

"THE SPANISH DIGGINGS"

Source of Most Vore Site Artifacts

By Gene Gade

When Cheyenne Chief Dull Knife and the renowned Lakota warrior Crazy Horse surrendered with their people in 1877, what had been the domain of bison and Plains Indians for hundreds of years was almost immediately transformed into the land of domestic cattle and cowboys. By 1882, just 5 years after the bulk of the Indian warfare ended, cowhands working for ranchers named Lauk and Stein, reported that they had found what appeared to be abandoned mines in hills north of the Platte River in what is now eastern Wyoming. They told of finding many pits and trenches filled with rock fragments that had clearly been excavated by humans, scattered over dozens of square miles.

The gold rushes to the Black Hills and Montana were recent memories at that time and prospecting and mining were still active there and in many other parts of the West. Moreover, in the climate of the time, the new Caucasian residents of the area were unwilling to believe or even seriously consider that Plains Indians were sophisticated and dedicated enough to actively mine anything. It was clear to even casual observers that the "mines" were old and had been inactive for some time, but the assumption remained that only European-Americans could have done the work. (19th Century Americans often assumed that the indigenous people they met were incapable of the types of technology, social organization, agriculture, etc. that Europeans called "civilization." They had to acknowledge the Aztecs and Incas, but they gave little credit to achievements of any other Indians. For example, the Southwest pueblo Indians had been living in towns and farming for more than a millennium, but when their abandoned farms and irrigation systems were discovered, they were assumed to have been constructed by Indians from Mexico who were fleeing the conquistadors. Thus, for example, there are pueblo villages that are still called, "Aztec Ruins" and "Montezuma's Castle," even though these habitations were already abandoned about two hundred years before Cortez invaded Mexico.)

Accordingly, the local folklore became that these ancient quarries were the result of long-forgotten gold prospecting expeditions from the Spanish Southwest. The quarries became known as "The Spanish Diggings" or "Mexican Mines."

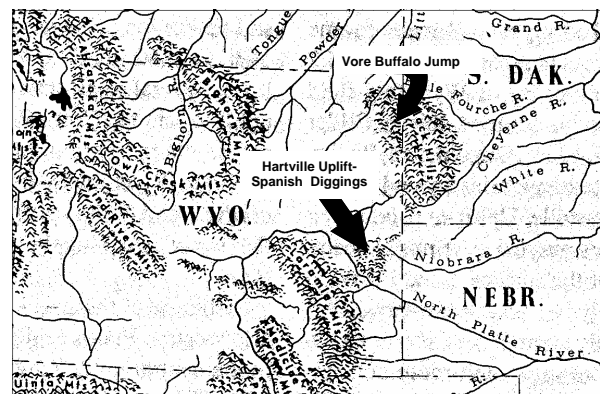
A later theory proposed by a man named R.F. Gilder who visited the "Diggings" during the early 1900's, provided a new variation on the theme that Plains Indians could not be responsible for the huge, long-term effort that is clearly evident at the site. Gilder published articles in the popular press in 1907 and 1909 in which he suggested that the

Indians responsible for the quarry must have "practiced agriculture" and that they possibly came to Wyoming from much farther east to obtain stone for hoes and other farming implements. Gilder concluded, with no real evidence but with typical lack of respect for the people of the Plains, that Native American agriculturists may have quarried this stone, loaded it on rafts and floated it down the North Platte during spring run-off to sites up to seven hundred miles east.

However, by 1935 archaeologists were documenting a 10,000+ year history of Indian groups on the High Plains. It was slowly accepted that the "Spanish Diggings" were, in fact, the work of groups of hunters that had lived in the region and quarried the stone for projectile points, knives, scrapers, and other tools. Since 1950, numerous technical papers have documented similar quarrying by hunter-gatherer groups elsewhere in North America as well as in Europe and Australia.

The Geology

The Hartville Uplift is a fairly unimpressive geologic dome by Rocky Mountain standards. It is about 25 miles (north to south) by about 45 miles (east to west) - roughly between the modern com-



It is @ 150 linear miles from the Spanish Diggings to the Vore site

Spanish Diggings Continued

munities of Glendo and Jay Em. The Laramie range is to the west and the North Platte river flows along the uplift's western and southern boundaries.

Several thousand years ago, Indians apparently discovered that the sedimentary layers in this uplift contained an abundance of especially high quality chert that could be fashioned into the weapons and tools their hunting subsistence required. The hard, colorful silica-based rocks that the Indians prized are embedded in other sedimentary layers as nodules or lenses. Originally this silica was dissolved in water, but over eons, the water slowly disappeared and the silica precipitated out, forming very fine-grained varieties of quartz. The silicate lenses vary from a few centimeters to over a meter in thickness,

The most common of these rocks is a characteristic dark yellow chert. However, cherts of other hues, including pink, dark brown, red and gray are also found within the limestones and dolomites of the Guersey and Hartville formations. Above those strata, where erosion has not removed them, are younger, dinosaur-age formations that also produce fine-grained quartz minerals in the colors mentioned above, plus purple and lavender. Because these rocks are so hard, they resist erosion and are often found in the caprock along hill tops, escarpments and canyon sides within the Hartville uplift.

