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The 2009 Excavation Season at Topper Site

By Albert C. Goodyear

Fieldwork at the Topper site began in March 2009, starting with a preliminary two-week dig to prepare the site for the May-June season. This was in preparation for further excavations of what we call the

towards the top, such situations normally mean artifacts are denser toward the top of an alluvial unit. As sedimentation slows, human occupations and resultant artifacts tend to be concentrated stratigraphically

a former stable surface (Fig. 1). To maximize digging time in the upper part of the terrace during the May season, the March dig was used to construct a sturdy wooden platform (Fig. 2) to allow people to safely excavate north of the backhoe trench (BHT 17). Tom Pertierra built the platform and provided great logistical support through his organization SEPAS, Inc. Tom and Ron Hollie designed it with assistance by J.L. Williams and volunteers Leon Perry and John Simpson. It allowed easy access to excavation units north of N246M.

During March, hand excavations were conducted in the Pleistocene alluvial sands that lie immediately over the Pleistocene terrace (Fig. 1). Excavation work in the Pleistocene sands was done by several experienced volunteers of the Southeastern Paleoamerican Survey plus undergraduate students on spring break from the University of Tennessee's Department of Anthropology. These 12 students of Dr. David G. Anderson spent a

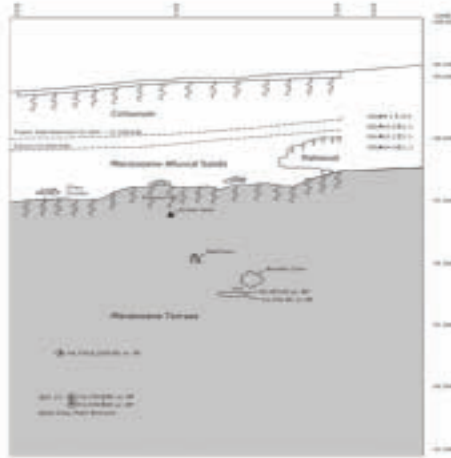
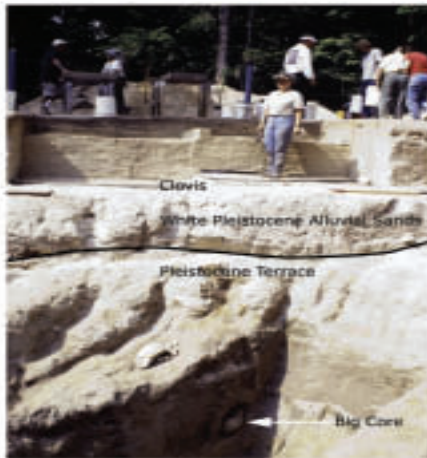


Fig. 1: Profile drawing showing geological layers and dates for Clovis down through preClovis zones at the Topper site. (SCIAA profile drawn by Meg Gaillard and SCIAA photo by Albert Goodyear)

Pleistocene terrace, the deepest artifact-bearing layer that was radiocarbon dated minimally to 50,000 years (Fig. 1). Controlled excavations into the terrace have been taking place since 2004 in an effort to determine the archaeo-stratigraphy of the deposit and to recover as many definitive artifacts as possible. Because of the high clay content, digging in the terrace has been a slow process. The soil has to be wetted and dug slowly with wooden instruments to carefully expose the chert artifacts. Accordingly, it takes two seasons to excavate a one-meter unit two meters down into the terrace.

Since it is clear that the terrace represents a sediment fining-up sequence where more sands are at the bottom and more clays and silts

toward the top. Based on soil morphology, we already knew this was the case since a well-developed argillic paleosol occurs in the top of the surviving terrace indicating



Fig. 2: Safety platform constructed in March 2009 to facilitate excavations in the upper Pleistocene terrace. (SCIAA photo by Jessica Beltman)



Fig. 3: Typical preClovis chopping implement from the base of the Pleistocene alluvial sands. (SCIAA photo by Jessica Beltman)

week learning how to excavate and were helpful in exposing the Pleistocene terrace for May. University of Tennessee graduate student Megan Hoak spent the week there helping to excavate and design her master's thesis analysis of Topper artifact stratigraphy and taphonomy. Besides the usual preClovis flake tools such as bend breaks, a classic "Topper chopper" was recovered at the base of the sands (Fig. 3). This piece had nearly all cortex removed as evidenced by several flake scars on both faces, and one edge had numerous unifacially detached flake scars creating a beveled chopping edge. Retouching of such choppers is responsible for depositing numerous small flakes with striking platforms and bulbs, which are found both in the Pleistocene sands and down in the terrace.

