	34.2 (13)	0.0	36.8 (14)	38
Straight base		24.1 (7)	0.0	13.8 (4)	20.7 (6)	3.4 (1)	37.9 (11)	29
Unnotched triangular		25.0 (9)	2.8 (1)	25.0 (9)	19.4 (7)	0.0	27.8 (10)	36

*Includes 5 "tiny" reworked points; does not include tri-notched or double side-notched points

(Gunnerson 1960). Tri-notched points (Figure 3) have been found in association with side-notched and unnotched points in several sites. They are particularly common in the Great Basin and are considered part of the Desert Side-notched Cluster (Justice 2002:379-402), but also appear with some frequency in Wyoming sites. Only four were recovered from the Garrett Allen site (Figure 3). Unnotched triangular (Cottonwood) points (Figure 4) are often found in association with side-notched and tri-notched points in Wyoming sites (see Table 3). A few of these are comparatively thin and long (Figure 4h-j) and could have been intended for use other than projectile points.

There are three examples of arrow points with multiple side notches in the Garrett Allen collection (Figure 2p-r) found from 8-12 inches below surface. Such double side-notched points are extremely rare in Wyoming. They have been found in another site in Wyoming, at 48LA304 near Pine Bluffs, Wyoming (Page 2007, and personal communication 2016).

Similar double side-notched points have been found in the Central Plains in sites of the Central Plains (e.g., Roper 2006:114) and Dismal River

(e.g., Gunnerson 1960) traditions. Examples in these publications are generally longer and wider compared with Garrett Allen specimens. Points with multiple side notches occur with some frequency in the Great Basin and are considered part of the Desert Side-notched Cluster of points (Justice (2002:380-381). The Garrett Allen specimens appear to be more similar to those found in Central Plains tradition contexts. The Central Plains tradition dates to about 550-1050 years before present (Roper 2006:105)

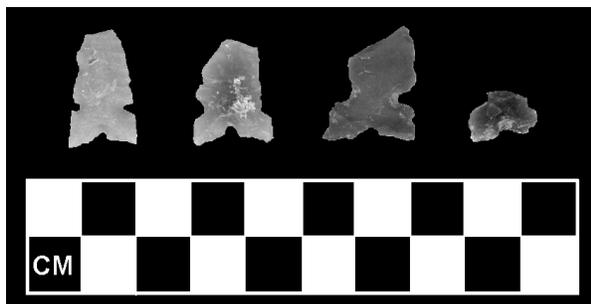


Figure 3: Tri-notched arrow points from 48CR301.

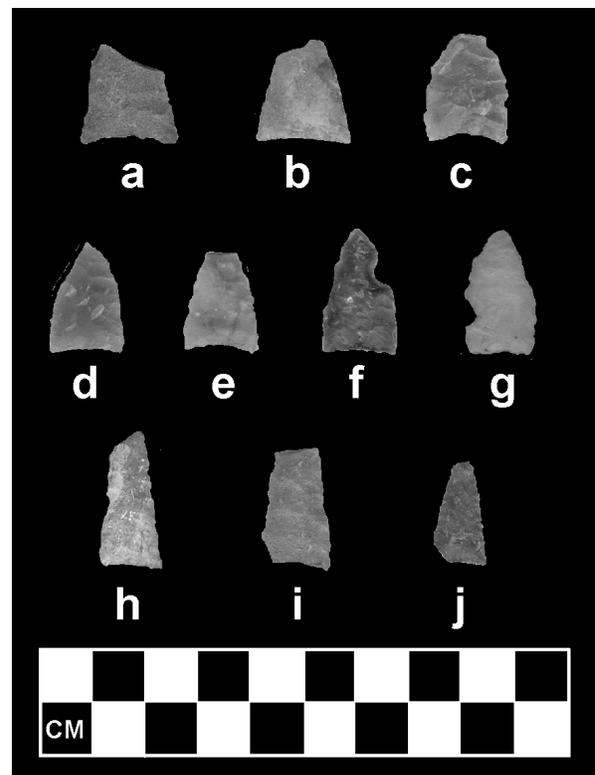


Figure 4: Examples of unnotched triangular arrow points from 48CR301.

and Dismal River dates to the later part of the Late Prehistoric period (see above).

One final unusual arrow point from the collection is shown (Figure 2s). This is a small triangular point with deep side notches and a large base. It was found on the surface, and is made from dark brown chert most likely from the Eocene Bridger formation of southwestern Wyoming. It does not appear to have been reduced in size through reworking or damaged from use. This specimen has some similarities to the Bear River Side-notched point found in northern Utah Fremont sites (see Holmer 1986:107; Holmer and Weder 1980:58 and 60; Justice 2002:383 and 398). Dating for this diagnostic is between 600-1200 years ago (Justice 2002:398).

The distinctive Shoshone Knife (Figure 5) was first proposed as a time sensitive diagnostic based on research of the Eden-Farson site, a late Late Prehistoric village and pronghorn processing site in southwestern Wyoming (Frison 1971). This artifact also co-occurs with some frequency in sites with the side-notched, tri-notched and unnotched arrow points dating to about 650 to 100 years before present (see Table 3).

