

Tri-Cultural Use of the Cerrillos Mines

Examples of turquoise pendant and beads dating c.1020-1120 recovered during excavations at Pueblo Alto in Chaco Canyon

Located 15 to 20 miles southwest of Santa Fe, the low hills known as Los Cerrillos contain deposits of copper, silver, lead, zinc, iron, gold, and turquoise. Beginning with the prehistoric mining of turquoise, these mineral deposits have been important to Native American, Spanish, Mexican, and American miners who have left considerable evidence of their operations. These remains present a unique opportunity to study the mining record of these cultures. The area in which the mines are located, encompasses about 30 square miles. Both the size of the area and its mixed ownership (patented, public domain, state-owned) hinder preservation. The Cerrillos Mining District was placed on the New Mexico State Register of Cultural Properties in 1973, but it is not on the National Register of Historic Places.

Although the Spanish explorers noted the mines of the Native Americans in the Cerrillos Hills during the 1500s, it has only been during the past 30 years that detailed documentation of prehistoric, Spanish, and Mexican mining localities in the Cerrillos Hills has occurred. A. Helene Warren, a geologist whose interests were in archeologically-related studies, including early mining, focused on one half section of land in the southern Cerrillos hills as part of an environmental inventory and analysis for the Occidental Minerals Corporation, but she also explored other nearby mining sites as well (Warren 1974; Warren and Mathien 1985; Warren and Weber 1979). Under the direction of Daisy Levine, of the Museum of New Mexico, additional survey for the Mining and Minerals Division of the New Mexico Department of Energy and Minerals focused on one full section located immediately north of the half section surveyed by Warren (Levine and Goodman 1990) prior to back-filling dangerous mine shafts. Homer Milford of the New Mexico Abandoned Mine Land Bureau examined two areas at the northern end of the district: Turquoise Hill (Swick 1995) and the Real de los Cerrillos (Milford and Swick 1995). The work of these and other scholars provides the basis for the following discussion.

Native American Mining

Native American mining in the Cerrillos Hills included extraction of both turquoise and galena, a



lead glance that contains silver and other minerals. Blue-green stones, especially turquoise, have been important to southwestern inhabitants for over a millennium. The Spanish observed Native American use of turquoise as soon as they visited tribes in New Mexico (Schroeder 1979), and there is an increase in the number of turquoise artifacts recovered from prehistoric sites dating around 900 (Mathien 1981; Snow 1973). Spanish and Mexican records of the prehistoric use of turquoise mines are vague, but sources of turquoise discovered since the mid-1800s all indicate earlier mining (Jones 1909; Pogue 1915). It is one of the Cerrillos mines, Mount Chalchihuitl, that provides evidence for the greatest mining activity. W. P. Blake (1858), the first geologist to visit the area in the American period, heard about the mines from Navajo and Pueblo Indians who wore turquoise stones as ornaments and prized them for trade.

Recent surveys (Levine and Goodman 1990; Milford and Swick 1995; Swick 1995; Warren 1974; Warren and Mathien 1985) indicate that the Native Americans utilized several areas in the Cerrillos Hills. In the north, at the Castillian and Tiffany pits on Turquoise Hill sherds collections indicate prehistoric use by the 10th century. Based on the number of sherds, however, the greatest mining activities probably took place during the years between 1375 to 1500. In the southern part, in addition to Mount Chalchihuitl, there are three major turquoise mining areas: the ridge west of Mina del Tiro, the O'Neil Blue Bell turquoise mines, and the Bonito quarries on the hills south of Franklin Ridge. In addition, there are two small pits on the east side of Franklin Ridge and the Firefly quarries that may have been the location of the earliest mine. One pit is adjacent to a small turquoise workshop that had several sherds that date approximately from 875 to 1050. Similar sherds were found at workshops west of Mina del Tiro and on the north end of Franklin Ridge. Other prehistoric mining occurred in the foothills of Mount McKensie and Grand Central Mountain (Warren and Mathien 1985).

