

PANACA SUMMIT CHARCOAL KILNS



The two stone charcoal kilns located high in the Cedar Range of southeastern Nevada are impressive structures. They cost money to build and required skill and experience to operate. They were major industrial producers—filling the demands of Bullionville and Pioche smelters for high-quality charcoal.

The Panaca Summit Charcoal Kilns are approximately 5 miles north of State Route 319. They can be reached in dry weather on Panaca Kilns Road.

YOUR RESPONSIBILITY

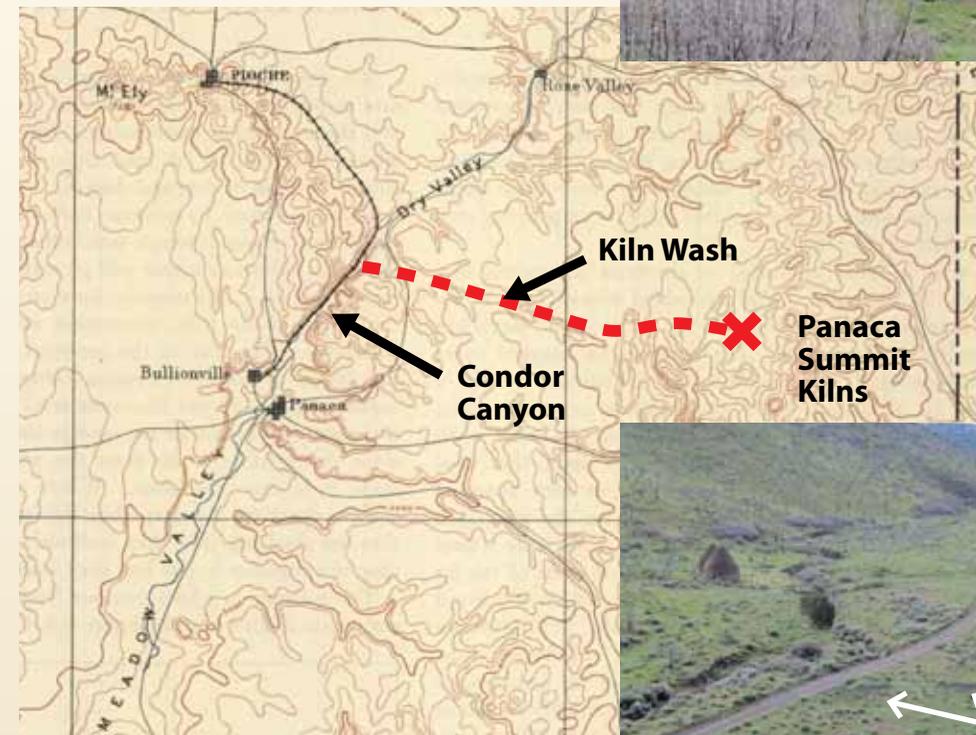
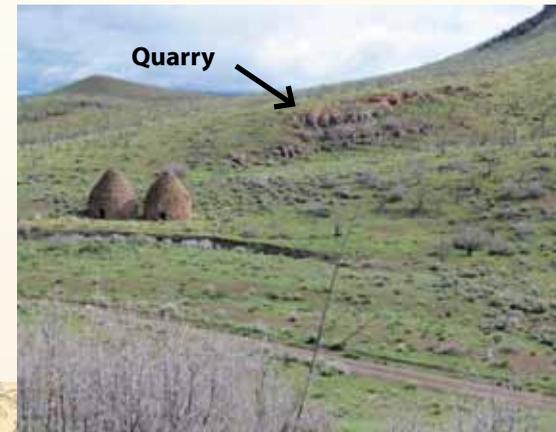
The Panaca Summit Charcoal Kilns are part of history. Visit, explore, and study them, but please leave them undisturbed so others can enjoy and learn about our heritage.

This Lincoln County Archaeological Initiative Project was completed by Zeier and Associates LLC with funding provided by the sale of public lands by the Bureau of Land Management and approved under an inter-agency partnership authorized by the Lincoln County Land Act.



THE PERFECT PLACE

The pinyon-juniper woodland surrounding the Panaca Summit Kilns provided plenty of old growth pinyon—yielding logs up to 2 feet in diameter. Smelters preferred pinyon charcoal because it burned hotter than juniper, and it held together in large, durable chunks. Stone to build the kilns was quarried from an outcrop of rhyolitic tuff near the site. Kiln Spring, a mile up Kiln Wash, provided water.



Charcoal was made at the site in earth-covered pits before the kilns were built. Blackened areas on the ground mark their locations.



Map courtesy of Mary B. Ansari Map Library, University of Nevada, Reno.

Kiln Wash linked the kilns to Bullionville and Pioche, where numerous smelters operated from the 1870s through the 1890s. The wash provided a direct, downhill route to Condor Canyon, 6 miles away. Here, the freight teams loaded with charcoal could either turn south toward Bullionville or continue on to Pioche. The freighters—often three or four wagons hitched together—were pulled by teams of mules or oxen. They required straight, well-engineered roads, which were easily constructed along the gently sloping course of Kiln Wash.

MAKING CHARCOAL

“Coaling” converts raw wood to charcoal by burning it slowly and incompletely in an oxygen-starved environment. The process drives moisture and volatile oils out of the wood, leaving behind almost pure carbon—a much lighter but more concentrated fuel than wood.



DOORS

Wood was loaded through the doorways, which were fitted with heavy steel doors. Permanent ramps led from the slope behind the kilns to the upper doors.