The Garrett Allen collection also contains 23 “tiny” or miniature projectile points (Figure 6). Most of these points were found from 0-12 inches below surface with only two from a depth of 36 inches below surface (Figure 6e-f). Five appear to be reworked late Late Prehistoric side notched points (Figure 6i-k), and five are irregular in shape made

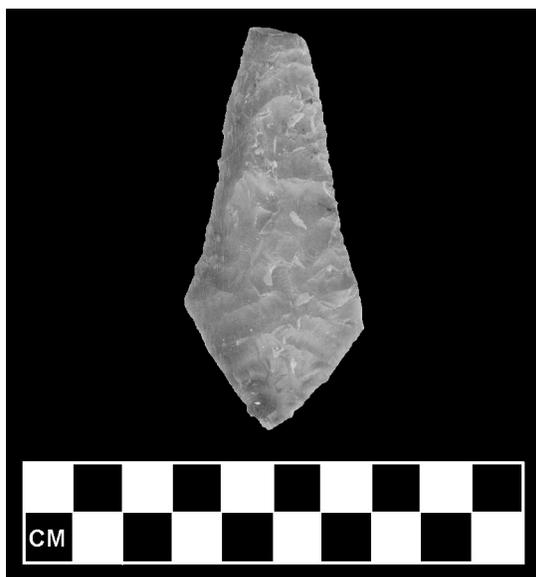


Figure 5: Shoshone Knife from 48CR301.

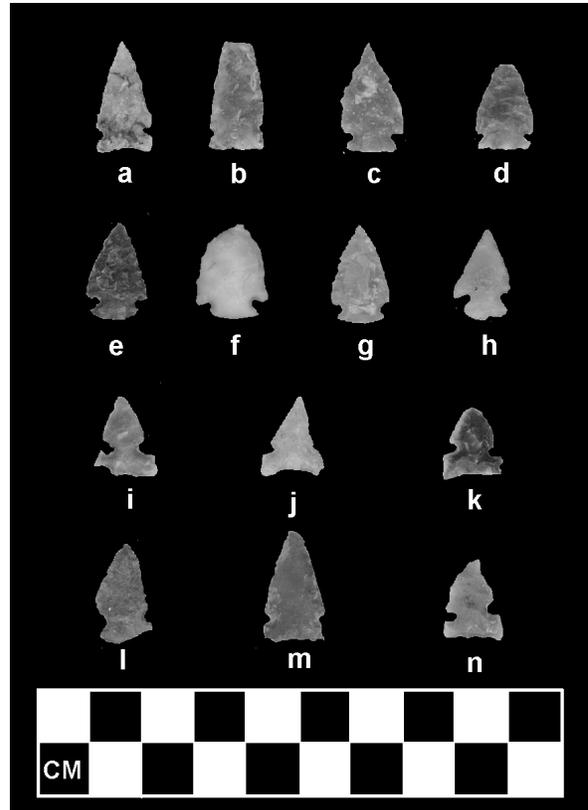


Figure 6: Examples of miniature projectile points from 48CR301.

on flakes (Figure 6m-o). Thirteen are rather well made, complete and apparently unused miniature side-notched and corner-notched projectile points (Figure 6a-h), and include two of the double side-notched points (Figure 2q-r).

Dawe (1997) has argued tiny points, especially the poorly made varieties on flakes, are toys. Such toys, including a point still hafted to its miniature shaft and a miniature bow, were recovered from Mummy Cave in the Late Prehistoric Rose Spring component (Husted and Edgar 2002:75-76).

Another interesting possibility is well made miniature artifacts, stylistically reflecting their larger counterparts, were intended for ritual use. Claassen (2015:240-241) has argued miniature artifacts, including projectile points, were sometimes used as offerings to the spirits in several sites in eastern North America. Miniature points have been reported from Paleoindian (Clovis and Folsom) sites in the western plains (Boldurain and Cotter 1999:42) and the upper Midwest and northeastern woodlands (Ellis 1994). They have been found at a Besant aged site in central Wyoming (Frison 1991:106), the Avonlea

component at the Beehive site in north-central Wyoming (Hall 1998:16), and the late Late Prehistoric Eden-Farson site in southwestern Wyoming (Frison 1971), among others. Based on the spatial distribution of miniature artifacts in a Paleoindian site in Ontario, Ellis (1994:264) has argued these artifacts functioned in the ideotechnic sphere (shaman related) and were not children's toys.

MIDDLE LATE PREHISTORIC

There are eight examples of probable Prairie side-notched points in the collection, all of which are broken or reworked fragments (Figure 7). These points were found from 12-18 inches below surface in several units across the site. One date of 920±110 B. P. was returned from a sample extracted from a unit at 17 inches below surface (Eckles 2013).

Following Kehoe (1966), the Prairie side-notched (PRSN) type is a typically small point with relatively shallow side notches which are generally low to the base. The base is generally straight and the shoulders rounded. They are generally somewhat longer and thicker than the Plains side-notched varieties. Dating is between 650-1250 years ago. In a recent review of Prairie side-notched and Plains side-notched distinctions, Peck and Ives (2001) have argued for greater inclusion of the variability within these point types, suggesting Prairie side-notched be referred to as the Cayley Series and the Plains side-notched as the Mortlach Group, at least for the northwestern high plains.

There are several other sites in Wyoming containing what appear to be Prairie Side-notched points. There are several points at the Wardell side similar to Prairie Side-notched and co-occur with Avonlea points (Frison 1973). Smith (1990) has identified Prairie side-notched points at the White

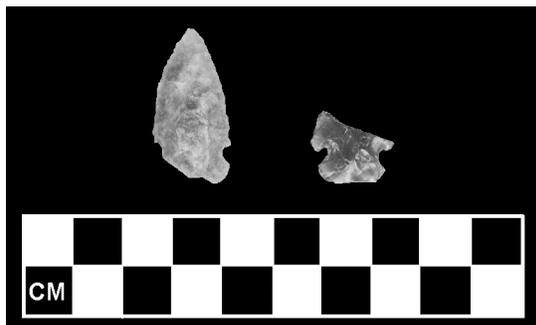


Figure 7: Examples of probable Prairie side-notched points from 48CR301.

