

## TULAROSA CANYON: A PORTAL TO THE PAST

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Tularosa Canyon, between the Village of Tularosa and Mescalero, has a lengthy record of human activity. Most noted have been the archaeological remains of Jornada Mogollon groups and a later period of occupation associated with Hispanic and Anglo settlement. Historic period settlement has been well chronicled, associated with a time when settlers from the Mesilla Valley along the Rio Grande attempted to establish an agricultural village, Tularosa, at the mouth of the canyon. The Mescalero Apache had already ranged across a territory that included the mountains of southern New Mexico and vast areas beyond. The new settlement of Tularosa was viewed as an incursion and threat to the Mescalero Apache. Conflict between competing interests of Apaches and Tularosa settlers largely culminated in 1868 during a standoff in Tularosa Canyon known as the Round Mountain Battle. By the time the Mescalero Apache Indian Reservation boundaries were defined, in 1873, further hostilities were limited to episodic encounters. What lay ahead, however, was a new conflict, a competition for the water in the perennial Rio Tularosa.

### The New Settlement

When Tularosa was first settled (1862/63), the newly founded village claimed all rights to the water in the creek for domestic and agricultural purposes. An immediate task was the construction of an acequia system that “channelized” the Rio Tularosa to increase and deliver a reliable flow of water to the village and adjacent fields (*hortalizas*) (Figure 1). Two actions are particularly relevant to the Village’s claim to Rio Tularosa waters: establishing ownership of the Tularosa Townsite (through formal survey) under Federal townsite laws with title to 320 acres of Federal public land in 1866/67; and the Tularosa Village’s petition of the New Mexico Territorial Legislature in 1866 to pass a bill (New Mexico Constitution Article XVI, Sec. 2) specifically to protect their rights to Rio Tularosa water and their investment in the extensive acequia system that eventually extended nearly 16 miles up the canyon.

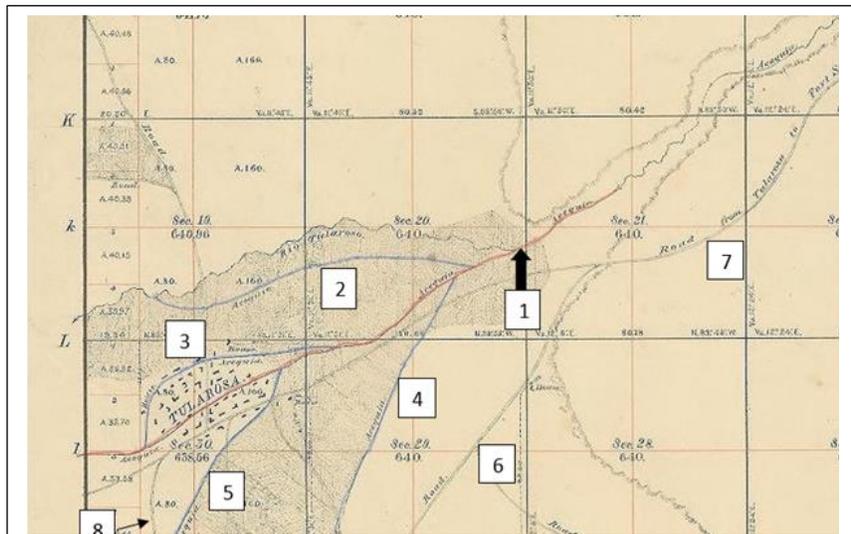


Figure 1. Portion of the 1867 GLO map of T14S, R10E, showing the Tularosa Townsite, acequia system, and areas under cultivation. 1 = Original Take-out and Acequia Madre head; 2, 3, 4, and 5 = laterals that branch from the Acequia Madre. 6 = Road to Canon de La Luz. 7 = Road from Tularosa to Fort Stanton. 8 = Road to Las Cruces.