Warren's analysis of potsherds from the Cerrillos mines indicates two major periods of prehistoric utilization—1000-1150 or 1200 when

Chaco Canyon (about 100 airline miles to the west) was the major center of cultural development which utilized great quantities of turquoise, and from 1350 to 1680 when there was a major expansion of pueblo culture in the area along the Rio Grande. During the earlier period, sherds from the mines came mainly from the eastern Red Mesa Valley (where numerous Chaco related sites have been documented), as well as some from the Upper Rio Grande Valley. Sherds from the later period suggested strong ties to San Marcos Pueblo, located about two miles east of the mines. Weaker ties to Tonque Pueblo to the south and the Pajarito Plateau to the west were also suggested (Warren and Mathien 1985).

Mining tools recovered from these prehistoric sites include grooved axes, mauls, picks, hand-held hammers, anvils, and lapidary stones. The tools are usually made from local material such as, igneous rocks, plus hornfels, quartzite, sandstone or vein quartz. The lapidary stones are usually found in workshop areas where the host rock was removed from the turquoise prior to modification into beads and pendants.

That non-local people mined the Cerrillos Hills during the early period is suggested by the evidence from five small pueblos and a sherd and lithic scatter known as the Bronze Trail Group located approximately one kilometer east of the southern turquoise mines (Wiseman and Darling 1986). Although a few sherds suggested brief occupation of two of the sites prior to 900, the majority of the sherds were attributed to 900-1200, with only a few indicating post 1300 use of these sites. Wiseman and Darling (1986) suggest these sites were used by miners solely for the purpose of turquoise extraction. Architectural differences between these sites and contemporary local Rio Grande pueblos, the absence of tools related to subsistence activities (e.g., manos, metates, and projectile points), the location of the Bronze Trail sites on non-arable land, and the dominance of turquoise debris, lapstones, and mining tools at these sites indicates the presence of people who used the sites for turquoise procurement. The majority of the sherds indicated ties to the Mount Taylor area just east of the Red Mesa Valley.

After 1300, but prior to the arrival of the Spanish, the nearest Native Americans lived at San Marcos Pueblo (1300-1700). After 1700, sporadic visits to the turquoise mines by small groups of Native Americans probably took place. During the American period, there are records of groups of three or four visiting Mount Chalchihuitl and Turquoise Hill (Schroeder 1979). Indians from Santo Domingo Pueblo claimed ownership of the Cerrillos turquoise mines (Schroeder 1976), but Snow (1973) indicates that members of Santa Ana,

Cochiti, San Felipe, and San Ildefonso are among the puebloans who indicate use of these mines in the historic period.

Prehistoric lead mines were investigated by the Spanish as soon as they explored the area in the 1500s, and confirming evidence of their use by Native Americans was collected during surveys and excavations. Warren (1974) documented 12 galena mines; the ore was used for prehistoric glaze paint on Rio Grande pottery from 1300 to 1700. Lead glazed ceramics were also recovered from the Ruelena (Pennsylvania) Mine (Milford and Swick 1995). Two excavations have been carried out. At Mina del Tiro, galena was extracted for 1,800 feet along the vein outcrop and to unknown depths; at the Bethsheba mine excavations by the Albuquerque Archaeological Society were carried out to 23 feet (Richard Bice, personal communication 1998; Sundt 1993). Tools and sherds dating from 1300 to 1700 recovered from the lead mines were similar to those found at the turquoise mines. Spanish documents indicate the inhabitants of San Marcos Pueblo and other small sites along San Marcos Arroyo utilized these mines. The few sherds dating after 1700 and the lack of glaze paint on pottery after this date are in agreement with the Spanish records that the Native Americans did not work the mines after the Pueblo Revolt of 1680.