Evidently, when the prehistoric hunters found particularly thick or high-quality outcrops, they would follow them using pits, trenches, shafts, adits or tunnels to follow the "leads." Similar strategies are still used by hard-rock miners to follow veins of gold or silver. The Indian quarrymen apparently pried and wedged the desired rock away from the matrix and may have used fire to cause differential expansion and shatter the rock. The unusable cobble was usually backfilled into trenches that had been mined as the quarrying moved forward.

There are at least 60 large quarry complexes and many more small ones over the extensive area, but

they are more concentrated at the northern and southern margins of the Hartville Uplift. Some quarries are separated by only a few feet, while others are miles apart.

The extent and volume of this quarrying activity is truly impressive. Some larger quarries have a couple hundred pit features spread across 10,000 to 20,000 square meters. Eminent geologist, Wilbur Knight, estimated in 1898 that "millions of tons" of rock had been removed from the many quarries over hundreds of years.

Not surprisingly, there are also habitation and processing sites near the quarries where Indians began sorting the best quality material, working it and preparing it for transport. Several hundred stone circles (tipi rings) and many thousands of square meters of workshop areas are associated with large quarries. Caches of raw or partially worked Spanish Dig-

gings stone have been found at considerable distances from the quarries where Indians apparently stashed it with the intention of returning and retrieving it later.

Stone that originated in the Spanish Diggings quarries is found in archeological sites over a wide area of the Plains--from Montana to Colorado and east into central Nebraska and Kansas. Nearly all of the points and tools found at some Wyoming sites, the Glenrock Buffalo Jump for example, are from the Spanish Diggings. Truck loads of rock have been removed to various museums and private collections during the past century.

A Major Vore Site Connection

Stone that can be traced to the Spanish Diggings was used as a resource for many of the points and tools found in the Vore Buffalo Jump.

In fact, publications by University of Wyoming archaeologist, Dr. Charles Reher, who is responsible for most of the excavation and analysis of the Vore site to date, indicate that about two-thirds of the stone artifacts recovered at the Vore site were of Spanish Diggings origin. Reher's data indicate that Spanish Diggings stone was prominent in all ten cultural levels that



A shaft in one of the Spanish Diggings quarries



Cobble discarded into a pit or trench quarry

Spanish Diggings continued:

he analyzed and that it never comprised less than 46% of the chipped stone artifacts recovered. From level 3 on down to level 10 in the Vore site, 65% to 100% of the artifacts found were of Spanish Diggings origin. Clearly the Spanish Diggings quarries were of major importance to the folks who used the Vore site.

Interestingly, levels 1 and 2, which represent the most recent use of the Vore site, contain a somewhat smaller percentage of Spanish Diggings material. Those upper levels contain significant amounts of stone believed to have come from the Powder and Tongue River Basins of southern Montana. This may indicate a shift of the tribes that were using the site to more northerly territories.

There are also at least 4 influxes of Knife River Flint from central North Dakota among the artifacts, probably showing migration or trade from the Middle Missouri area. The Hidatsa, Crow and Cheyenne are groups known to have lived in that area during part of the Vore site use-period.

The Cheyenne later acquired horses and adopted a life of mobile bison hunting, largely abandoning the agricultural economy and earthlodges that they had embraced for a time. Likewise, the Hidatsa tribe, which exercised control of the Knife River quarries, split during the 1700's. One branch of the tribe adopted the nomadic bison hunting life style and culture while their relatives stayed in semi-permanent earthlodge farming villages near the confluence of the Knife and Missouri Rivers. The Hidatsa group that moved on to the high plains to specialize in buffalo hunting became known as the Absaroka or Mountain Crows.

Both the Cheyenne and Crow tribes are known to have lived, hunted or traded in all three of the primary locales where the Vore site artifacts were quarried during the time that the Vore site was in use. When combined with other information, this known association with the regions where the Vore site artifacts were quarried provides inferential evidence that both the Crow and Cheyenne were probably among the tribes that used the Vore Buffalo Jump.

Sources:

Reher, Charles A. 1991. "Large Scale Lithic Quarries and Regional Transport Systems of the High Plains of Easter Wyoming - Spanish Diggings Revisited." from A. Montet-White & S. Holens eds., Raw Material Economies Among Prehistoric Hunter Gatherers, University of Kansas Publications in Anthropology. 19. Lawrence, KS.

Reher, Charles & George Frison. 1980. The Vore Site, 48CK302, A Stratified Buffalo Jump in the Wyoming Black Hills. Memoir 16, Plains Anthropologist. Vol. 25 #88, part 2, page 125.



Three arrow points recovered from different levels of the Vore site provide examples of different point styles used at different times...probably by different tribes. The point on the left has very straight lateral margins and a distinctive concave base and basal notch. Found in a level deposited in the late 1600's, it may have belonged to a Kiowa-Apache hunter.

The point at right has both basal and side notches and was found in a level from about 1700. It is thought to be a Shoshone (possibly Crow) point.



The third point (below left) has an asymmetrical concave base with side notches and it found its way into the Vore sediments just prior to 1800. It may well be a Cheyenne point.



Arrow and bow technology are known to have changed over time and there was much interchange among tribes. There were often differences in the shape of points fashioned even among individuals who were contemporaries in the same tribe. Therefore, trying to match point styles to tribes will never be a perfect science. Nevertheless, correlating stone types and sources, with point styles, and with known or suspected tribal movements is one way that excavation at the Vore site will help piece together the large story of Plains Indian history and culture.