### When the Rio Tularosa Ran Red and Litigation

Despite these efforts, later upstream settlers ignored Tularosa’s claim to all Rio Tularosa water, leading to a period of confrontation between these competing groups. Initial problems began in 1873 when water flow to Tularosa was disrupted and villagers destroyed upstream user’s diversion dams to renew flow to Tularosa. Known as the *Tularosa Ditch Wars*, the sometimes bloody dispute over water use ended in 1881 after Deputy Sheriff Cruz Padilla and his posse was killed while attempting to arrest ranch-hands

at the James West homestead for illegally diverting water. A series of law suits followed, with a final decree settled after years of litigation in 1919. Today, the canyon is littered by the remains of homestead ruins, variously located on both sides of the stream channel. Represented by adobe ruins that have melted into low mounds with travertine stone representing remnants of fireplaces, and shallow depressions representing dugouts, these homesteads provide evidence of Anglo and Hispanic peoples attempting to eke out a living along the Rio Tularosa. The archaeological record, however, begins long before the settling of Tularosa or the arrival of the Mescalero Apache.

### A Wealth of Archaeological Resources: Documenting What Remains

Investigations into historic and prehistoric land-use practices began 22 years ago when I noted the presence of some of the historic remains described above plus a series of irrigation ditches. My interest was piqued by the ditches due to my prior Hohokam experience in southern Arizona, and thus began an effort to map the course of the ditches before land development and surface modifications forever obscured them. After the founding of Jornada Research Institute (JRI), those efforts led to investigations at a Jornada Mogollon site that proved to possess a remarkable record of prehistoric settlement and land use known today as Creekside Village.

Previous research primarily by Regge Wiseman (an archaeologist at the Laboratory of Anthropology in Santa Fe) farther upstream in the canyon provided information on the presence of the rich archaeological resources present in the canyon. What Creekside Village exhibited, however, was an incredible record of Jornada Mogollon social, ritual and economic development that was focused on agricultural intensification (maize) made possible by constructing a series of Rio Tularosa-fed irrigation ditch systems as well as upland water collection and management.

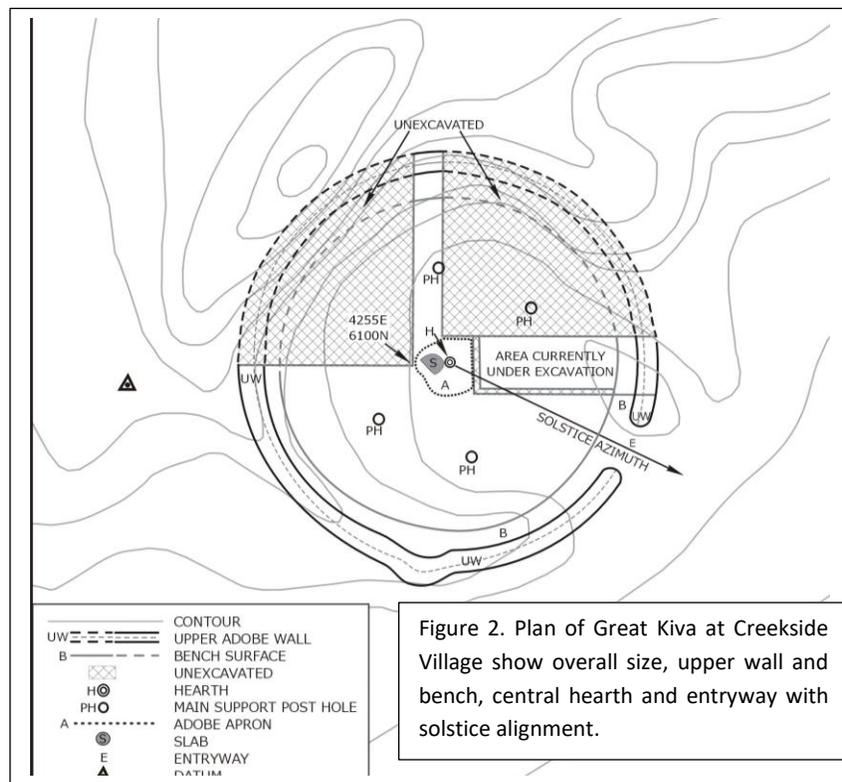


Figure 2. Plan of Great Kiva at Creekside Village show overall size, upper wall and bench, central hearth and entryway with solstice alignment.

