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TABLE OF CONTENTS

Analysis of Trade Beads From Site 48SW336

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Introduction

In the fall of 1982, Western Wyoming College conducted test excavations at 48SW336 (Figures 1 and 2) as part of their archaeological field school. As a result of this testing 11 glass or ceramic beads were recovered from the site. In addition, 9 glass trade beads were found by the Wyoming Recreation Commission during the testing phase for the Jim Bridger Coal Mine (Larson et al. 1978). For comparative purposes, these two collections were combined and analyzed to hopefully shed some light on Euro-American influences on American Indian groups in southwestern Wyoming. There is a wide variety of bead types and colors represented in the site collection. This should enable us to draw some tentative inferences about Euro-American trade influences in the area.

Background Information on Glass Beads in Euro-American Trade

From the first years of colonization onward, beads played a significant role in Euro-American trade with the Indians. It has long been held that virtually all imported colored beads found on American sites came from Venice. It has since been determined that large quantities of beads similar to the Venetian type were made at Amsterdam from the seventeenth to the nineteenth century (Hume 1970:53). In England the glass industries also produced beads during this time period, but not to the degree found in Amsterdam and Venice. In the New World, an infant glass bead industry was also attempted. Details of the New World glass industries are given below, but it must be kept in mind that most of the beads found on American sites dating to the early nineteenth century were probably imported (Hume 1970:53).

One of the earliest attempts at making glass in North America was in Mexico. After Cortez defeated Montezuma, the Spanish built a settlement called Puebla de los Angeles, a settlement located below the towering volcanic peak of Popocatepetl. Here, probably as early as 1535, they began to make glass. This was the earliest glass manufacturing conducted in the New World and in the eighteenth century it was proudly declared ". . . that Puebla glass was equal to that of Venice" (Diamond 1953:55).

It was the regular practice of the early Spanish explorers to take beads and other gifts to present to the Indians. It is very likely that the first trade beads in the southeastern United States were introduced by Hernando de Soto in 1539, the same year Fray Marcos de Niza was exploring the United States. In 1540 Francisco de Coronado was among the Pueblo Indians in the present states of New Mexico and Arizona. Other records from explorers in the sixteenth century mention giving beads and trinkets to the Indians (Orchard 1929:84).

