

point from the Gieseck site (Figure 1C) have also been documented near the South Platte River, at Kersey, Colorado (Pithado and Brunswig, in prep.). The Fox point corresponds well to Pryor Stem point descriptions from central Rocky Mountain sites (cf. Frison 1991, Figures 2.35 and 2.36) and was collected from an extensive sand dune field near the South Platte River.

The Gieseck point is a large leaf-shaped, expanded stem point with elements of parallel-oblique flaking closely resembling Foothill-Mountain, or Lovell Constricted points from northern Wyoming's Paint Rock Cave V, dated to ca. 8,140–8,500 yr B.P. (Frison 1992, Table 2.3, Figure 2.38E–F). The point was recovered from an early-Holocene terrace of the South Platte River. Finally, University of Northern Colorado surveys in 1997 in the Pawnee National Grassland in northeastern Colorado recovered another stemmed point from a creek terrace multicomponent campsite (5W1.2540) (Figure 1D).

Growing evidence of Mountain Paleoindian point finds in Colorado mountain, foothills, and plains-piedmont sites suggests somewhat more than suspected complexity of late Paleoindian cultural interactions and subsistence adaptations. Our future understanding of those interactions and adaptations can only be clarified with further research on the nature of late Paleoindian cultural adaptations and environmental change in the terminal Pleistocene and early Holocene.

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Geoarchaeological Investigations of the Crescent H Ranch Site (48TE1079), Teton County, Wyoming

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A Midwest Archeological Center field crew conducted geoarchaeological investigations in cooperation with Western GeoArch Research and the U.S. Geological Survey at three sites in the summer and fall of 1998 as part of data recovery for the reconstruction of the Fall Creek Road south of the community of Wilson in northwestern Wyoming (Cannon 1998). Each of the sites lies within areas mapped as alluvial deposits at the base of the Snake River Range. The Crescent H Ranch site (48TE1079) produced the greatest amount of geoarchaeological information.

Excavations revealed cultural deposits locally to a depth exceeding 2.5 m. Preliminary interpretation indicates a cultural record that extends back to the terminal Pleistocene. We date a possible paleosol minimally at 4050 ± 70 yr B.P. (Beta-126072; wood charcoal; $\delta^{13}C = -19.2\text{‰}$). The interpretation of the length of occupation is based on stratigraphic position and the presence of a burn spill from basal deposits. Frison (1991:131–132) notes that deliberate burning occurs occasionally in northwestern Plains Paleoindian assemblages.

"Obsidian Hill Creek" (OHC), a first-order east-flowing intermittent stream, heads in the Snake River Range at an elevation of ca. 2591 m altitude and debouches onto the postglacial floodplain of Fish Creek. Prior to the last deglaciation, Snake River outwash aggraded to near the level of the present Fish Creek floodplain. OHC drains an area composed of pre-Tertiary sedimentary rocks veneered with pre-Wisconsin glacial drift and a Tertiary rhyolite flow. Part of the Tertiary rhyolite forms "Obsidian Hill," named for its abundance of obsidian clasts.

Presently, the distributary channel near the southeast margin of the fan provides a topographic boundary for two portions of the site. The northwestern portion of the site consists of redeposited loess overlying red gravel units that were probably emplaced as stream deposits under Pleistocene flow regimes. Obsidian cobbles are interspersed with clasts derived from the sedimentary bedrock. The archaeological materials within this portion of the site lie within an overlying sheet of silt that includes a high proportion of redeposited loess, some sand and pebbles, and an occasional debris flow. The sheetwash sediments aggraded onto a partly dissected Pleistocene alluvial fan that had formerly prograded onto the floodplain of Fish Creek. Fish Creek has trimmed back this alluvial fan revealing the postglacial sheetwash sediments overlying

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the Pleistocene gravel in a cutbank. This suggests that the trimming occurred as a late-Holocene event after the sheetwash sediments were deposited.

The presence of good tool-quality obsidian cobbles in the fan gravel, or at the nearby bedrock source, appears to have been a major focus for groups occupying the site. The northwestern portion of the site is dominated by debris produced in the manufacture of bifaces. These include primary decoration flakes and broken bifaces at various reduction stages. No evidence of domestic activities was found in this portion of the site.

