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Results of the 1999 Allendale Paleoindian Expedition
By Albert C. Goodyear

The Allendale Paleoindian Expedition went into the field again this year during the month of May. Because the evidence for pre-Clovis was found at the Topper site in 1998, all excavation efforts this year were focused on exploring this potentially significant find. At the end of the 1998 season, unusually small flaked stone artifacts and heavily weathered small nodules of chert were encountered as much as a meter below the suspected Clovis zone of the site. High water tables prevented excavation any deeper than about two meters. This year, excavation units were designed to work safely at depths greater than two meters below surface in order to determine the absolute depth of the site. Specialists in the geosciences were brought in at the end of the month to evaluate the geological context of the deeply buried artifacts.

In 1999, some 54 members of the public signed up for a week or more by making a donation to the University of South Carolina via the newly established Allendale fund. Donor volunteers came from Maine to Florida, and from South Carolina to Texas. Numerous others visited the site in their roles as scientists and members of the media. SCIAA and the University of South Carolina wrote a press release in conjunction with visits by several invited scientists resulting in much media coverage including the Atlanta Journal-Constitution, the Post and Courier, The State, the Augusta Chronicle, and CNN News. The latter ran a short news program on the Topper site discovery, which aired.

Determined to Archaic zone (70-100 centimeters) preparing the large 48-meter square unit for excavations from 100-200+ centimeters. Four backhoe trenches were opened up and examined by visiting geologists, two on the terrace, one on the hillside, and one on the hilltop. The hilltop was also tested with 2-meter excavation units to further explore the total range of human occupation at the top of the quarry.

The supervisory staff this year included Tommy Charles of SCIAA; Sean Maroney, graduate student...
from USC (now a doctoral student at the University of Texas); Grayal Farr, graduate student at Florida State University; Sue Kane, student at College of Charleston; and Kenn Steffy. David Butler, graduate student at the University of South Florida, Van Steen, and Bob Cole each spent a month assisting in the excavations as well. Todd Maybury assisted during the last two weeks.

Toward the end of the field season, a team of geologists were invited in to examine the geological context of the site and to work on problems in geochronology. Dr. Michael Waters of Texas A&M University, Dr. Steve Forman of the University of Illinois at Chicago, and Dr. Thomas Stafford of Stafford Laboratories, Boulder, Colorado, spent three days examining profiles and taking samples for radiocarbon and optical luminescence dating. Dr. John Foss, University of Tennessee and project soil morphologist, also worked with the geology team evaluating profiles.

This year, a tremendous number of lithic artifacts were recovered due to the quarry nature of the site. Excavations in the upper 100 centimeters, or what is the Holocene zone, recovered ceramic and stone artifacts typical of the sequence known for the site. In the large 48-square meter block unit, artifacts in what is considered the pre-Clovis zone (150-200 centimeters) were low in number and small in size. More of the microblade-like pieces were found in the lower portion of the lowest meter. The small size of the flakes suggests they may have been fluvially transported from their original location. Due to a low water table, excavations proceeded by hand up to 300 centimeters below surface or a full meter into the underlying gray silty-clay terrace. Because of the high water table last year, we were unable to excavate this stratum. Excavation into the gray silty-clay terrace produced occasional small flakes and tools suggesting they may have been bioturbated into the unit. Excavations toward the base of the hillside, in contrast, produced much larger artifacts and cobble-size pieces of chert.

Excavations in the area (N244/E130) where the initial discovery of pre-Clovis artifacts was made in 1998, revealed more of the same this year. The unusual concentration of chert cobbles and probable quartz hammerstones encountered last year and designated Feature 23, were further examined in the adjacent square to the south. More rocks associated with Feature 23 were found, more small flake tools, and what resembled post stains. These gray, circular stains began at a common level, approximately the same as that of the rock cluster of Feature 23. There were five of these stains forming an arc. As these stains were found on the last day of the dig, we covered them with plastic and backfilled the excavation unit. In June, we returned with a small team to excavate the 2-meter unit immediately adjacent to the north to see if the stains would form an oval or circle. They did not, remaining as an arc. However, numerous large chert nodules (>10 centimeters) were found at this same level as well as several flake tools and a well-made endscraper. Based on the stains, the concentrations of chert cobbles, and numerous flakes and small flake tools, this would appear to be at or near the heart of the pre-Clovis deposit.