Beads were not used by Spanish explorers alone. Englishmen

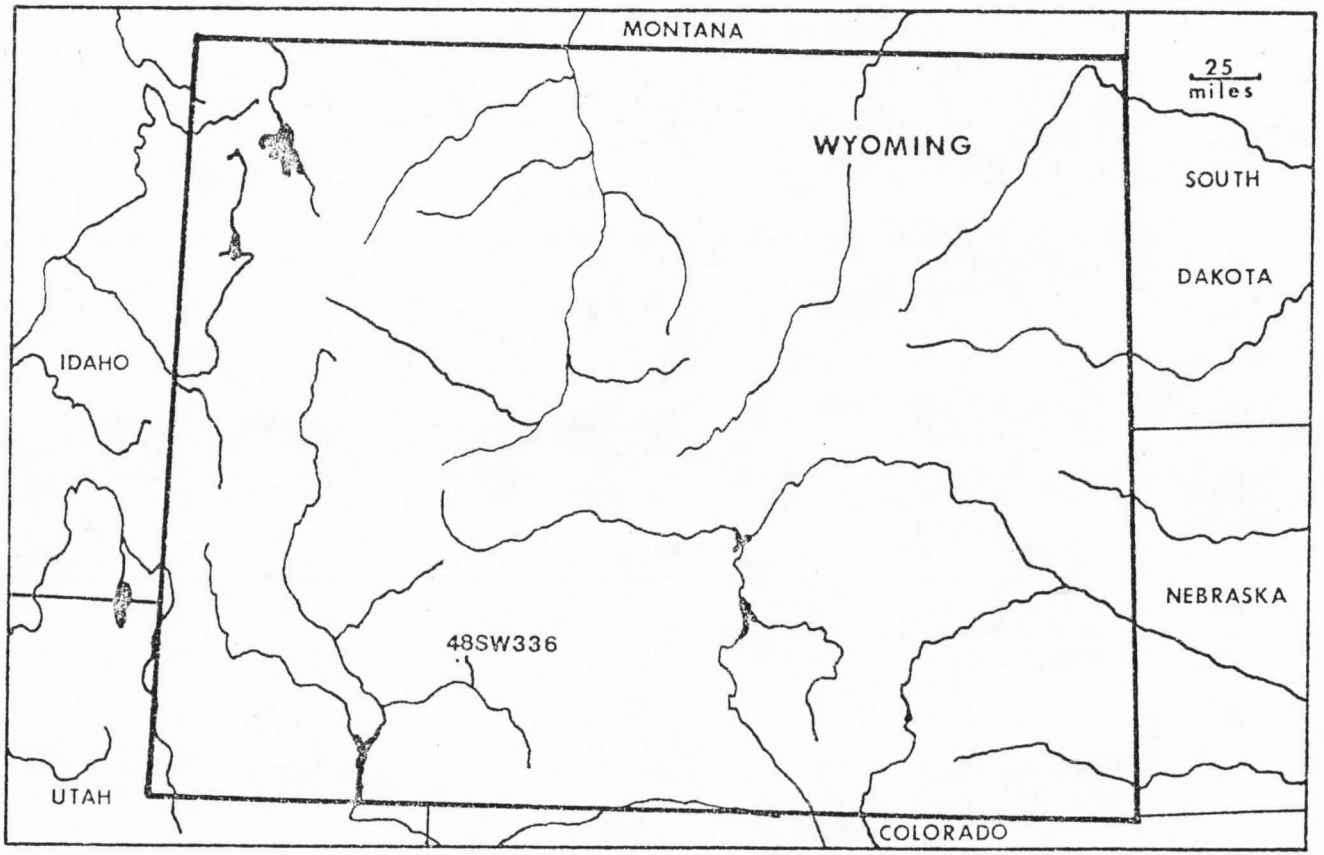

Figure 1. Map showing the location of site 48SW336 in Wyoming.

Figure 2. Photo of site 48SW336 with Zirkle Mesa in background. The site area is primarily confined to the far side of the stream. Arrow indicates location of WWC excavation units.

realized their importance in their relation with the Indians in colonial America. As a result, glassmaking became America's first industry, when in 1608, slightly more than a year after the first English settlement, a glass factory was established at Jamestown, Virginia. The results of this ambitious undertaking are not fully known due to the paucity of records. In 1622, however, a second glassmaking venture was undertaken to manufacture various beads and glass. The new enterprise, fostered by Captain William Norton, was plagued by excuses and misfortunes until the effort was abandoned in the spring of 1624. The records suggest "that little, if any, glass was made during this second glass making venture at Jamestown" (Orchard 1952:3, 9).

An example of the early use of beads as a trade item is seen in the South Carolina interior trade. This trade extended from Spanish Florida to the south to the Mississippi River in the west and was supervised by the Commission of Indian Trade. The regular stock of trade items was extensive and prices were periodically revised. In April, 1716, the price of two strings of beads was one finished skin (deer or its equivalent), but this price deflated to three strings in August, 1716. By April, 1718, a pound of beads was exchanged for three good skins (McDowell, ed. 1955: 89, 104, 249). The Hudson's Bay Company, trading in the Northwest in 1749, exchanged one pound of beads for one "made beaver" skin, valued at fifty cents. Scarcer beads varied in price from six beads for a single skin to a single bead for one skin. However, prices might vary among the individual traders (Orchard 1929:88).

The importance of beads in trading continued through the trapping era. The amount of beads a person could obtain for a pelt varied, but the significance of beads as a medium of exchange never varied. In the intermountain west the fur trade was dominated by the Spanish until the eighteenth century. After that time the French directly competed, with varying success, for furs from the northwest plains and adjoining Rockies. By the beginning of the nineteenth century, the participants in trading ventures changed to include the Americans and British. It was during the early nineteenth century that trapping and trading reached its peak in the intermountain west. During the early nineteenth century, competition for furs was at its height and a wide variety of trade items penetrated the area. It is not hard to imagine that beads from Amsterdam, Venice, England and the infant New World glass factories (in diminuitive quantities) found their way into the region as a result of this international competition for furs. Specifically it is a known fact that trappers and traders came north from Taos with Spanish goods, Americans came west from St. Louis with American-made items or imported goods, and the British entered the region via the Pacific Northwest and Canada with goods from England. Although beads most commonly came from Venice and Amsterdam, their point of origin was probably more varied than once thought, simply due to the international nature of the fur trade.

