

## Cogstone Research Summary

23 November 2020

I, Rachel Heil, along with five other undergraduates, was chosen to participate in a Research Experience for Undergraduates (REU) at the University of South Alabama under a grant given by the National Science Foundation to Dr. Lesley A. Gregoricka and Dr. Jaime M. Ullinger. The REU was an incredible opportunity to receive hands-on research training experience with human skeletal remains studied in a bioarcheological context. Not only was the REU hands-on experience, but a challenging one seeing that the bones of multiple individuals were mixed and cremated. Imagine pieces of different puzzles jumbled together with no clear picture to reference! The cremated and commingled remains were from two tombs, Unar 1 and Unar 2, in the United Arab Emirates dating back to the Early Bronze Age (2400-2100 BCE). Each pair of students worked on a different hypothesis.

Our research investigated the minimum number of individuals (MNI) and cremation practices within each tomb. We observed every talus, a foot bone between the tibia and calcaneus. Using the landmark and zonation methods, we assessed four features and four landmarks on the left and right tali to measure the bone's completeness. Using a Munsell Soil Color Chart, we assessed the landmarks and features to measure color. The color would indicate the extent of the burning of the bone. The colors light brown, dark brown, black, grey, blue-grey, and white were categorized into unburned, burned, and calcined bone. We predicted that Unar 2 would have a larger MNI than Unar 1, and that Unar 2 would have a greater extent of burning than Unar 1. We confirmed these hypotheses in our data reported in the digital story as the REU's final products. Please find more information in our [digital story](#), [NSF REU Site: Bioarchaeology of Bronze Age Social Systems homepage](#), and [blog](#).