Fish site in southwestern Wyoming. There are several examples of this point type at the Maxon Ranch site (Harrell and McKern 1986), Taliaferro site (Smith and Creasman 1988), and the Barnes site bison jump (McKern 1995), also in southwestern Wyoming.

**LATE LATE ARCHAIC TO EARLY LATE PREHISTORIC
ROSE SPRING**

The Rose Spring corner-notched arrow point type was named for the Rose Spring site in southeastern California (Lanning 1963). Rose Spring points are slender triangular corner-notched points with stems which are parallel-sided or expand toward the base (Holmer and Weder 1980:56-59). The most common Wyoming variant has an expanding stem with a rounded convex base (Figure 8a). In the Great Basin, Rose Spring replaces Elko dart points and precedes the development of Desert Side-notched and Cottonwood unnotched arrow points (Justice 2002:320-321). It is thought Rose Spring represents the first development of bow and arrow technology in the Intermountain West. Dating of Rose Spring has generally ranged from about 650-1650 years before present (Justice 2002:321). Earlier dated components with unquestionable Rose Spring points have been reported from southeastern Utah

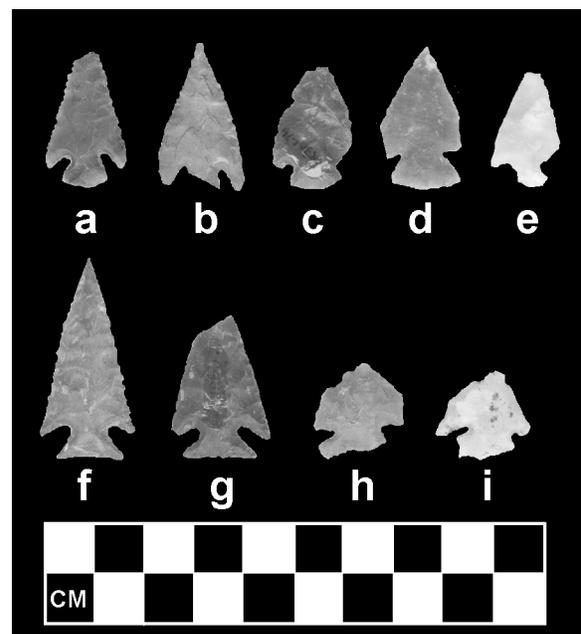


Figure 8: Examples of corner-notched arrow points from 48CR301.

(Geib and Bungart 1989) with radiocarbon dates in the 1800-1900 B. P. range.

Some researchers have combined Eastgate projectile points (Thomas 1981) with Rose Spring to describe a series or cluster called Rosegate. Eastgate points typically have larger more prominent expanding barbs and a tendency for straight stems (Justice 2002:324). Most Wyoming points which could be considered part of the Rosegate series are more typical of the Rose Spring points illustrated here.

At the Garrett Allen site, Rose Spring points were found from 12-24 inches below surface. Based on the existing radiocarbon dates, a possible bracket from 920±100 B. P. to 1670±120 B. P. could encompass these points (Figures 8a-c and 8e). Interestingly, nine of the eleven Rose Spring points from the site are made on materials found in south-central and southwestern Wyoming, with one made of jasper and one from a local chert cobble.

In Wyoming, Rose Spring points have been found in a large number of sites, especially in the southwestern counties (Sweetwater, Lincoln, Uinta, Sublette) (e.g., Thompson et al. 2000:466-467), with fewer sites in the south-central, southeastern, central, north-central, and northwestern portions of the state (Table 5). Few Rose Spring points are known from eastern Wyoming, either as surface finds or in dated contexts. Based on these data, sites with Rose Spring points in Wyoming date from about 800 to over 1800 radiocarbon years before present, with a peak range from about 1100 to 1500 radiocarbon years before present.

OTHER CORNER-NOTCHED ARROW POINTS, WOODLAND

One specimen (Figure 8d) may not be an example of the Rose Spring/Rosegate series given its wide base. This point more closely resembles

Table 5: Selected Sites in Wyoming with Rose Spring Points.

Site	Site Name	Radiocarbon Years B. P.	Location	Reference
48AB459	Mountain Meadow Ranch burial	Undated with multiple points associated	SE Wyoming	Truesdale and Gill 1994
48CR997	Bates Hole	1060+/-100 to 1370+/-110	Central Wyoming	Moe and Todd 1982
48CR3595	Robbers Gulch burial	Undated with multiple points in bone	SC Wyoming	Gill 2010
48CR4114	Sheehan	1190+/-60 to 1440+/-90	SC Wyoming	Bower et al. 1986
48SW270		1210+/-90 to 1460+/-90	SW Wyoming	Smith et al. 1995
48SW550	Two Knob Hill	1660+/-80 to 1680+/-100	SW Wyoming	Darlington et al. 2004
48SW1090	Raptor	1140+/-70 to 1370+/-40	SW Wyoming	Lubinski 2003
48SW5057	Buffalo Hump	1250+/-60 to 1480+/-60	SC Wyoming	Harrell 1987
48SW5649		1400+/-70 to 1520+/-60	SW Wyoming	McKibbin et al. 1989
48SW6523		1630+/-70	SW Wyoming	Swenson 1986
48SW7101	Bairoil burial	1060+/-90, one point in bone	SC Wyoming	Gill 2010, Shields et al. 1989
48SW13490	Depression	810+/-60 to 910+/-40	SW Wyoming	Buenger et al. 2007
48LN373		1030+/-80 to 1640+/-60	SW Wyoming	Wheeler et al. 1986
48LN1296	Camp and two burials	980+/-70 to 1710+/-50	SW Wyoming	Wheeler et al. 1986, Gillam 1989
48LN1468	Taliaferro	960+/-60 to 1500+/-70	SW Wyoming	Smith and Creasman 1987
48LN2068	Pescadero	1150+/-100 to 1880+/-130	SW Wyoming	McKibbin 1995
48UT35	Oyster Ridge	1350+/-60	SW Wyoming	Zier 1982
48UT199		1320+/-60 to 1490+/-60	SW Wyoming	Smith 1992
48UT920		1650+/-60	SW Wyoming	Latady 1989
48SU1042	Stewart Flat	1050+/-50 to 1300+/-70	West-central Wyoming	Hoefer 1991
48PA201	Mummy Cave	1230+/-110	NW Wyoming	Husted 1978

