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The Coats-Hines Site: Tennessee's First Paleoindian-Mastodon Association

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The Coats-Hines site (40Wm31) is located along the south side of a small spring of Spencer Creek, Williamson County, Tennessee (Breitburg and Broster 1995). Mastodon (*Mammot americanum*) remains rested within a late-Pleistocene stratum, a randomly mixed lattice of illite and montmorillonite, overlain by 70 cm of buried Braxton soil, and sealed by a meter of redeposited light brown silty phosphatic Huntington loam. Slight rounding of chert cobbles and pebbles implies the area was an old stream channel, filled sinkhole, or beaver pond. The soil-mineral content is almost all quartz, chert, and sand-sized or larger grains of tripoli, but the silt-sized quartz grains are most abundant in all strata. Sparse exotic heavy zircon and tourmaline minerals are only known from Middle Tennessee loess, a dust blown in from dried Mississippi River flood plain soils to the west.

Disarticulated mastodon remains (Figure 1) consist of molar teeth, tusk, hyoid, two cervical and seven thoracic vertebrae, numerous rib shaft, humerus, radius, and pelvic bones and respective epiphyses. The metrical dimensions of the humerus and its proximal epiphysis imply the animal was a young male, 18-23 years of age. The associated faunal complex includes horse (*Equus* spp.) teeth, deer (*Odocoileus* sp.) antler, muskrat (*Ondatra zibethicus*) humerus and metapodial, dog-sized (*Canis* sp.) first phalanx, turkey (*Meleagris gallopavo*) phalanx, frog (*Rana* spp.) humeri, painted turtle (*Chrysemys* cf. *picta*) plastron, and carapace and plastron fragments of indeterminate semi-aquatic turtles.

Thirty-four chert specimens that were mapped or recovered within the thoracic cavity and its immediate vicinity include 10 formal tool parts and 24 resharpening flakes. The tools include part of a prismatic blade, proximal bifacial knife, two gravers, two uniface side scrapers, and two scrapers/cores.

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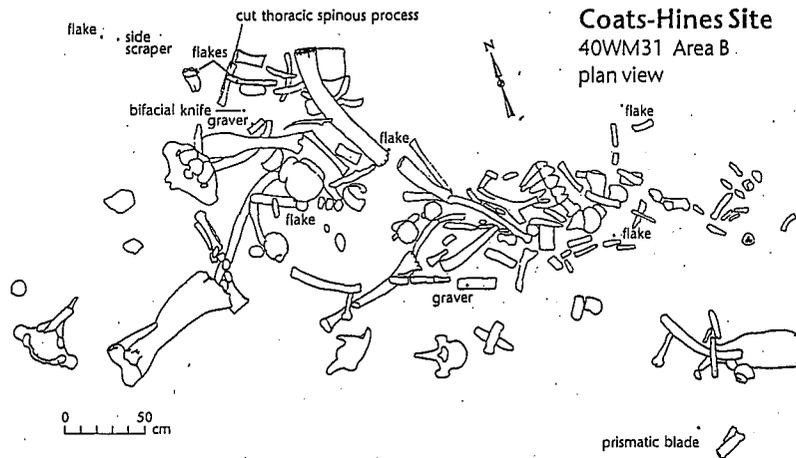


Figure 1. Location of the Coats-Hines Site mastodon remains, cut bone, and Paleoindian artifacts.

All the tools are made of Fort Payne chert except one scraper, which is probably St. Louis chert. Flakes range from 4.84 to 27.13 mm, grading toward smaller fragments; they show fine bifacial retouching of tools for butchering purposes. All but two (one each of Dover and St. Louis cherts) flakes are made of Fort Payne chert.

Soil, bone, and cultural deposits lead to inescapable hypotheses and conclusions: 1) mastodon remains rest in relatively undisturbed context and in direct contact with tools known only from Paleoindian kill or task-specific butchering sites; 2) distinct V-shaped cut marks on a thoracic spinous process in direct contact with resharpening flakes imply the removal of the dorsal muscles of the backbone; 3) one polished bone showing fine striae and antler-tine tip breakage imply domestic and tool-fabrication tasks; and 4) presence of a single first phalanx that compares very favorably to domestic dog (*Canis familiaris*), all lead to a very strong probability and conclusion that the Coats-Hines site is the first documented Paleoindian-mastodon site for the state. On the downside, the chronometric integrity of bone and soil samples is compromised by the lack of bone collagen and by extensive disturbance of soil sediments by angle worms and tree-root growth. In spite of these problems, ^{14}C dates provide an age range of deposition spanning $27,050 \pm 200$ yr B.P. (Beta-80169) to 6530 ± 70 yr B.P. (Beta-75403). The latter date was taken from organic soil and plant material from within dental cusps. The earliest date relates to the sediments below the bone deposit and is associated with iron-impregnated horse teeth. Given the nature of the site, associated tool complex, and the probable presence of domestic dog, if better dating were possible, we would anticipate a date of at least 11,000 to 11,500 yr B.P. for Paleoindian site activity and occupation.

The investigation of the Coats-Hines site involved exemplary cooperation between professional and avocational archaeologists, and developers. We are most grateful to Robert P. Voyles, David Wilson, and Sharon Meadows of the Hines Interests Limited Partnership for allowing access to the site, and

our crew members: Steve Spears, Mike Moore, John Herman, John T. Dowd, George Heinrich, Bob Estes, and Patricia Anderson. A copy of the *The Tennessee Conservationist* is available free of charge through the Tennessee Division of Archaeology.

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