Excavations in 2000 will concentrate on investigating this area of the site.

This year a number of small blade-like flakes were recovered that had square cross sections. These are different from the small, flat, thin flakes with a single ridge that resemble microblades. Several archaeologists who visited the site commented that the square cross section pieces looked like burin spalls. Burins and burin spalls are

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a typical Old World Upper Palaeolithic bone and wood working implement.

In August, I attended a conference at the Smithsonian Institution where I brought many of the more interesting artifacts from the Topper pre-Clovis zone. This was a meeting designed to bring the pre-Clovis artifacts from Meadowcroft Rockshelter in Pennsylvania, Cactus Hill in Virginia, and the Topper site together for comparisons.

Meadowcroft and Cactus Hill appear to be more typically Paleoindian in terms of lithic raw material utilization, thin bifaces and projectile points, and prismatic blades. The Topper site lithic assemblage, however, reflects a strong emphasis on raw material processing as befits a quarry site, and the tools are much smaller. Whether this small flake technology is a function of the small raw material package or the inherent micro nature of the technology remains to be determined through further excavation. At this point, no solid evidence of bifaces is apparent from Topper, which makes for another strong technological contrast with Meadowcroft and Cactus Hill.

The geochronology team collected soil samples for radiocarbon dating of humic acids and optically stimulated luminescence (OSL) dating. Given the lack of macroscopically visible charcoal in the layer surrounding the pre-Clovis deposit, we resorted to these alternative dating strategies.

Dr. Tom Stafford obtained four radiocarbon dates on humic acids he extracted from soil samples. Two of these were taken from fluvial layers above and below the pre-Clovis zone. They returned dates of 6,670 ± 70 years BP and 8,270 ± 60 years BP. In as much as we have found 10,000 year old artifacts in soil strata above these dates, they are clearly contaminated by more recent humic acids. We estimate they should be twice that old. These units are also in the zone of high ground water flow. In a deep backhoe trench excavated into the terrace by the riverbank, Stafford was able to collect soil samples for humic acid dating from two discrete alluvial layers that were immediately below the gray silty-clay terrace unit. These dates returned 20,860 ± 90 years BP and 19,280 ± 140 years BP.

Four OSL dates were obtained by Dr. Steve Forman. Three of these were taken from the gray silty-clay unit immediately under the pre-Clovis deposit. These came back
35,000 ± 3000 years BP, 31,000 ± 4000, and 37,200 ± 3300 years BP. Because these samples were run on fluvial sediments, Dr. Forman cautions they represent maximal ages, i.e., they should not be any older than this. Because river sediments are not always well exposed to sunlight, these dates in fact may be several thousand years too old. According to Dr. Forman, the inherited age of overbank silty sands can be from 1,000 to 15,000 years too old. Using a factor of 15,000 years, these dates would come back to about 20,000, 16,000, and 22,000 respectively. The fourth OSL date came from the hilltop overlooking the Topper site on clean wind blown sands and was greater than 40,000 years. Based on this limited radiocarbon and OSL dating study, we appear to have an approximately 20,000 year old and younger alluvium inset over ancient aeolian sands in excess of 40,000 years. The in-situ pre-Clovis deposit sits in the lower portion of the two-meter deep sand unit which lies over the gray silty-clay terrace. In order to refine the dating of the site, an attempt will be made next season to extract and radiocarbon date microscopic-size charcoal from the fluvial deposits that contain the pre-Clovis material in an effort to determine the maximal and minimal ages of the site.