corner-notched arrow points found with Woodland components in central and eastern Colorado which co-occur with cord-marked ceramics (see e.g., Breternitz 1971, Gilmore and Larmore 2003, Nelson 1971). Cord-marked pottery fragments were recovered in the upper 24 inches of the Garrett Allen site (Eckles 2013), but a clear association with any particular point cannot be established.

Of the seven probable Woodland examples from the site, two are from dendritic agates (east-central Wyoming), one from Spanish Diggings orthoquartzite (east-central Wyoming), one from Flattop chalcedony (northeast Colorado) and three from local chert and chalcedony cobbles.

There are two unusual, apparently asymmetrical small, triangular arrow points from the collection (Figure 8h-i) found at 18 inches below surface. Both appear to be broken or perhaps reworked. The blades are wide and deep corner notches have produced moderate to prominent barbs. These specimens are somewhat similar to examples of the Parker point series referenced from the LoDaisKa site near Denver (Irwin and Irwin 1959) and Magic Mountain also near Denver (Irwin-Williams and Irwin 1966). Examples of this type from these sites are also illustrated in Reeves (1983:339). There are also unnamed asymmetrical arrow points from the LoDaisKa site (Irwin and Irwin 1959:36) with some similarities with these Garrett Allen specimens. If these two points are representative of a type, it is not a common one in Wyoming.

UNCLASSIFIED CORNER-NOTCHED ARROW POINTS

There are three examples (Figure 8f-g) of triangular corner notched arrow points which have similarities to those found at the Beehive site in north-central Wyoming (Frison 1991:113; Hall 1998), and, at the same time, similarities to points within the Rose Spring/Rosegate series. Radiocarbon dating of the Beehive site returned a date of 1400±100 B. P. (Frison 1991:35). Similar points are rare in Wyoming and tend to be found in the south-central and southwestern basins, sometimes co-occurring with Rose Spring/Rosegate diagnostics. Whether these are a separate type or a variant of the Rose Spring/Rosegate series or Avonlea series in Wyoming is not clear. As originally reported in Eckles (2013), these three points were assigned to

the Beehive Avonlea type, but the designation is now considered uncertain.

LATE ARCHAIC

Seventeen projectile point fragments with attributes suggestive of the Besant type were found at the Garrett Allen site from 16-36 inches below surface. One radiocarbon date of 1670±120 B.P. was returned on charcoal from a hearth at 22 inches before present. Another date of 2363±30 B.P. was returned on bulk charcoal from a unit at a depth of 44-48 inches below surface (Eckles 2013). The Garrett Allen Besant diagnostics could date before 2363 B.P with a possible terminal date of 1670 B.P. The age range for Besant in Wyoming is thought to from about 1400-2000 B. P., with most dating from about 1600-1900 B.P. (Eckles et al. 2012). Dates exceeding 2300 B. P. appear to be too early for Besant occupations in Wyoming (Davis 1992).

The distinctive Besant point was first described by Wettlaufer (1955) at the Mortlach site in southern Saskatchewan. It has since been recognized in several Northern Plains components, from south-central Canada, the Dakotas, Montana, Wyoming and possibly Nebraska, Kansas and northeastern Colorado (Hughes 1981:23). Besant points are typically lanceolate side-notched projectile points with straight to slightly convex bases. In general, they have convex body edges with sharp to rounded shoulders (Reeves 1983:42). Slightly concave bases are present and a few specimens exhibit a deeply concave base. Side notches are usually twice as broad as they are deep (Epp and Dyke 1983:115) and are situated low to the base. Length ranges from just under 30 mm to just over 80 mm, width from 18-25 mm, basal width from 10-23 mm, and hafting distance across the neck from 10-20 mm (see Epp and Dyke 1983:115; Hughes 1981:77). All of the Besant point fragments from the Garrett Allen site fall within these ranges, with most in the upper part of the ranges (Figure 9).

Sites with dated Besant/Woodland components in Wyoming are located in the eastern half of the state. They occur in the Powder River Basin of northeastern Wyoming (Campbell and Johnson counties), the Laramie Basin (Albany County), Shirley Basin (Carbon County) of southeastern Wyoming, and the Denver-Julesburg Basin and Hartville Uplift of east-central Wyoming (Platte and

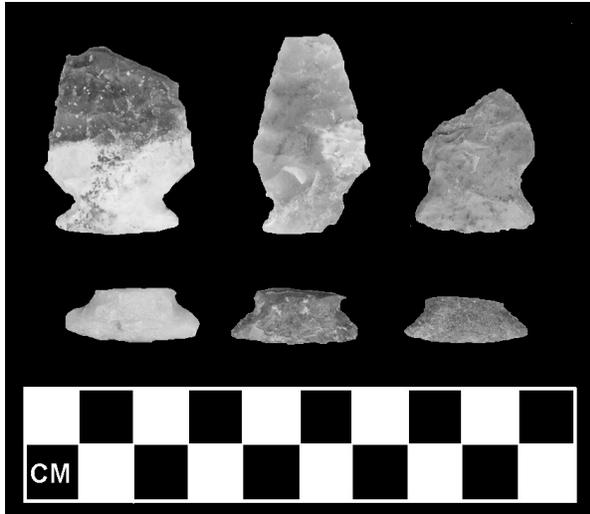


Figure 9: Examples of probable Besant points from 48CR301.

