



North Dakota's Knife River Flint Quarries

By Stanley A. Ahler

The **Knife River flint quarries** constitute one of the most significant archaeological resources in the state of North Dakota. Known quarries occur throughout a triangular area extending from the Killdeer Mountains in Dunn County on the west, then east along Spring Creek to near the town of Golden Valley in Mercer County, then south along the Knife River to near Medicine Butte in southern Mercer County. The dark brown, coffee-colored stone occurs naturally as angular and flattish cobbles and small boulders, only occasionally larger than the hand. Flint cobbles are dispersed within soft sediments, usually in deposits related to the melting of glaciers, which once covered this area. Prehistoric Indians easily dug the flint from the ground with bone, antler, and wooden tools, leaving shallow craters to mark the old pits, surrounded by mounds of spoils.

Knife River flint was a highly valued raw material, widely used and traded in prehistoric times. Although the flint occurs naturally primarily in Dunn and Mercer counties in western North Dakota, Knife River flint is nearly always the most

common stone raw material on any prehistoric archaeological site anywhere within the state. The flint was widely traded, especially during the Paleo-Indian period (9500-5500 B.C.) and during the Late Plains Archaic period (1200 B.C.–A.D. 1).

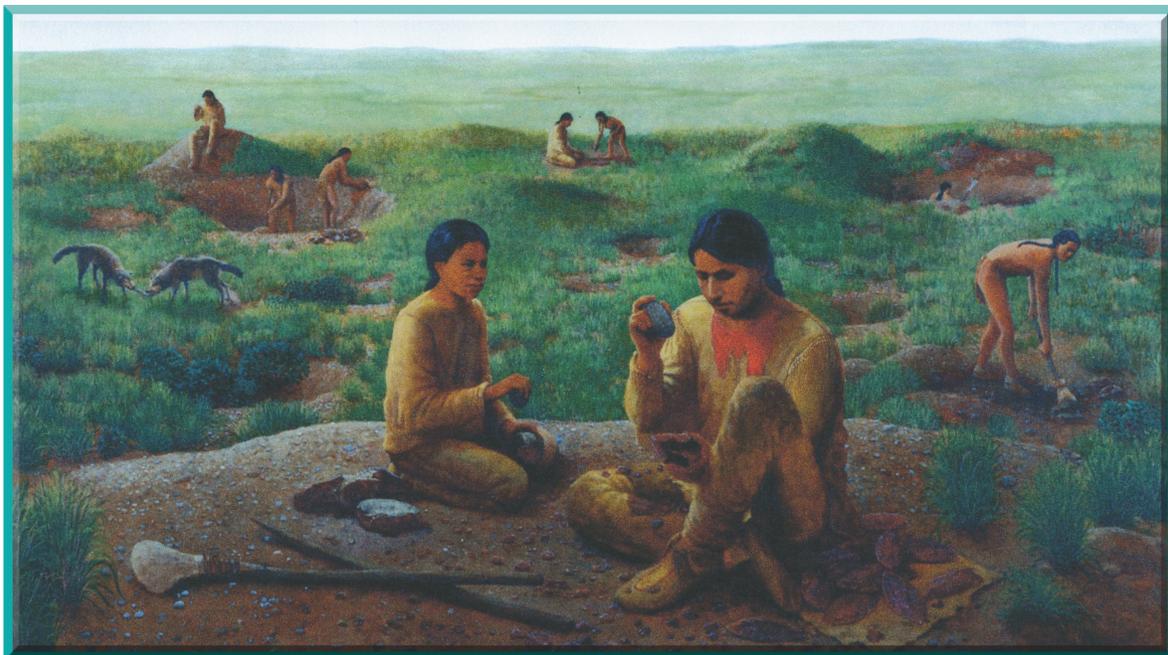


Figure 1. Flintknapping a Spear or Dart Point. Flintknapping is the process of chipping or flaking a stone into tools. Each step of the flintknapping process produces distinctive types and numbers of flakes. By studying the size, type, and location of flakes at an archaeological site, archaeologists can tell what type of flintknapping activities took place. (SHSND 1993.5.2)