It should be kept in mind that in conjunction with fur trappers trading goods to the Indians, trading of European goods between individual Indians and tribes also took place. "It is well known that these Indians were experienced traders when they first met the white man" (Ewers 1976:9). For example, finds of marine shells from both the Pacific and Gulf Coasts in prehistoric village sites on the Missouri, indicate the existence of trade routes to and from the villages prior to contact with Americans or Europeans (Ewers 1976:9). Evidence of prehistoric trade routes into and out of the southwest also exist. This

is best exemplified by the number of black-on-white sherds found outside the Pueblo Indians' sphere of influence throughout the west and specifically in northwestern Colorado and southwestern Wyoming (e.g. Gardner 1980:25; Gordon et al. 1981; S.D. Creasman personal communication 1983). In other words, trade networks existed throughout the west prior to the arrival of Europeans or Americans. These existing trade routes greatly facilitated the diffusion of items like trade beads throughout the west.

The diffusion of trade items in some areas was so rapid that by the time whites appeared, the Mandan (in present North Dakota) and "neighboring nomadic tribes had obtained enough articles of European manufacture to be sure of their usefulness as weapons, utensils or their attractiveness as luxuries, to whet their desire for more of these goods" (Ewers 1976:9). Although the Mandan are further east than the area we are investigating, Ewers' statement about the Indians possessing trade goods prior to actually having whites visit their villages is significant in that it shows diffusion of goods at times preceded actual contact. So it is not surprising to find European artifacts on prehistoric sites that predate the documented arrival of Euro-americans.

In summary, beads were a significant factor in the trade that developed between the Indians and Euro-Americans. They were so important that attempts were even made to develop infant glass industries in the New World, to produce beads and other items. Since trading and trapping were attempted by the English, French, Spanish and Americans with varying success, the beads traded would have been as varied as their point of origin. Finally, the fact that trade routes existed prior to the arrival of whites in the region facilitated the spread of trade beads throughout the west prior to actual contact with Europeans.

Beads Recovered from 48SW336

A total of 19 glass trade beads and (possible) 1 ceramic trade beads were recovered from Site 48SW336 (Table 1). Glass beads, on the whole, are hard to date, since the vast majority of them possess no distinguishing features. Because of this the beads were classified as to color, perforation, and cross section. Figure 3 illustrates the general characteristics that these beads were typed by. When possible, the beads were dated, but the vast majority were not diagnostic.

Seed Beads

A total of 17 seed beads were recovered from 48SW336. The length and diameter of the beads recovered varied in size from 1.0 to 4.0 mm. All of these were measured using a visual comparator. The majority were blue (8 or 47%), while 35% (6) were white. The remainder of the seed beads were red with a white core (2 or 12%) and black (1 or 6%). This reflects the known preference of Indians for blue and white seed beads (Eddy et al. 1982:124). As documented by Lewis and Clark, "blue beads, which are called tia commashuck, or chief beads hold the first rank in their ideas of relative value" (Eddy et al. 1982:124). Francis Parkman, in his work The Oregon Trail, also

Table 1. Typology and edge wear of beads found at 48SW336.