Goshen counties). Two sites in Natrona County are in the central portion of the state and may represent the westernmost presence of Besant in Wyoming. The Butler-Rissler site is located southwest of Casper on the North Platte River and the Cedar Gap site is located at the southern end of the Bighorn Mountains. Surface indications of Besant points and Woodland ceramics indicate a similar pattern with most artifacts identified as Besant/Woodland occurring in northeastern, southeastern and east-central Wyoming (Eckles et al. 2012:45).

Besant sites near the Garrett Allen site include the Joe Miller site (Burnett et al. 2008), Benick Ranch (Davis 1992), Willow Springs (Bupp 1981) in Albany County, and the Muddy Creek sites (Reher 1987), almost due north of the Garrett Allen site in Carbon County.

LATE MIDDLE ARCHAIC TO LATE LATE ARCHAIC

Toward the end of the Middle Archaic period and throughout the Late Archaic period, triangular corner-notched dart points are quite common in Wyoming sites. Many of these are similar to the Pelican Lake type from the Mortlach site in Saskatchewan (Wettlaufer 1955). Pelican Lake has entered the Wyoming literature as a time-sensitive diagnostic (Frison 1991:103). As more corner-notched dart points have been documented from dated components, particularly in the basin areas of southwestern Wyoming, some researchers have

preferred to use the term Elko corner-notched for similar point styles. Elko corner-notched are well known from the Great Basin and vary greatly in terms of height, width, basal attributes, degree of notching depth, shoulder and barb configuration (Justice 2002:310-311).

Thompson and Pastor (1995:47) have commented on the variation in corner-notched dart points:

... Elko series points from the Great Basin span several thousand years during the Archaic (Heizer and Hester 1978:160), while similar Pelican Lake points from the Northwest Plains occur between ca. 3000 and 1500 years BP (Reeves 1983:80, 135). Consequently, chronological placement of the large corner-notched points found in the Wyoming Basin is tenuous, and they are often referred to as Elko/Pelican Lake to denote their uncertain cultural derivation. Research conducted by AS-WWC has failed to produce any definitive stylistic variants that can be related to specific time periods within the Late Archaic period (Carmody 1989).

Corner-notched dart points from the Garrett Allen site were recovered from 24-68 inches below surface across the site. Based on the radiocarbon dates from 22 to 56 inches, the time span possibly included here could range from slightly before 3120 to about 1670 radiocarbon years before present. Examples are presented (Figure 10) arranged by depth increments of six inches. As can be seen, there is considerable variation throughout the sample and within the depth increments. There does not appear to be any trend over the possible time frame indicated by the depths at which these points were recovered as nearly all the variants occur in all the depth increments.

With this said, there may be regional differences between Pelican Lake and Elko points which can be distinguished. Pelican Lake points were first proposed by Wettlaufer (1955) from the Mortlach and Long Creek sites (Wettlaufer and Mayer-Oakes 1960) in southern Saskatchewan, Canada. Reeves (1983) discusses the Pelican Lake type at length, arguing for regional variant in northeastern and north-central Wyoming (generally longer speci-