Figure 2. Aerial photograph of the Lynch Quarry site, the type site for the Knife River flint quarries. Lying along a low terrace on the north side of Spring Creek, this quarry complex covers about one hundred acres and contains several thousand quarry pits. This is the largest single known Knife River flint quarry pit complex. It is likely that this quarry area was used for many thousands of years and that the deposits here were quarried several times. (Courtesy Terry Wiklund)

An astonishingly ancient quarry site has recently been investigated on Alkali Creek near the town of Halliday in Dunn County. At this location an apparently large number of Paleo-Indian workers intensively mined the flint, perhaps as early as 11,000 years ago, at a time not long after the first human populations moved into the northern plains. Craftspersons began fabricating tools at locations such as this. Some of these items were traded to locations as far distant as Ohio and New York state.

The photographs on the following pages give some idea of the character, extent, and content of the Knife River flint quarry and workshop sites in Dunn County as well as some of the archaeological investigations that have occurred there. Only one quarry site has seen extensive excavation, this occurring in 1990 near the town of Halliday. Several other quarries and workshops have been test excavated within the past decade. Archaeological research has been focused on the portion of the flint quarry area in Dunn County where the sites lie directly over economically significant lignite deposits. The archaeological studies are being used by state and federal



Figure 3. Test excavations being conducted at site 32DU508. The test pit into the center of the quarry pit in the foreground revealed that all flint-bearing deposits had been completely quarried away at this location. A bone digging tool found in the pit in the background has been radiocarbon dated to about 1700 A.D., indicating an episode of quarrying related to the Late Prehistoric period. (Courtesy Stanley A. Ahler)

planners and land managers to develop programs to gather and preserve the most important scientific and historical information in the archaeological sites, while at the same time reaping the benefits of energy development in the region.