Number	Cross Section	Perforation	Material & Color	Size Length	Size Diameter	Level	Striations
0S238	Hexagonal	Single (Plain)	Ultramarine blue glass	6 mm	6 mm	Surface	light
0S249a	Circular	Single (Plain)	blue glass	2.5 mm	3.5 mm	Surface	light
0S249b	Circular	Single (Plain)	white glass	1 mm	2 mm	Surface	light
0S276	Circular	Single (Plain)	blue (heavily patinated)glass	3 mm	3.5 mm	5-10 cm below surface	none
0S65a	Circular	Single (Plain)	blue glass	3 mm	2.5 mm	0-5 cm below surface	too heavily patinated
0S65b	Circular	Single (Plain)	blue glass	3 mm	2.5 mm	0-5 cm below surface	light
0S65c	Circular	Single (Plain)	white glass	1.5 mm	2.5 mm	0-5 cm below surface	light
0S64d	Circular	Single (Plain)	blue glass	1.5 mm	2 mm	0-5 cm below surface	light
0S254	Circular	Single (Plain)	blue glass	1 mm	1.2 mm	---	light
FS48	Circular	Single (Plain)	white ceramic	2 mm	2.8 mm	0-10 cm below surface	light
FS50	Circular	Single (Plain)	blue glass	1.8 mm	2.8 mm	0-10 cm below surface	light
FS15	Circular	Single (Plain)	white glass	2 mm	2.8 mm	0-10 cm below surface	heavy
FS108	Circular	Single (Plain)	red with white core (glass)	2 mm	2.3 mm	0-10 cm below surface	light
FS103	Hexagonal	Single Core	white glass	5.4 mm	5 mm	0-10 cm below surface	light
FS10	Circular	Single (Plain)	red with white core (glass)	2 mm	2.3 mm	0-10 cm below surface	light
FS111	Circular	Single (Plain)	white glass	1 mm	2.8 mm	0-10 cm below surface	light
FS33	Circular	Single (Plain)	blue glass	3 mm	3 mm	0-10 cm below surface	light
FS102	Hexagonal	Chamfered	white glass	4 mm	4.5 mm	0-10 cm below surface	heavy
OL1421a	Circular	Single (Plain)	black glass	2.6 mm	3.2 mm	surface	heavy
OL1421b	Circular	Single (Plain)	blue glass	2.6 mm	2.6 mm	surface	light

noted that the Sioux Indians preferred blue and white beads (Parkman 1982:140). Moreover, Maximillian called attention to the same preferences among the Blackfeet and the Mandan in 1833 (Eddy et al. 1982:124).

The preference for blue and white beads is also reflected in the archaeological record. At Fort Davy Crockett, in northwest Colorado, 63% (603) of the beads were blue while 36% (347) were white (Eddy et al. 1982:124). At Bent's Fort, in southeastern Colorado, 53% of the small common beads were white, while 35% were blue (Moore 1973).

With the exception of 1 bead, all of the seed beads were made from glass. The one that is not seems to be some sort of ceramic material and is white in color. All of the seed beads were circular in cross section and had a single plain perforation.

Of the 17 seed beads recovered, only 2 are temporally diagnostic. The 2 red and white beads possess characteristics similar to others dated to the seventeenth and eighteenth centuries. That is, they have dull red exteriors and a white core. Among the small beads reported from seventeenth and eighteenth century sites are dull red beads that

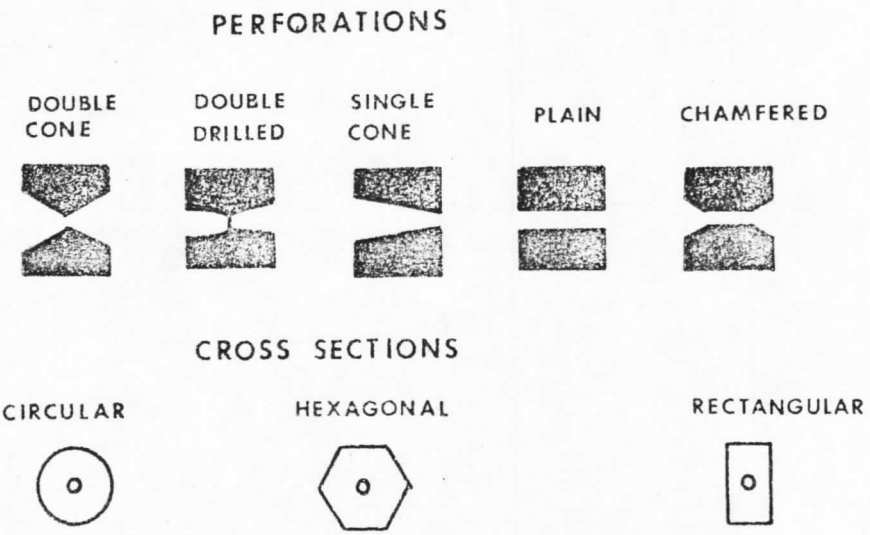

Figure 3. Examples of perforation and cross section types of common trade beads.

