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Systematic Field Investigations at the Mueller-Keck Clovis Site Complex in Southwestern Illinois

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This paper reports three field seasons conducted between 2001 and 2004 at Mueller (11-S-593) and Keck (11-S-1319) in southwestern Illinois. Although recorded as separate sites, they are best considered as parts of an associated archaeological landscape. Both locations have produced remarkably similar assemblages of Clovis artifacts and are situated about 1 km apart on an upland hilltop and ridge, dividing the Illinois and Kaskasia drainage basins and adjacent to the American Bottom. Mueller is well known from previous reports of its surface assemblage, significant for the hundreds of tools found there and for the predominant use of Attica and Holland chert transported at least 320 km from west-central Indiana sources (Koldehoff 1983, 1999; Koldehoff and Walthall 2004; Lepper 1999). Keck is not as well reported, but several artifacts from this site are illustrated on the "Early Paleo-Indian" poster available from the Lithic Casting Lab. Both assemblages are derived from plowzone surface exposures, but an undisturbed woodlot, which may contain buried Clovis deposits, is immediately adjacent to Mueller.

Most of our fieldwork focused on this woodlot, initially excavating 35 shovel tests (40 by 40 cm) at 10-m intervals. Excavations followed natural stratigraphy; fill was screened using 0.32- and 0.16-cm mesh. Despite the unavoidable limitations of using such methods in attempted discovery of low-density sites (McManamon 1984; Nance and Ball 1986), we found prehistoric cultural material in most units with concentrations in the A horizon (including the underlying thin and discontinuous E horizon) adjacent to the plowzone exposures. In addition, 12 percent of these artifacts were found in the underlying B1t horizon about 10–40 cm below surface. These shovel tests produced 89 chipped-stone artifacts, including two flakes of Attica chert probably from Clovis occupations and one from the basal B1t or underlying Bt24t horizon about 40–45 cm below surface (soil designations from the County Soil Survey). These positive shovel tests helped determine scattered block excavations of 34.5 m^2 producing an excavated volume of 21.89 m^3. Depths ranged up to 95 cm below surface; fill was screened using 0.64- and 0.32-cm mesh. Another 171 chipped-stone artifacts were recovered from 0.64-cm screening of these units with 48 percent (n = 82) from the Ap and A horizons (densities of 15 and 10.5 lithic artifacts per m^3, respectively), 51 percent (n = 87) from the B1t (density of 9 per m^3), and 1 percent (n = 2) from the Bt24t (density of 0.5 per m^3). Diagnostic lithic artifacts were not recovered from these excavations, but three additional Attica flakes were found, two from the Ap horizon and one from the underlying B1t horizon. This slim evidence suggests a dispersed

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Clovis component may be buried within the B1t or upper Bt24t horizon (about 40–50 cm below the undisturbed surface), but the cost of recovery for these few Attica flakes was about 65 person-days each, which reflects the significant difficulty of locating and recovering them.

The relative concentration of Clovis artifacts in the adjacent plowzone may have been enhanced by deflation and erosion. Currently, the Ap horizon is underlain by lower Bt24t and B3t deposits, which indicates the loss of about 50 cm from the soil profile and potential mixing of A, E, B1t, and upper Bt24t deposits within the Ap. We have completed multiple collections of the plowed surface at both of these locations. At Mueller, we surveyed about 36,000 m^2 and piece-plotted 176 chipped-stone artifacts (including 11 Attica or Clovis diagnostics), 2,057 fire-cracked rocks, and 4 late-Woodland ceramics. At Keck, we surveyed about 180,000 m^2 and piece-plotted 623 chipped-stone artifacts (including 26 Attica or Clovis diagnostics), 4,998 fire-cracked rocks, 33 groundstone and hematite fragments, and 51 prehistoric ceramics. These efforts produced distributional maps that are helping to reconstruct the spatial patterning of artifacts across these plowed surfaces. Plans include continued surface collections on this landform and excavations at Keck to determine the potential for intact Clovis deposits below the plowzone there.

Finally, we are conducting detailed technological analysis of the associated avocational surface collections. This lithic assemblage from Keck includes 3 hammerstones, 228 waste flakes, 19 cores, 61 flake tools, 28 bifaces, and 39 projectile points. The Clovis component of Attica and Holland chert consists of 93 waste flakes, 10 cores, 44 flake tools, 14 bifacial preforms, and 11 fluted points. Mueller contains 11 hammerstones, 681 waste flakes, 68 cores, 332 flake tools, 75 bifaces, and 86 projectile points. The Clovis component of Attica and Holland chert consists of 259 waste flakes, 20 cores, 230 flake tools, 46 bifacial preforms, and 29 fluted points.

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