AIR VENTS

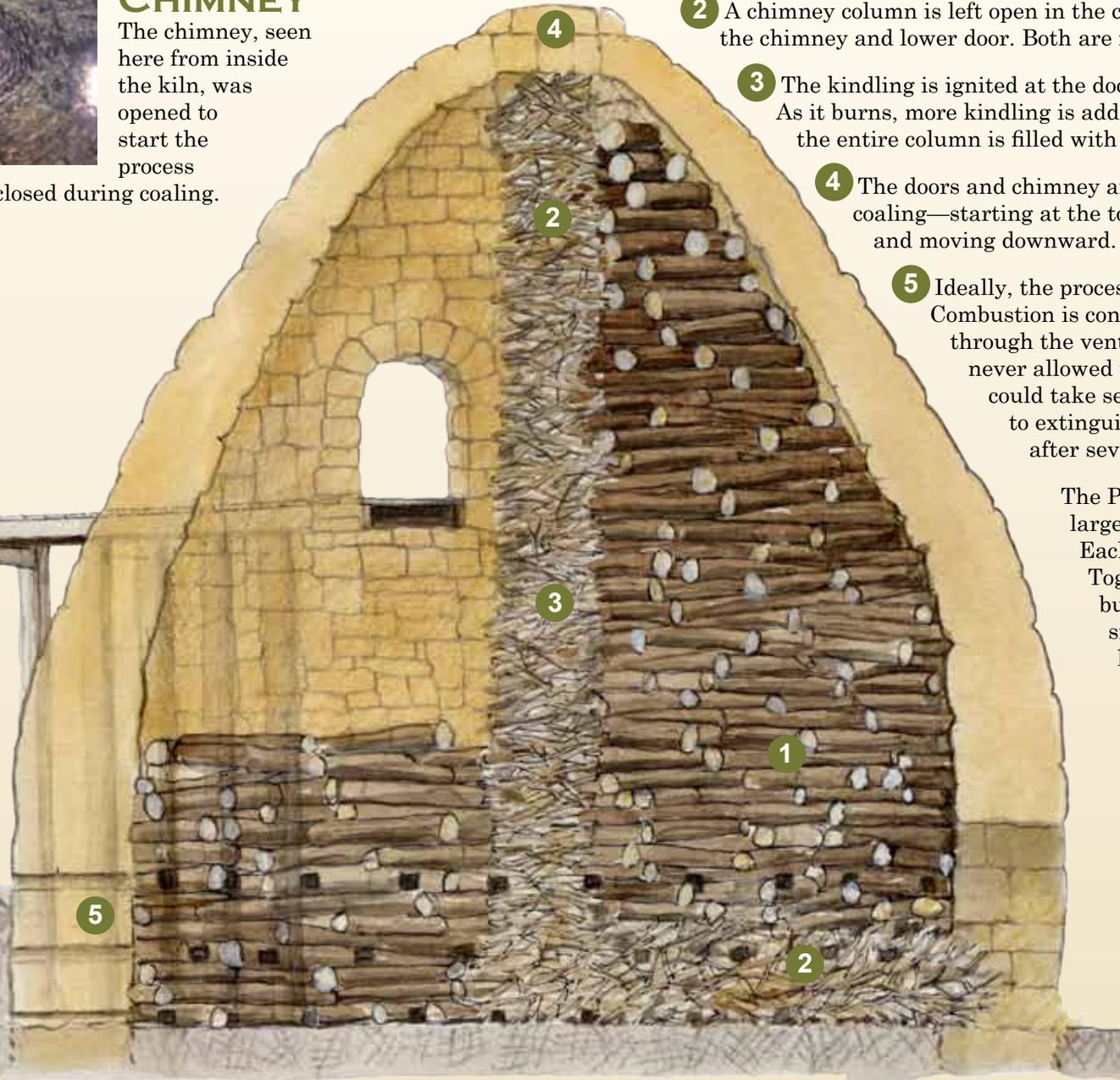
There are three rows of air vents around the circumference of the kiln. The lowest row was even with the interior floor, so air could reach the bottom layers of wood and condensed water or other oils could drain away.



CHIMNEY

The chimney, seen here from inside the kiln, was opened to start the process

and closed during coaling.



THE COALING PROCESS

- 1 The kiln is loaded with pinyon logs packed tightly together from floor to ceiling.
- 2 A chimney column is left open in the center of the kiln. A similar space links the chimney and lower door. Both are filled with kindling.
- 3 The kindling is ignited at the door and burns upward into the chimney. As it burns, more kindling is added through the chimney opening until the entire column is filled with hot coals.
- 4 The doors and chimney are sealed, and the logs themselves begin coaling—starting at the top where the chimney coals are hottest, and moving downward.
- 5 Ideally, the process proceeds slowly and evenly. Combustion is controlled by adjusting the flow of air through the vents in the wall. The wood smolders but is never allowed to burst into flames. The entire process could take several weeks. Then the vents are closed to extinguish the fire, and the kiln is emptied after several days of cooling.

The Panaca Summit Kilns are among the largest conical style kilns in the region. Each one can hold about 56 cords of wood. Together, they could produce 3,400 bushels of high quality charcoal at a single firing. If all went well, the pinyon logs emerged completely intact—but transformed into pure carbon. The coaled wood was broken up only enough to be bagged. The smelters demanded large chunks of charcoal for their furnaces—nothing at all like today’s charcoal briquettes.