possess a green or white core (Hume 1970:54). This core is visible to the naked eye, but is only seen when the ends are examined. Beads of this type have been reported in early nineteenth century sites, but seemingly are more common in the seventeenth and eighteenth century.

Hexagonal Beads

Three hexagonal faceted beads were recovered from the site. Two of these were white glass and 1 was ultramarine blue (Figures 4 and 5). The blue bead had a single perforation, whereas the white beads either had a chamfered (Figure 6) or a single cone perforation. The size of these beads varied between 4.0 and 6.0 mm.

In regards to faceted beads, Hume writes:

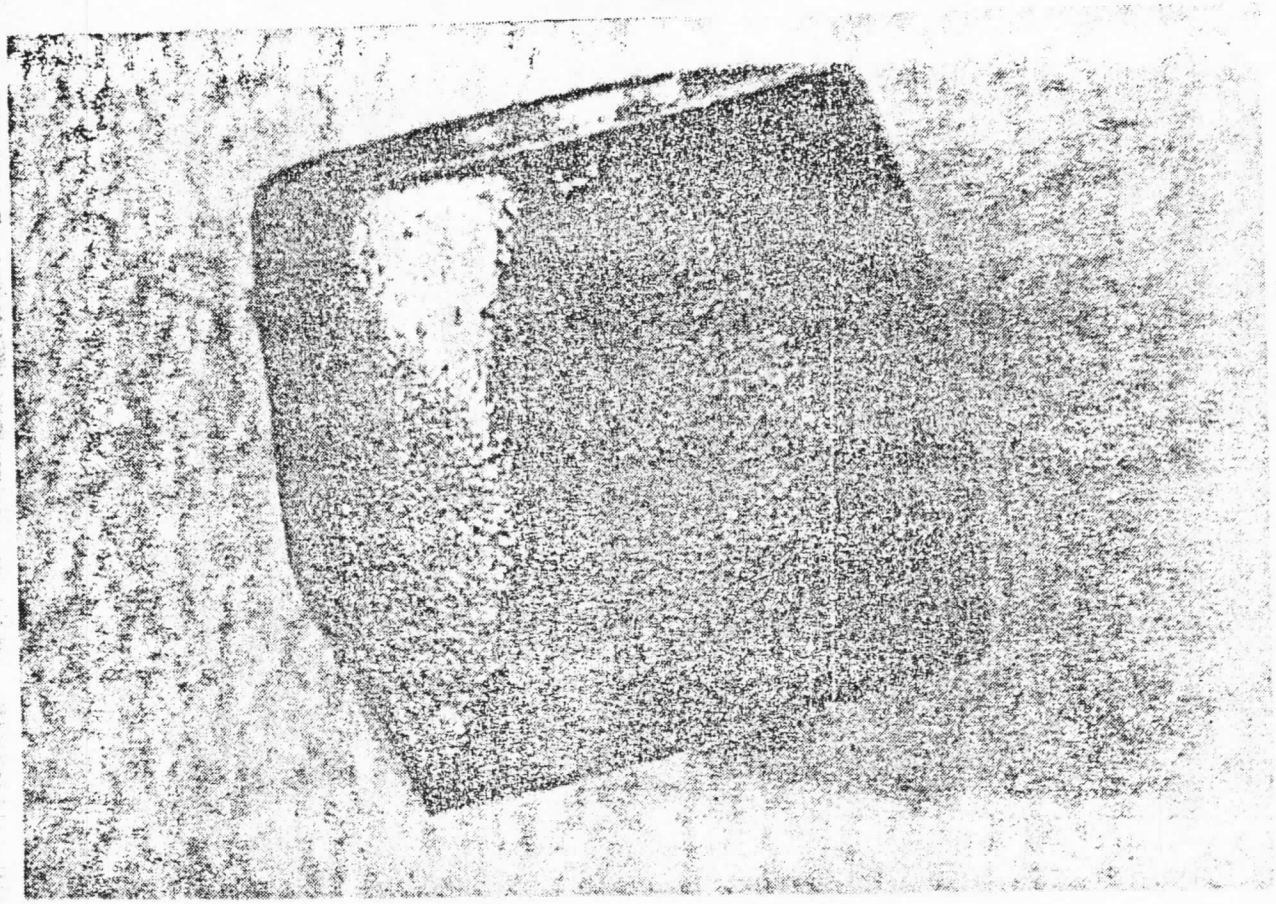

Figure 4. Side view of hexagonal bead (ultramarine blue). Actual length of specimen is 6 mm.

The most common beads of the first half of the nineteenth century were made from pieces of glass tube, generally shorter than their diameter and refined by careful faceting. These facets are restricted, on the smaller beads, to an average of seven facets cut around each end leaving the central sections untouched, but larger examples, usually in ultramarine blue, have many more. The faceted beads are known in the Northwest as "Russian" beads on the evidence of their having been found on Russian sites in Alaska. However, they are much more widely distributed and have been found in large quantities on a site on the Eastern Shore of Virginia... (Hume 1970:54 in Eddy et al. 1982).