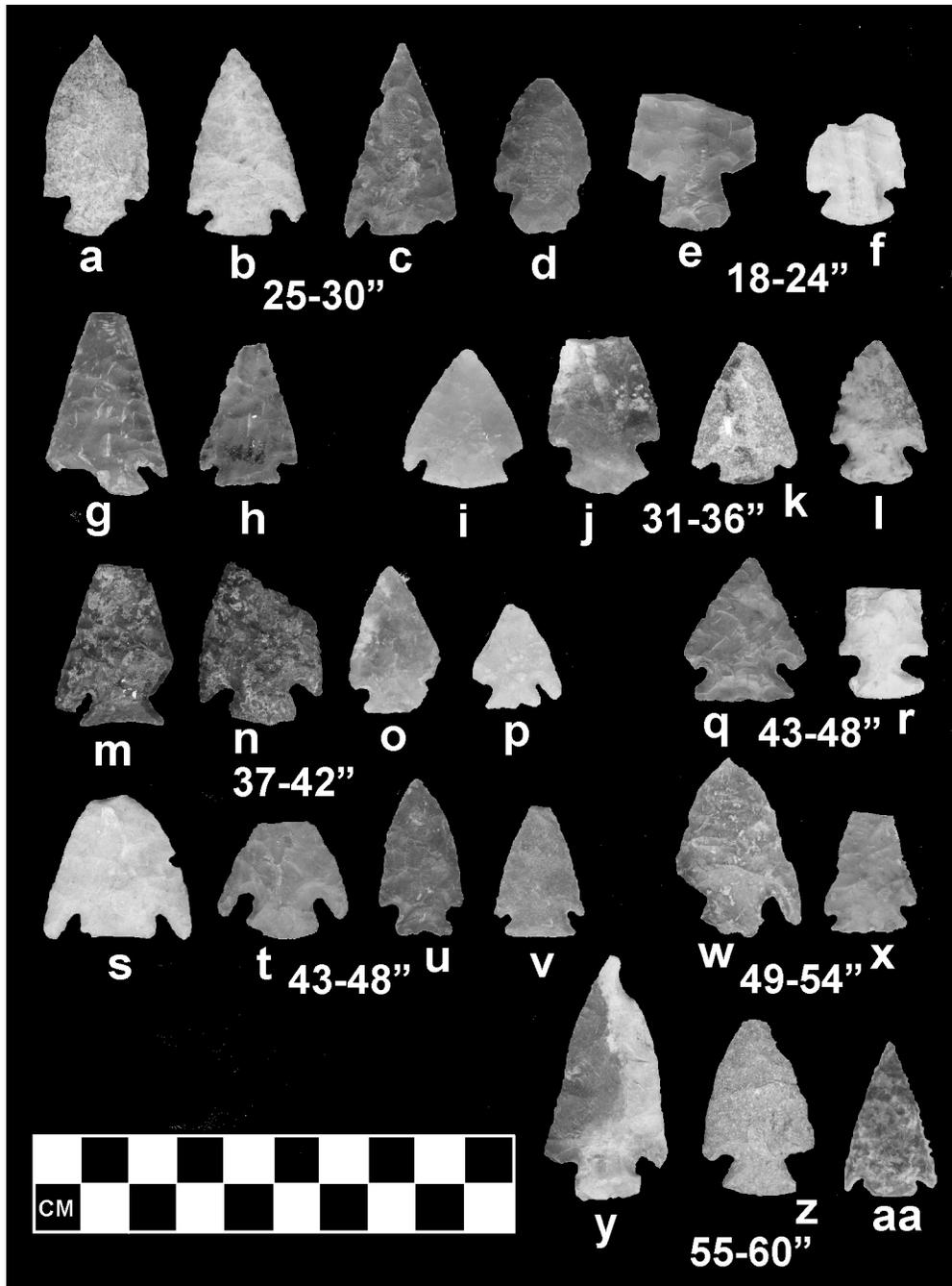


Figure 10: Examples of corner-notched dart points (Elko, Pelican Lake) by depth.

mens) and a relatively shorter (“Glendo”) variant in southeastern Wyoming. Pelican Lake points have wide corner notches resulting in sharp barbs. Blades and bases are often slightly convex to straight and rarely slightly convex (Frison 1991:101). In nearly all cases, the corner notches are placed near the terminus of the base resulting in a relatively short distance from the notches to the end of the base, creating a rather short stem (see also Hamza 2013).

Probable examples from the Garrett Allen site are presented (Figure 10b, h, I, q, v, x).

Elko corner-notched points as illustrated by Justice (2002:303) often have wide notches with bases relatively longer as measured from the notches. Stems are often expanded, while some are straight. Bases can be convex to convex (almost “bulbous”) in appearance. A few varieties exhibit wide, slightly concave to straight bases. In some

cases, distinguishing Elko from Pelican Lake can be problematic given general similarities. Probable Elko corner-notched points from Garrett Allen as shown (Figure 10a, d, e, f, j, m, n, t, w, y, z).

With regard to raw material sources of the corner-notched dart points at the Garrett Allen site, there is an interesting trend. For those points identified as Pelican Lake, raw material sources are consistently from eastern Wyoming and northeastern Colorado sources while those identified as Elko are primarily from south-central and southwestern Wyoming sources (Table 6). If accurate, this would indicate the convergence and interaction of groups from western and eastern portions of the state to the Garrett Allen site, a pattern seen with other projectile styles.

MIDDLE ARCHAIC

The Middle Archaic period in Wyoming is characterized by sites with McKean complex projectile points dating between 3000-5000 years before present (Frison 1991:97-101). McKean points can be lanceolate with a concave base or basal notch or stemmed with a concave base or basal notch. The distinctive Mallory side and basal notched point occurs with less frequency during the Middle Archaic.

Seven stemmed McKean points were recovered from the Garrett Allen site, two from the surface and five from 46-58 inches below surface (Figure 11). An additional possible McKean stemmed point was recorded in the upper depths of the site (see Figure 12d).

ADDITIONAL POINTS

There are eleven additional points either assignable to a type or of uncertain type but were recovered at depths well outside the range of acceptable dates for the type and points of an uncertain type (Figure

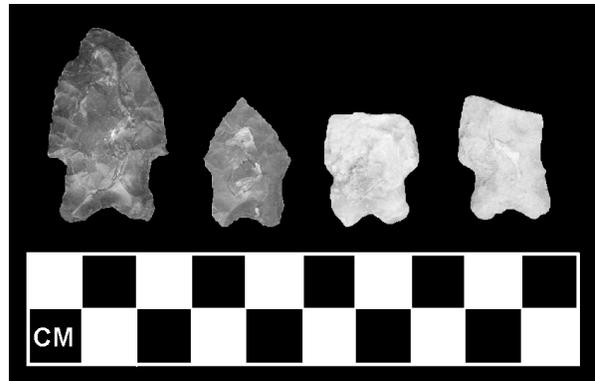


Figure 11: Examples of McKean Stemmed points from 48CR301.

12; Table 7).

LARGE POINTS/HAFTEG KNIVES

Nine large bifaces were recovered from the site at various elevations (Figure 13; Table 8). Large hafted bifaces, most often referred to as hafted knives, generally occur in Wyoming prehistoric sites in small numbers, but also occur in a fair number of sites, especially those with large lithic assemblages. There is almost no research on these artifacts other than the mention of hafted knives and sometimes lance points in various publications. There is little in the way of interpretation as to what these artifacts represented in prehistoric cultures.