Creekside Village was settled as early as A.D. 600. Residents continued to practice agriculture until A.D. 850 at a scale not readily recognized elsewhere in the Jornada Mogollon area. Present at Creekside are numerous pit houses (semi-subterranean structures similar to the historic era dugouts but much larger). Over an estimated 250 year period of occupations, the residents at Creekside Village constructed 200 to 250 pit houses. Based on the few thus far studied, the average size of the pit house at Creekside is about 6.5 meters (over 21 feet) in diameter, amounting to about 32 square meters of floor space (344 sq. feet). These houses are much larger than others found throughout the Jornada Mogollon area, and indicate that the number of occupants was much greater perhaps due to the permanent occupation of the houses in relation to the agricultural focus.

## Organizational Structure and Management

In order to manage settlement and operation of irrigation systems of the magnitude represented in Tularosa Canyon, organizational hierarchy was put into place. At Creekside Village (and also at the Twin Kivas site upstream), residents built large semi-subterranean structures known as great kivas (Figure 2). Great kivas are well known across much of the Southwest, including the Mimbres area around the Silver City area and northward into the Reserve/Mogollon Highlands, the Mogollon Rim country of east-central Arizona, the Zuni area, Gallup (southern Chuska Basin), across the San Juan Basin, into southwestern Colorado, and across northern New Mexico and middle and upper Rio Grande Valley. Those in Tularosa Canyon represent the southeastern-most in New Mexico during this period.

The great kiva at Creekside is perfectly circular, possessing 89 sq. meters of floor area, encircled by a low bench 2-feet wide. The roof was supported by four-posts that formed a square pattern and the upper encircling wall that was made of adobe (Figure 2). The upper wall was nearly 3-feet thick, designed to bear the weight of a significant roof sealed by an adobe cap. In the exact center of the kiva is a hearth (fire pit). When made, it was lined with gypsum clay (Figure 3); it was fired when the clay lining was still wet, producing a hard, concrete-like lining. The entryway was located on the southeast side of the structure. From the central hearth the winter solstice sunrise could be viewed in-line with the center of the entryway (Figure 2), illuminating the interior of the kiva over a period of at least eight days for approximately an hour each day before the sun moved northward again on the eastern horizon. The winter solstice observation within the kiva marked the beginning of the new year/new calendar cycle, by which these agriculturalists managed their annual subsistence routine, cleaning ditches, preparing and planting fields, tending crops, and looking forward to a successful harvest.

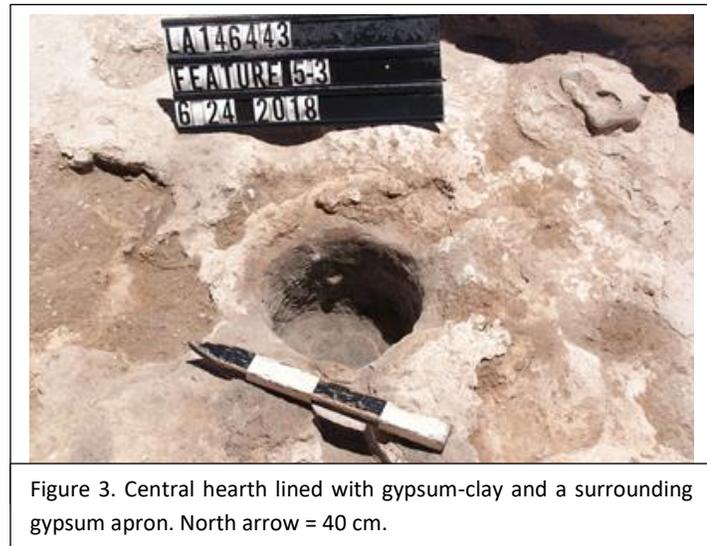


Figure 3. Central hearth lined with gypsum-clay and a surrounding gypsum apron. North arrow = 40 cm.