Spanish and Mexican Mining

In 1581, members of the Rodriguez-Chamuscado Expedition were led to galena and copper deposits by inhabitants of San Marcos Pueblo. When samples were taken, silver was among the minerals present (Milford and Swick 1995). Extensive mineral exploration began with colonization in 1598; silver ore was extracted within the first few weeks. During the first few years, both smelting and the use of quicksilver techniques were employed by Juan de Oñate and Vincente de Zaldivar. The few government documents that survived the period 1610 to 1690 indicate that the small Spanish population was aware of silver deposits in the area, but references to mining are silent. In the 1630s, however, one of the 50 male residents of Santa Fe was listed as a silversmith. Some of the pottery at the galena mines dates to this period. Milford and Swick (1995) suggest that the lack of a written record may be due, in part, to a desire to avoid taxes and retain subsidization of the colony's missionary efforts by the crown.

In the mid-1600s, a ranch was established south of the Santa Fe River near Alamo Creek and the nearby hills were given the name Los Cerrillos. Because all local records were destroyed in the Pueblo Revolt of 1680, there is no documentation of mining activity until after that date. The earliest surviving record of a mining camp being founded

and recognized as an official community dates to 1695 when Governor De Vargas appointed a mayor for El Real de los Cerrillos. This enterprise included three lead-silver mines that were "reopened" and may represent the mines that Vincente Zalvidar established earlier (the Santa Rosa and the Mina del Tiro were both known since 1581). This is the oldest Western mining camp in the United States for which we have a clear record. The camp was closed in 1696 at the start of another revolt, and the camp was never reoccupied. In 1697, Governor Rodriguez Cubrero confiscated De Vargas' property; he then owned the Santa Rosa silver mines until 1703 when De Vargas returned as governor. Both men died in 1704; in 1709, Juan de Ulibarri received title to the Santa Rosa mine. There are few references to the mine after 1709 (Milford and Swick 1995).

Around 1763-1764, Tomas Antonio de Sena, Bartholome Fernandez, and Manuel Duran y Chavez requested title to Nuestra Señora de los Dolores Mine Grant (Our Lady of Sorrows). Milford (Swick 1995) reviewed evidence for this

and two other mining claims from 1764 and concluded that these should be identified as the Castillian Mine or the Old Indian Prospect on Turquoise Hill (Milford 1995). No other records exist for the mines on Turquoise Hill until the American period. A few records acknowledge the presence of silver in the area, but note that little mining took place, probably because smelting was not profitable. Because a few threads of gold have been found in the turquoise, Milford (1995) speculates the Spanish may have been looking for gold, a quest that was not rewarded then or during the later American period explorations.

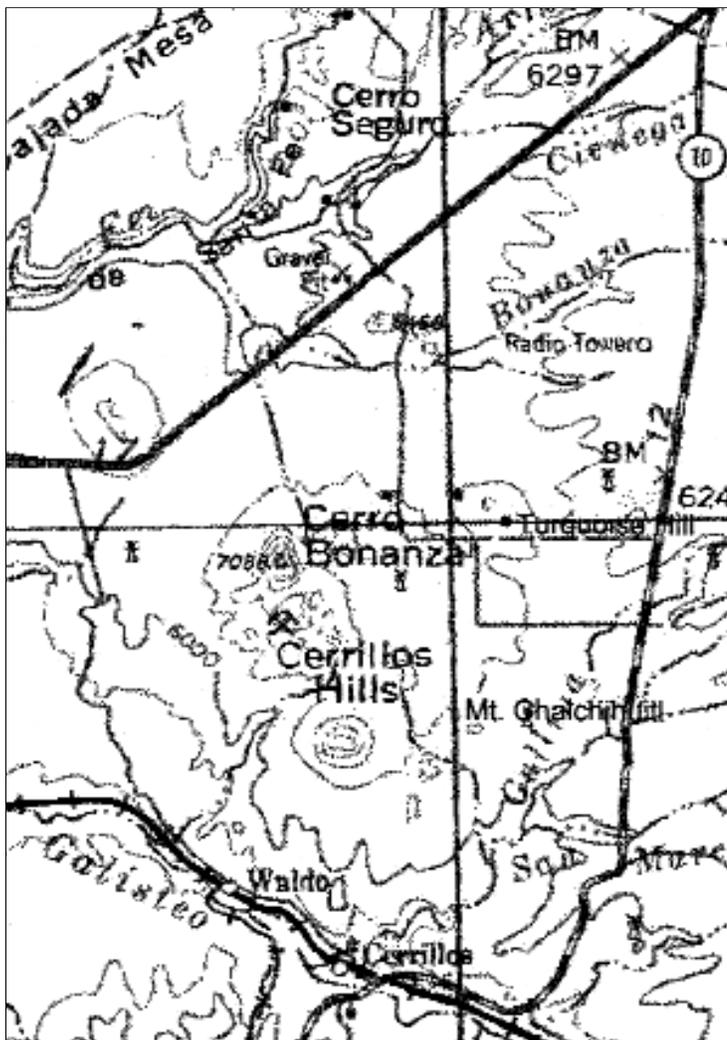
After Mexican independence (1821), Milford (Milford and Swick 1995) indicates that there were 50 known lead veins in Los Cerrillos, several of which were known to be old mines. In 1830, Alvarado reopened the Santa Rosa Mine and a group of other men formed a mining company to operate three mines, one of them being the Mina del Tiro where Milford suggests they cleaned out an earlier Spanish shaft. Milford reports that one of the logs from the Bethesda mine provided a tree-ring sample that dated to 1832.