In contrast, the southeastern portion of the site produced a similar assemblage of biface reduction debris, and also a number of buried fired-rock concentrations that are tentatively interpreted as cooking features. One feature (P98-2), dated at $3,630 \pm 80$ yr B.P. (Beta-130273; wood charcoal; $\delta^{13}\text{C} = -26.6\text{‰}$), consists of fired rock in association with humic silty deposits. Several classes of artifacts, including expedient tools and ground stone, are associated with this feature, which appears to be the center of a processing area.

Sediments on this portion of the site consist of well-sorted fine sandy silt, which we inferred to have been emplaced as redeposited loess and which buries the (apparently) in situ cultural material. This sediment contrasts with the more poorly sorted, slightly pebbly sheetwash-derived sandy silt capping the OHC fan to the northwest in that it is texturally similar to primary loess. The origin of this deposit is problematic. One possibility is that it is slope-reworked sediment derived wholly from the Wisconsin-aged loess deposits that mantle the slope that forms the southeast valley wall of OHC and that tributary drainages to the south. This primary loess probably underlies the cultural materials; it extends to a depth of 4.5 m, although its contact with overlying Holocene reworked loess was not identifiable. Alternatively, the deposits might be a locally over-thickened unit of primary Holocene loess not present at nearby sites on Pleistocene gravels.

Additional analyses of the cultural deposits will occur over the next several months, and the National Park Service will publish a final report in 2000. This site is of considerable significance due to its large concentration, in buried context, of worked obsidian procured from nearby sources. These investigations also fill a gap in the archaeological record of the region that has been almost exclusively concentrated in the northern part of Jackson Hole in Grand Teton National Park (e.g., Connor 1998).

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Stratigraphic, Chronometric, and Lithic Technological Evidence for Pre-Clovis at Wilson-Leonard, Texas

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Wilson-Leonard (41WM235) is a deeply stratified prehistoric site in alluvium and colluvium along the south side of Brushy Creek in Williamson County, Texas (Collins 1998; Collins et al. 1993). Excavations penetrated 6.25 m of Quaternary fill resting on Cretaceous bedrock. Three major stratigraphic units with their archaeological content are recognized, from bedrock upward, as follows: Unit I is primarily fluvial with one late-Paleoindian and three early-Paleoindian components, Unit II is fluvial and colluvial with one mixed late-Paleoindian component, and Unit III is colluvial and anthropogenic with early-, middle-, and late-Archaic as well as late Prehistoric components. The chronology of these units in radiocarbon years before the present, established by 96 radiocarbon determinations, is as follows: Unit I, 12,000+ to 9,500; Unit II, 9,500 to 8,800; and Unit III, 8,700 to 1,000. This note discusses the physical characteristics, radiocarbon ages, and archaeological content of the lowest two subunits of stratigraphic unit I, roughly the lower 2.75 m of the section.

Resting on bedrock is a fluvial gravel deposit, generally about 2 m thick, designated Igl. No radiocarbon dating was possible for Igl, but the base of the overlying unit is dated to ca. 11,500 yr B.P. The archaeological content of Igl is a large biface, 3 other bifacial pieces, 3 edge-modified flakes, a uniface, and 52 flakes. Stratigraphically, chronologically, and technologically these artifacts meet the criteria for a pre-Clovis assemblage.

Overlying the gravel is a clayey pond deposit with krotovina. Icl: 29 radiocarbon determinations on sediment date Icl to the interval ca. 11,500–10,600 yr B.P. Near the base of Icl were recovered a projectile point tip, 7 bifaces, 31 other chipped stone tools, a hammerstone, and 658 flakes, all with strong technological similarities to Clovis, including the projectile point fragment which closely resembles tips of Clovis points. Dates constrain this assemblage, inferred to be of Clovis affiliation, to the interval ca. 11,500–11,400 yr B.P.

Immediately higher in Icl is another assemblage with a projectile point, 26 bifaces, numerous other chipped stone tools, an engraved stone, a *mano*, pieces of exotic sandstone and hematite, and more than 3,000 pieces of debris associated with skeletal remains of bison and a single horse bone. Radiocarbon dating places this assemblage in the interval ca. 11,400–11,000 yr B.P. Ultrathin bifaces and other characteristics of this assemblage compare closely with Folsom assemblages; the projectile point is thin, unfluted, and flaked in a manner more reminiscent of Plainview than of Midland or Folsom