These farmers created extensive irrigation ditch systems that fed fields on the Rio Tularosa floodplain. As the ditches were extended downstream, they were designed to climb above the floodplain, following a serpentine pattern to negotiate the irregular topography of the Pleistocene terrace adjacent to the floodplain. Water was delivered to small plots of lands that possessed arable soils along the course of the ditches. Some ditches extend for over 3.5 miles from their head on the creek. Excavations have demonstrated that maize (corn) was prevalent, and grown, consumed and discarded in abundance. Contrary to subsistence data from other Jornada Mogollon sites where animal remains represent a large portion of the diet, few have been found among the deposits associated with these agriculturalists.

## Elevated Community Organization

The complexity of the social, political, ritual, and economic activities practiced by the Tularosa Canyon Jornada Mogollon further is expressed by inter-community organization. Although research efforts addressing this issue are in their early stages, sufficient evidence now exists to suggest that each irrigation community/system was connected to the next system downstream. The Twin Kivas system appears to have supplied water to Creekside Village by its terminus ending at a reservoir near the center

of Creekside Village. Likewise, the Creekside Village system has now been traced downstream to a point where it joins the Germany Falls system. Although much research is needed to fully characterize the system mechanics and their temporal associations, recent discoveries demonstrate that these extensive ditch systems were not built by the later Anglo and Hispanic settlers in Tularosa Canyon. Although some segments may have been reused, construction of adobe and masonry structures and dugouts over the irrigation ditches precludes their use in association with the historic occupants.

Future research plans include studies at another site known as the Great, Great Kiva. Much larger and deeper than other great kivas in Tularosa Canyon, this kiva is isolated on a high ridge possessing a commanding view from Bent to Tularosa and across the basin floor, overlooking all of the other known great kiva sites. It lacks associated pit houses but does have one large thermal feature positioned just upslope of the kiva depression. This feature may represent a signal fire used to announce a time to gather, a shrine, or a community feasting feature. We currently consider the function of this great kiva as the “intercommunity” kiva, from which social, political, ritual, and economic activities were conducted for the benefit of all settlements in Tularosa Canyon dating to this time period. Although no excavations have been undertaken, this kiva appears to be oriented toward the southeast, in line with the winter solstice sunrise in similar fashion as the great kiva at Creekside Village, likely designed to observe the winter solstice sunrise.

### **Summary**

Tularosa Canyon contains a wealth of archaeological and historic resources, many of which are recognizable on the surface today as subtle expressions. It has taken years to accumulate data on these surface remains, being able to recognize and trace them across the ever changing landscape. Routes of irrigation ditches are predictable, adhering to specific gradients. Surface expressions of pit houses are often delineated by encircling gravel berms formed when rock was discarded during the original construction of the structure. Kivas are often identified by their full or partial encircling berms of melted adobe walls and depressions that exceed those of pit houses. The fields are difficult to identify from surface indication, although some retain subtle suggestions of stepped terraces on gentle hillslopes. Most of the land in Tularosa Canyon is privately owned, although the Bureau of Land Management does own some parcels that have generated significant amounts of data relating to our studies. To them and the private land owners who graciously have granted permission to conduct research on their lands, we are grateful. Every day these unique resources are threatened as development continues in Tularosa Canyon. I attempt to convey to the property owners the importance of these unique resources in an attempt to protect or study them. It is remarkable that they have survived this long.

Jornada Research Institute conducts field investigations that include our members at least one weekend each month. Members participate in the excavation and data collection activities at the various sites. Tours can be arranged at nearly any time by contacting me via email at [dgreenwald@tularosa.net](mailto:dgreenwald@tularosa.net). During these tours, I discuss how the area today compares to historic and prehistoric times, changes in vegetation patterns, the geology of the area, and the subtle character of the houses, ditches, and fields, and provide comparisons with other regions.

Jornada Research is a 501-c-3 not-for-profit research and education organization. Ongoing investigations in Tularosa Canyon is only one of several programs we offer. We conduct organized tours by our research associates and in conjunction with other organizations. We are supported entirely by donations, membership dues and small grants. To learn more about Jornada Research, visit our website at [www.jornadaresearchinstitute.com](http://www.jornadaresearchinstitute.com)