In May of 2000, we plan to return to the Topper site for a five-week excavation. The season will begin May 1 and continue to June 3. A two-week geology field study is planned after that for early June. The geochronology team will map the geology of the project area and collect samples for dating. Members of the public can sign up for needed to help staff the lab as we sort through thousands of lithic artifacts. We are also seeking volunteers to help in the lab. A total of $10,000 is needed to continue the lab until the May excavations. The geological and dating study to be conducted by the geochronology team will require $65,000. In order to scientifically validate the antiquity of the pre-Clovis occupation, a thorough geological framework must be developed. Anyone interested in helping fund the laboratory and the geology study should please contact me in care of the SCIAA. If we meet our funding goals, the year 2000 Expedition to the Topper site promises to be the most productive and exciting yet.

Many people and organizations helped to make the 1999 Expedition a success. Without the donor-volunteers, there would have been no dig. Thanks to each one of you as listed below. The supervisory staff did their usual good job and creatively solved the many problems as they arose. Ms. Iola Brooker and her family, of Brooker's Restaurant in Barnwell, continued to provide great food as only they can do. Mike Anderson and Susan Yates of Clarant Corporation, owner of the site, and the Plant Manager, Dan Packer, as usual welcomed us and...
gave us a place to stay in their spacious employee recreation facility. Clariant's backhoe operator, John Thompson, is second to none in his enthusiasm and precise work and gave good service. Our photographer, Daryl P. Miller, worked hard getting a lot of good shots of everybody and the excavation units. Betty Stringfellow and her fellow travelers from Johns Island provided the usual wonderful picnic for our crew and guests. The board members of the Archaeological Research Trust and their guests put on another memorable BBQ party. Henry Laffitte of the Carolina Commerical Bank and his associates with the Allendale County Chamber of Commerce provided financial support to help bring in the numerous visiting scientists to the site. David Anderson and his wife Jennifer Muse of Williston threw the grandest Paleo-Carnivore dinner party ever for the volunteers and invited scientists, eclipsing their previous all-time number of steaks grilled. To all these folks plus the scientists who visited and gave advice, a great big thank you.

Thank you all the volunteers listed below:

First Week
P. J. Bostick, Camden, SC
David Butler, Winter Springs, FL
Bob Cole, Hopkins, SC
Sallie Connah, Charleston, SC
John Conners, Waco, TX
James Christie, Inman, SC
Robert Flynn, New Bern, NC

Second Week
Darrell Barnes, Columbia, SC
Bill Botkins, Jasper, GA
David Butler, Winter Springs, FL
Bob Cole, Hopkins, SC
John Conners, Waco, TX
Brian Floyd, Ambrose, GA
Sara Jane Frazier, Atlanta, GA
Bob Hammond, Westbrook, ME
Susan S. Hollyday, Nashville, TN
Bill Larson, Santee, SC
Margaret Minch, Spartanburg, SC
Nancy Olsen, Newnan, GA
Clayton Parham, Latta, SC
Dennis Zeunert, Virginia Beach, VA

Third Week
Depy Adams, Charlotte, NC
Robert Allison, Cary, NC

Fourth Week
Sally Anderson, Winchester, VA
Darrell Barnes, Columbia, SC
David and Sheri Butler, Winter Springs, FL
Bob Cole, Hopkins, SC
John Conners, Waco, TX
Paul Constantino, Watertown, MA
Don and April Gordon, Rock Hill, SC
Susan Hollyday, Nashville, TN
Jay Hughes, Dorchester, SC
Ed Kimbrough, Columbia, SC

David Butler, Winter Springs, FL
Bob Cole, Hopkins, SC
John Conners, Waco, TX
Kevin E. Gallagher, Wading River, NY
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John and Alison Simpson, Greenville, SC
Ted Tsolovos, Chapin, SC
Dana Wakefield, Parishville, NY
Jim Way, Dorchester, SC

The prismatic blade from the Topper site shown in Newsweek, April 26, 1999. (SCIAA photo)

Digging into the food, the other favorite activity of the Allendale Paleoindian Expedition, prepared by Brooker's Restaurant in Barnwell, SC. (SCIAA photo by Daryl P. Miller)

The excavation crew from fourth week overlooking the 48-square meter block unit, Topper site, 1999. (SCIAA photo by Daryl P. Miller)