LANCE FORMATION BONE BEDS 5-2017 & 1-2018 SITES MICROFOSSIL ANALYSES, EASTERN WYOMING. Caroline Chandler, chandlcm@mail.uc.edu, and Amanda M. Hunt, Ph.D., huntad@ucmail.uc.edu, Geology Undergraduate Research, University of Cincinnati Clermont College, U.S.A.

The Upper Cretaceous (Maastrichtian) Lance Formation of eastern Wyoming is well known for its well preserved vertebrate fossils, including dinosaurs. Microfossils occur at a number of locations and some have been studied for vertebrate and invertebrate constituents, including micro-mollusks, pollen and spores, fragmentary plant tissue, ostracods, foraminifera, and diatoms. This study includes new sites not yet investigated. This suite includes removed and processed samples of silty clay matrix surrounding selected large Hadrosaur bones from the 5-2017 & 1-2018 sites in order to extract the various microfossil components. Macerated plant materials are observable in abundance throughout bone matrix samples from this site. Different sample preparation protocols are necessary for each category of microfossil for optimal results. The initial protocol utilized mechanical sample crushing, followed by alternate freeze and thaw in water until the material was thoroughly disintegrated, followed by drying, sieving, and examination under the microscope. Another protocol utilized detergent soaking for disintegration. An AmScope T390B microscope with a 3.5 mp camera was used to identify and photograph the materials. The nature and relative abundance of the individual constituents assist in evaluating environmental conditions that existed as the dinosaur bones were deposited and subsequently buried in the matrix sediments.

KEYWORDS: Geology; Lance Formation; Microfossils