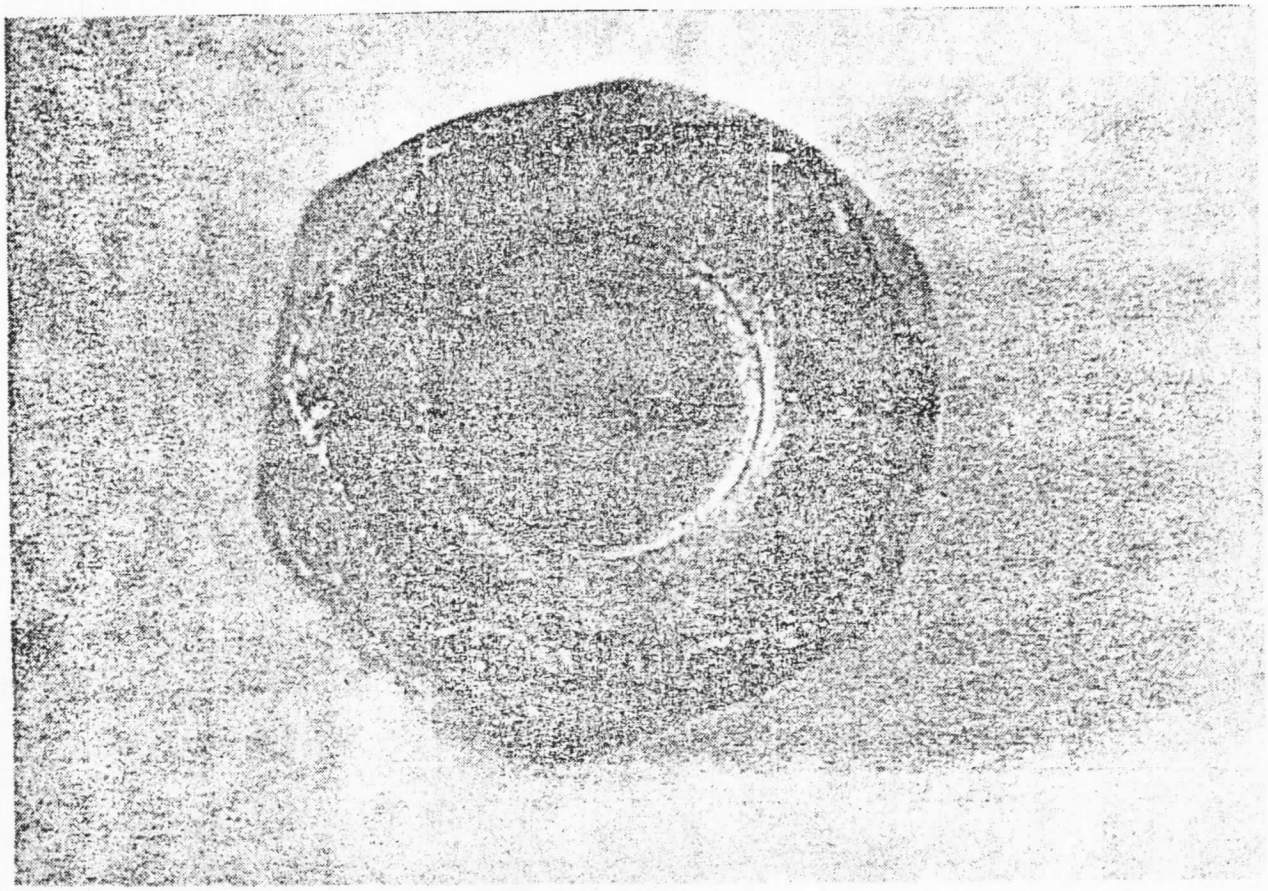

Figure 5. End view of same hexagonal bead shown in Figure 4. Note concodial flake scars at bottom edge resulting from abrasion or use. Actual diameter of specimen is 6 mm.

The ultramarine blue hexagonal bead was the largest bead found at the site and displays characteristics similar to the "Russian beads". Although dating these faceted beads is tenuous, an early nineteenth century date is not incongruent with what is known about these items.

Use Wear

Our method of determining whether or not beads have been used was by viewing them under a 40x microscope and examining the cross sections for striations. Noting the amount of wear along the ends is one way age, or at least the amount of use or reuse of the bead can be determined. Although not always conclusive, wear along the facets of a bead can be an indication of extensive use, or can even suggest greater antiquity for a piece. Along this line, DeJarnette writes:

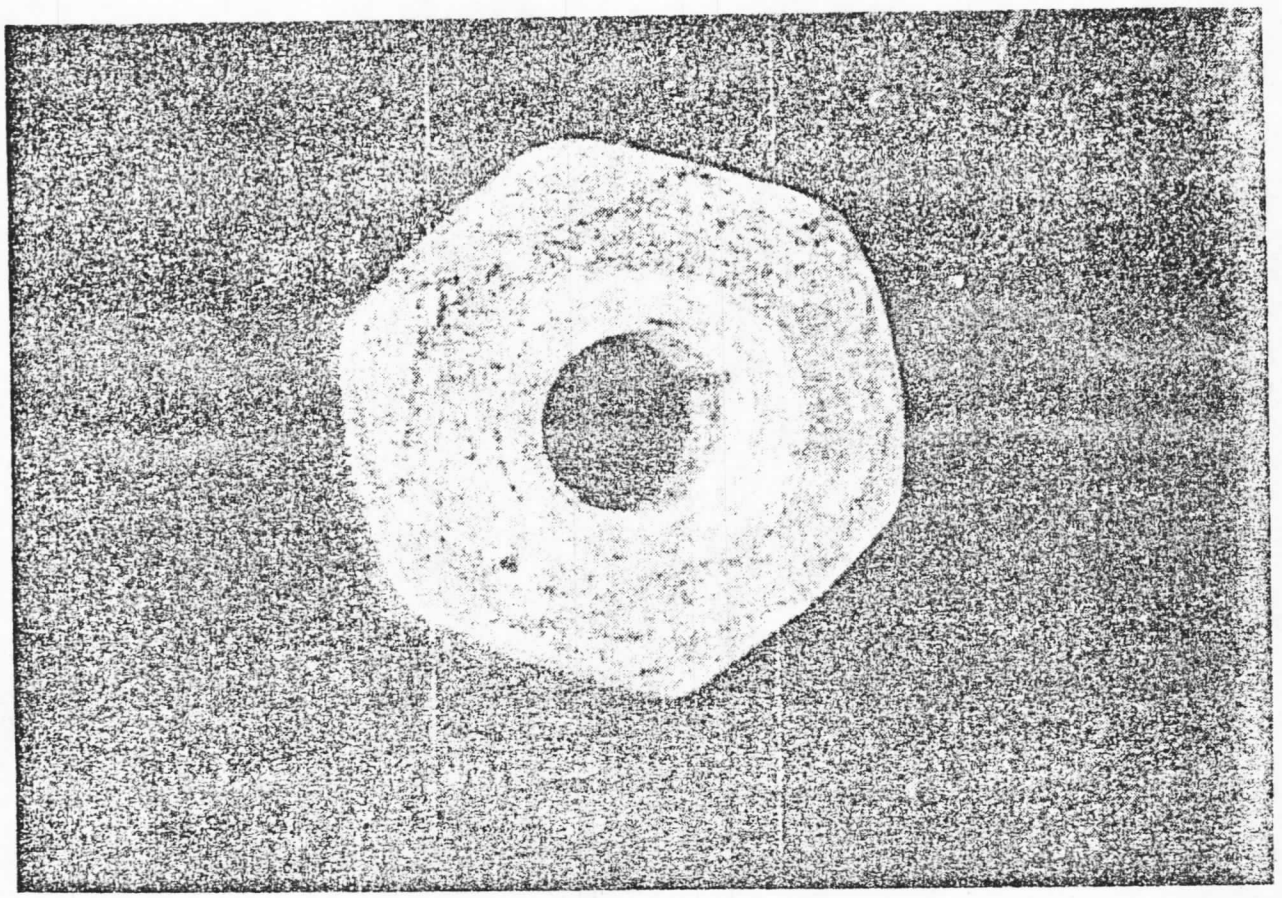

Figure 6. End view of white, glass hexagonal bead illustrating chamfered perforation. Actual diameter of specimen is 4.5 mm.

> Some of the earliest bead types, the decahedrale (a variety of faceted beads) could have been passed down from one generation to another. The older types, in fact, generally show extreme wear on their edges where they had rubbed against others on the same string; and, in a few instances, older beads were found on the same "string" with beads which have been dated at a much later time period (DeJarnette 1960:71).

In other words, in attempting to date 489SW336 using the beads, one has to beware of the pitfall of older beads being associated with a later occupation, thus the need for examining edges for wear as a method of

recognizing reuse. In determining use two categories were used, light and heavy. This is almost self explanatory in that those with light use had only a small number of striations and those with heavy use were striated across the face of the bead.

All but 2 of the beads found at the site exhibited edge wear to one degree or another (see Table 1). Eighty-three percent of these beads had light wear markings while 13% had heavy wear evident along the edges. The oldest two beads found at the site (the two red with white cores) exhibited little wear. Although the lack of wear is not the most conclusive evidence of when an artifact was deposited at a site, it would appear that the two red and white beads did not receive repeated use. This tends to minimize the possibility of a later occupation introducing them to the site.

Conclusions

When comparing beads from 48SW336 to those from Fort Davy Crockett, a trading post in Brown's Park, there are the same number of varying colors. However, at Fort Davy Crockett, 954 trade beads were recovered and only 20 from 48SW336. This indicates how varied the sample actually is when compared to some other sites, especially given the fact the sample size is considerably smaller.

Of even greater interest is the age of the two red and white beads recovered by excavation. If the age of these beads is accepted at being somewhere between the seventeenth and nineteenth century, these beads predate even Lewis and Clark's expedition in 1803 and definitely are earlier than the American Trapping Era in the region. This suggests, however tenuously, that European trade goods in southwestern Wyoming preceded the American entrepreneurs. This does not mean Europeans were in the area prior to the Trapping Era, it only suggests that these items followed Indian trade routes into the region, supporting the idea of European goods preceding actual contact.

The other beads represented in the artifact assemblage probably date to the Trapping Era [roughly 1820-1840 according to T.A. Larson (1977:9)]. This is supported by the early nineteenth century date for the hexagonal beads. Further evidence of the Trapping Era influence on this site is seen in the percussion caps found 0-5 cm below the surface. Though not discussed in the text, these percussion caps date from 1824 to about 1860. So seemingly, the site was also occupied by Indians in southwestern Wyoming in the Trapping Era.

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