

PROJECT SUMMARY

At their height during the middle Sedentary Period (A.D. 1000-1070), the prehistoric Hohokam of central Arizona maintained an intensive and large-scale system of pottery manufacture that sustained far-reaching social interaction through regional ceramic exchange and the ceremonial ballcourt system. Such large-scale craft production is characteristic of complex society, which provides the infrastructure for production intensification, and is fueled by its surpluses. Yet, the Hohokam were relatively egalitarian, with neither cities, nor an extensive division of labor, nor marked social stratification. How, then, in the absence of more complex social systems, was production among the Sedentary Period Hohokam organized and made possible?

The ceramic industry of the 11th-century Hohokam “core” at Snaketown and allied communities in the middle Gila Valley produced rich quantities of red-on-buff ceramics to supply a market far exceeding local demand. Traditional studies have acknowledged the productive capacity of the middle Gila and proposed that ceramic surpluses were exchanged for agricultural products, especially cotton (Abbott et al. 2007a). Such exchange may even have contributed to the elaboration of integrative rituals associated with the ballgame. But just how productive was the middle Gila ceramic tradition? Was production concentrated at Snaketown or were multiple communities involved? Were ceramic resources exchanged to create greater economies of scale, or did task segmentation accompany more efficient modes of ceramic manufacturing? Resolving these questions requires a better understanding of the organizational principles and capacity of core Hohokam technological systems. To achieve that understanding, our research focuses on analyzing the technology of red-on-buff ceramic production through a compositional study, aided by petrographic thin section analysis and chemical assays using Time of Flight-Laser Ablation-Inductively Coupled Plasma-Mass Spectroscopy (TOF-LA-ICP-MS). The goal of research is to identify and characterize raw material sources and compare these to middle Sedentary Period ceramics from eight sites distributed across the region, including Snaketown. This will enable us to map the circulation of raw materials, not just finished products, and thereby geochemically identify resource trade and - in so far as it exists - task segmentation and resource specialization among producer communities. The results of this analysis will enable us to test whether numerous producer communities acted independently in the acquisition of raw materials and ceramic production or whether production was organized according to a division of labor that provided for the circulation of raw materials to only a few production centers from which finished ceramics were distributed throughout the Hohokam world.

The **intellectual merit** of this research rests on the opportunity to explore the relationships of craft production and economic intensification in middle range societies like the Hohokam. Middle Gila River potters maintained one of the largest ceramic production systems in the American Southwest, and yet pottery production appears to have been organized at the household level. In cross-cultural studies of cultural complexity, they stand out as an example of how large-scale production may be organized by coordinating the efforts of villages. Our study therefore will provide critical information on whether enhanced production efficiency and greater economies of scale precede (rather than follow from) more complex political developments.

The **broader impacts** of this research come from enhanced interaction with native communities in the formulation of scientific research and broad dissemination of results through multiple venues including publications and publicly accessible web databases and facilities. Research will take place on the Gila River Indian Community Reservation using the expertise of native and non-native employees of their Cultural Resources Management program. Collaboration with the Gila River Indian Community broadens the participation of underrepresented groups in archaeology while enhancing the infrastructure for research and education, within the Tribe and at SMU. A combined characterization approach using petrography, TOF-LA-ICPMS, and input from modern potters also has the potential to transform the way we address key issues in Hohokam ceramic analysis. The theoretical and methodological focus of this project therefore will reach well beyond its three-year duration to clarify our understanding of Hohokam prehistory while promoting advanced training for Native archaeologists and collaboration between academic institutions and Tribes.