All Garrett Allen site examples show various levels of breakage. Four show evidence of burning or heat alteration (Figure 13a, g, h, i). Several have resemblances to Elko/Pelican Lake points (Figure 13b, e, f, g) and one is similar to Elko or Rose Spring points (Figure 13d). The others (Figure 13a, 13c, 13i, 13j) do not appear to resemble any Wyoming projectile point types.

What is interesting here is all of the large points

Table 6: Raw Material Source Areas, PLK and ELKO Points, 48CR301.

	OBS	SW	SC	EC	NE	NC CO	NE CO	Cobbles	Totals
PLK				23	4		2	13	42
ELKO	1	9	16	1		2		16	45
Totals	1	9	16	24	4	2	2	29	87

OBS = obsidian, SW = southwestern WY, SC = south-central WY, EC = east-central WY, NE = northeastern WY, NC CO = north-central Colorado, NE CO = northeastern Colorado, Cobbles = "local" cobble sources

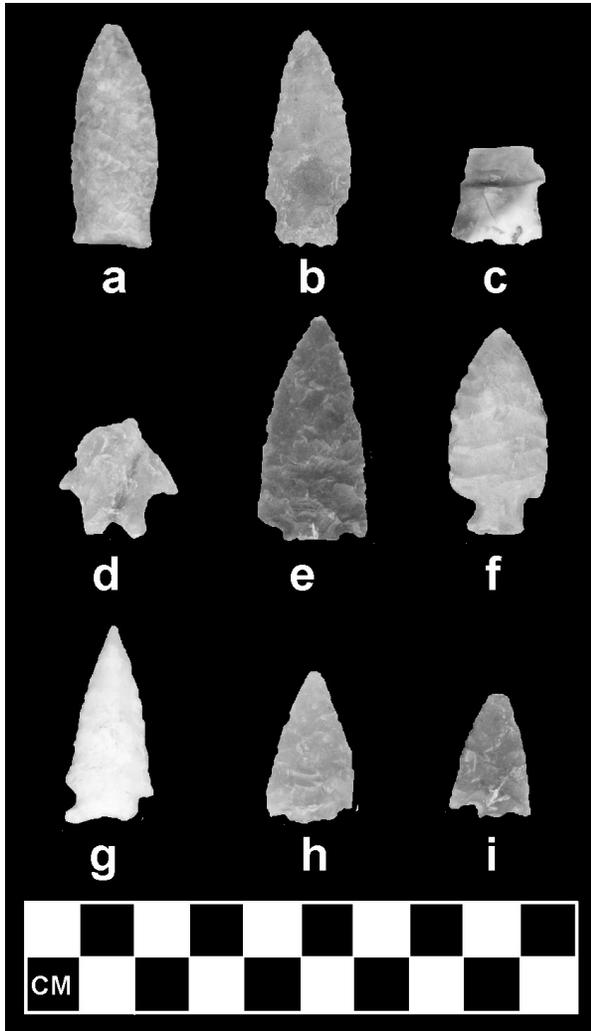


Figure 12: Points of questionable context and/or uncertain type from 48CR301.

are made of raw materials obtained from distance sources. The red orthoquartzite likely is from sources closest to the site, while the zebra flint and clinker are from sources farthest from the site. Additionally, there is evidence of intentional burning/heating of four specimens. Most show considerable signs of breakage which could be due from burning/heating, manufacturing error or use as a tool. It is possible, but not abundantly clear, some or all of these artifacts were purposefully broken post manufacture.

DISCUSSION

There is relatively unambiguous evidence for projectile point types from the Protohistoric to Middle Archaic periods at the Garrett Allen site. There is a general trend for earlier dated point types to be

found in the lower elevations of the excavations. As depth increases so does the age of the various types. This general trend is somewhat overshadowed by a small number of points types well outside the depth range which would be expected. There are no well-defined or well-dated components, and so conclusions regarding the assemblages are limited.

The Protohistoric is represented by a single metal point. No other historic trade goods were found in the original excavations, nor have any been found in recent (2014-2015) surveys and testing projects carried out at the site (Clauter 2013). Excavations and radiocarbon dating does not indicate any Protohistoric occupation as of this writing, although this could change with future investigation.

The Late Prehistoric period is represented by several different arrow point types. The earliest include side-notched, tri-notched and unnotched triangular points (Shoshonean Suite) which are relatively abundant in the assemblage. Prairie side-notched, Rose Spring, and possible Woodland types are present in relatively small numbers.

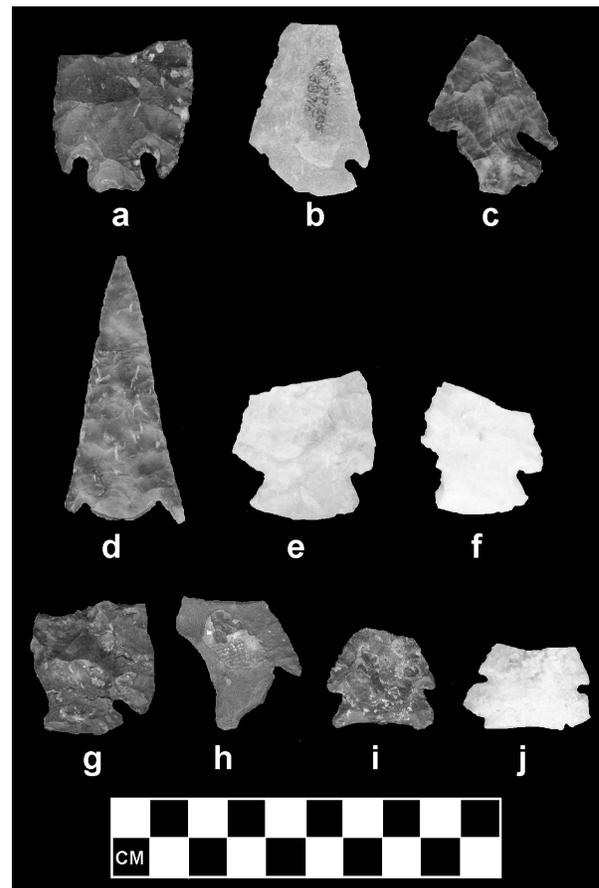


Figure 13: Large points/hafted knives from 48CR301.