Documented evidence for turquoise mining during the Spanish and Mexican periods is limited and much of what follows is inferential. That the Nahuatl word, Chalchihuitl, was used to denote turquoise and that this name was given to the largest prehistoric turquoise mine suggests that the Nahuatl-speaking Tascalans who accompanied Oñate may have been involved in mining. Turquoise would have been an important gemstone for the Tascalans, and it would have been accepted in trade by local pueblo people. Because the Spanish did not value turquoise, it was seldom mentioned in their documents. That the name "Old Indian Prospect" was still used for an area on Turquoise Hill in the 19th century, and because the deposits at Mount Chalchihuitl proved to be much depleted during the American period while those on Turquoise Hill were productive during the 1880s, may indicate continued use of the northern turquoise mines during the Spanish period (Swick 1995).

American Mining (post 1846)

During the 1850s and 1860s, the Delgado family claimed the Cerrillos area as part of a land grant (Milford and Swick 1995). In 1861, the Mina del Tiro was leased from the Delgados and an earlier mine shaft was reopened. When the mine collapsed, the miners refused to return to work. The government rejected the Delgados claim and opened the area to purchase in 1870. By 1872, Santa Fe entrepreneurs had purchased the lands containing most of the old silver mines from the government and the Santa Rosa and Ruelena were reopened. In 1878, the owners of some of the

Map of Cerrillos area indicating several of the mines and other localities.



mines hired Robert Hart from Leadville, Colorado, to supervise the development of their mines. Hart prospected on the areas still owned by the government and found some good silver veins. He returned to Leadville to recruit other miners. In 1879, with the influx of Colorado miners and much news coverage, the boom that was to make the Cerrillos Mining District famous began.

When the Cerrillos mines were the only known source of turquoise in the late-19th century, mining claims on Turquoise Hill were profitable investments. The American Turquoise Company and its mine manager, J. P. McNulty, developed their turquoise claims until circa 1914, but the discovery by Americans of other turquoise deposits in the Southwest brought a decline in price and eventual decreased production.

Recently, drilling for copper ores by Occidental Minerals was strongly opposed by local inhabitants and mining operations soon ceased (Bice, personal communication 1998). Today, several areas are being mined for gravel, but the minerals do not bring in sufficient funds to induce major extractive operations. Although there is a long history of mining in the Cerrillos Hills and a few individual owners who are attempting to preserve the evidence of earlier operations, e.g., the Millennium Complex consisting of the Tiffany and Castillian mines on Turquoise Hill, there is unfortunately no overall plan to preserve this important multicultural mining history or to evaluate its potential eligibility for the National Register of Historic Places.

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