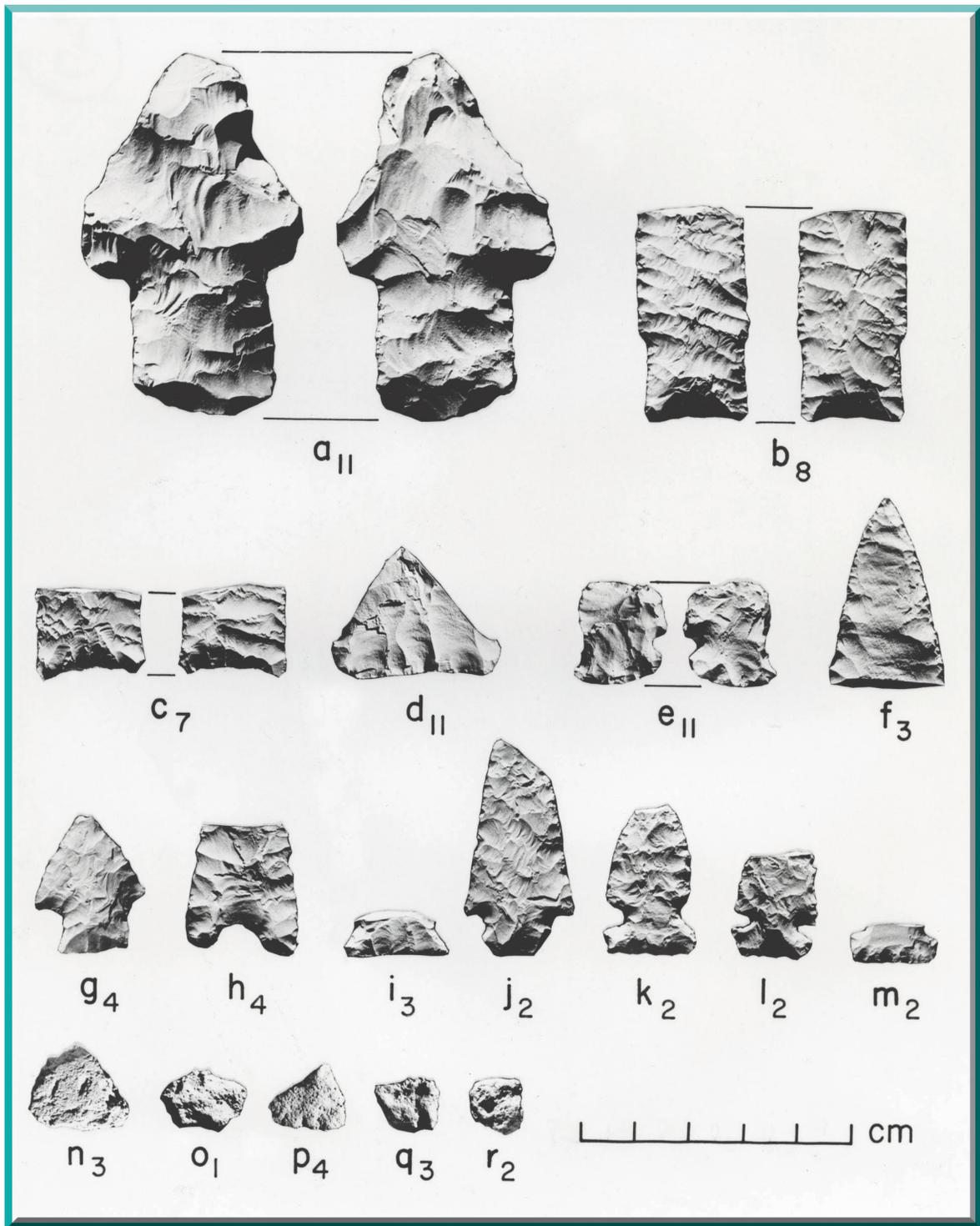


Figure 4. Artifacts found in test excavations at the Benz site, a camp and workshop location on Spring Creek. These items, mostly used and broken tools, reflect the camping rather than the flint workshop activities that took place at this location over a period of more than 9,000 years. a–c: Paleo-Indian period projectile points; d–j: Plains Archaic period projectile points; k–m: Late Prehistoric period projectile points; n–r: small pottery sherds from the Woodland period. (Courtesy Stanley A. Ahler)



Figure 5. Aerial photograph of the Nordsven Quarry, which lies on either side of a small intermittent creek about a mile south of Spring Creek. This is a relatively small flint quarry site, covering about two acres and containing roughly forty-three quarry pits. Test excavations here indicate that this quarry site was used primarily during a single period of intensive flint mining activity, probably during the Late Prehistoric period, around 1300 A.D. (Courtesy Stanley A. Ahler)

About the Author

Stanley A. Ahler (1943-2007) was an associate professor of anthropology at the University of North Dakota in Grand Forks from 1975 to 1990, when he moved to Arizona as a staff archaeologist with Northern Arizona University. There he co-founded PaleoCultural Research Group, a non-profit research and educational organization that conducts archaeological projects, mainly in the northern plains. His extensive research activities led to many publications, including *The Knife River Flint Quarries: Excavations At Site 32DU508*, *Plains Village Archaeology: Bison-Hunting Farmers in the Central and Northern Plains*, and *People of the Willows: The Prehistory and Early History of the Hidatsa Indians*. He received his graduate degrees from the University of Missouri at Columbia.



Figure 6. Excavation trench being laid out at the Nordsven Quarry site. This trench revealed a shaft-like quarry pit reaching more than ten feet below ground surface. Tunnels were dug laterally from this shaft, following flint-bearing deposits. Excavated spoils were thrown out of the shafts and pits into the ridges, like the one on which the screener is standing. (Courtesy Stanley A. Ahler)

Originally published in *North Dakota History*, Vol. 58.1:2-5 (1991).