Table 7: Points of Questionable Context and/or Uncertain Type.

Figure	Recorded Depth	Description	Type	Comments	Reference
12a	54 in. BS	Lanceolate w/ shoulder and basal grinding	Late Paleoindian?	Similar to Late Paleoindian lanceolate types. Found in Middle Archaic deposits	Miller 1979, Frison 1991
12b	42 in. BS	Lanceolate stemmed	Uncertain		
12c	54 in. BS	Stem fragment	Uncertain		
12d	8 in. BS	Stemmed with basal notch, reworked	Probable McKean stemmed	Found in Late Prehistoric deposits	
12e	3 in. BS	Triangular corner notched dart	Elko/Pelican Lake	Found in Late Prehistoric deposits	
12f	16 in. BS	Stemmed	Uncertain		
12g	51 in. BS	Triangular side notched with notches very close to a concave base	Avonlea	Nearly identical to classic Avonlea points, e.g. from Avonlea and Head-Smashed-In sites. Found in Late Archaic to Middle Archaic deposits	Kehoe and McCorquodale 1961; Peck 2011
12h	60 in. BS	Triangular corner notched arrow	Uncertain	Found in Middle Archaic deposits	
12i	54 in. BS	Triangular corner notched arrow	Probable Rose Spring	Found in Middle Archaic deposits	
8h-i	18 in. BS	Small triangular corner notched arrow	Uncertain	Found in Late Prehistoric to late Late Archaic deposits	

Late Archaic period point types include a small number of Besant points and a relatively large number of corner-notched atlatl dart points which are probably part of the Elko and Pelican Lake series. Corner-notched dart points have been recovered from 24-68 inches below surface, and are represented in the largest depth increment so far examined.

The Middle Archaic is likely represented by the McKean types. McKean stemmed points appear to co-occur with Elko and Pelican Lake types at the deepest areas of the site excavated.

While most of the point types are similar to those found in many sites in Wyoming, there are several “exotic” types, such as the multiple notched arrow points possibly related to the Central Plains Tradition, possibly one type related to the Fremont complex in Utah, and corner-notched types similar to those from north-central and northeastern Colorado. Did small groups or individuals from these areas travel to the Garrett Allen site or were these points obtained through down-the-line exchange?

There is a fair amount of stylistic variation within the Shoshonean Suite diagnostics and considerable variation within the Elko and Pelican Lake series. Is this a result of “typical” within-type variation, or is the variation suggestive of stylistic subsets within groups which regularly interacted? Or, does the variation reflect regional groups from several distant parts of Wyoming and perhaps surrounding states who had congregated at the site for the purposes of various kinds of interaction? Given the suggestion, based on the diversity of lithic raw materials and distances of their source areas, the Garrett Allen site may represent a special purpose gathering location (Eckles and Guinard 2015), it is tempting to suggest the site served as a gathering locale for groups whose geographic ranges were both relatively close and relatively distant from the site.

ACKNOWLEDGMENTS

Much thanks to Jody Clauter and Mark Lane of the University of Wyoming Archaeological Repository who were of great assistance with the 48CR301

Table 8: Summary Data, Large Points/Hafted Knives.

Figure	Recorded Depth	Description	Raw Material	Source Area	Comments
13a	46 in. BS	Basal notched with stem	Zebra flint	SW Wyoming, NW Colorado	Appears to have been heat treated prior to manufacture
13b	12 in. BS	Corner notched	Spanish Diggings orthoquartzite	East-central Wyoming	
12c	12 in. BS	Corner notched with expanded base	Banded jasper	Seminole Mountains of south-central Wyoming	
13d	18 in. BS	Corner notched, prominent barbs	Dendritic agate	East-central Wyoming	Similar to Rose Spring type or Elko type
13e	60 in. BS	Corner notched	Morrison orthoquartzite	Multiple sources in Wyoming	
12f	42 in. BS	Corner notched	Fossiliferous chert	South-central Wyoming	
13g	36 in. BS	Corner notched with expanded base	Jasper	Central to east-central Wyoming	Significantly burned with pot lids and cracking
13h	36 in. BS	Unclear	Red orthoquartzite	SE Wyoming	Heat treated or burned
13i	44 in. BS	Corner notched with expanded base	Clinker	NE Wyoming	Significantly burned with pot lids and cracking
13j	56 in. BS	Multiple notched	Fossiliferous chert	South-central Wyoming	

collections and associated field and lab documents. George Frison, Mark Miller, Danny Walker, Charles Reher, and William Scoggin provided important background information about the excavations at the site. Steven Sutter and Shane McCreary of the Wyoming State Historic Preservation Office, Cultural Records Office found several sites in the data base with Besant, Rose Spring and Shoshonean Suite diagnostics. Stacey Goodrick of Western Archaeological Services provided a copy of the Carmody (1989) reference. The owners of the Elk Mountain Ranch have been generous in their support of this research over many years, including access to the site and donation of the collection.

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