In the spring of 2009, the geochronology study of Topper and Big Pine Tree sites was finally published by the geoscience team of Waters, Forman, Stafford and Foss (Waters et al. 2009). This work was begun in 1999 and

consisted of additional fieldwork in 2000, and 2002-2004. The basic geological stratigraphy of Topper has now been reconstructed with age estimates. Clovis (13,000 years ago) sits in the base of the colluvium that began forming in the early Holocene after the Savannah River cut down to its present meander system (Fig. 1). Based on OSL dates and pedology, the Pleistocene alluvial sands are minimally 14-15,000 years old and thus are preClovis in age. The upper preClovis Topper lithic assemblage sits in the bottom of that unit and may be considerably older.

Based on radiocarbon dating, the top of the Pleistocene terrace is minimally 20,000 years old and potentially 50,000 or even older (Waters et al. 2009). The studies by the Waters team were funded by a SCIAA Robert L. Stephenson Fund grant, plus funds provided by the Allendale Paleoindian Expedition. More dating is needed to determine the absolute



Fig. 4: Paleoindian bifaces from underwater data recovery from the Big Pine Tree site, 38AL143, in 2008 and 2009; A, probable unfinished Clovis, B-D, Dalton points. (SCIAA photo by Jessica Beltman)

age of the preClovis occupation at Topper. Because of the general absence of charcoal, radiocarbon dating is unlikely to provide age estimates. New improved OSL dating may provide dates in the Pleistocene alluvial sands, which have heretofore



Fig. 5: Base of broken Clovis point preform from 2009 Hillside excavations at the Topper site. (SCIAA photo by Jessica Beltman)

resisted dating due to poor solar resetting.

As part of the continuing geoarchaeological studies of Topper, close interval sediment analysis is being conducted by Dr. Scott Harris of the Department of Geology and Environmental Geosciences at the College of Charleston. Scott and his student, Katie Luciano, are doing a laser-assisted particle size analysis of sediments from the current ground surface down to the 50,000-radiocarbon date level. Samples are collected every 5 centimeters except

in the zone from Clovis down to the top of the terrace where they are sampled every 2 centimeters. The latter approach is to examine in detail the transition from the base of the Holocene colluvium through the Pleistocene alluvial sands. These studies are important for documenting the sediment character of the various geological units and for assessing potential fluvial

energy represented in the Pleistocene alluvium.

The 2009 Allendale Paleoindian Expedition ran from May 4 through June 6. There was a good sign-up with over 80 people registering. Dredging at the



Fig. 6: Complete Clovis macroblade mended from three fragments from 2009 Hillside excavations at the Topper site. (SCIAA photo by Jessica Beltman)

Big Pine Tree site continued again this year during Weeks I and II. A significant portion of the site has eroded into Smiths Lake Creek. SCIAA's Marine Research Division oversaw the dredging again under the direction of Lora Holland, assisted by Carl Naylor and Joe Beatty. South Carolina hobby divers Doug Boehme, Drew Ruddy, and Ted Churchill gave good time and effort to help with the dredging. Tom Pertierra, logistics coordinator for SEPAS, Inc. oversaw equipment, surveying, and proveniencing. Bill Lyles and Bill Covington oversaw artifact sorting at the screening tables. Big Pine Tree is one of the richest prehistoric sites in the Coastal Plain of South Carolina starting with Clovis. Retrieval of diagnostic artifacts from the underwater portion has been an important way of building significant research collections for comparison with other sites in the region. The number of Clovis bifacial preforms is remarkable as well as Early Archaic notched points and unifaces, not to mention the dense Archaic and Woodland artifacts. A total of three Dalton

points were dredged up in 2008 and 2009 (Fig. 4) adding to the previous 10 recorded from Big Pine Tree (Goodyear 1998). Currently, Big Pine Tree is the largest Dalton site known for the Coastal Plain of South Carolina. Interestingly, no Daltons have been found at the Topper site, which is about one and a half miles away. The absence of Dalton at Topper greatly adds to the stratigraphic integrity of the Clovis occupation there. More dredging is planned for the Big Pine Tree site in the 2010 expedition.

Simultaneous in Week I, excavations resumed in the Pleistocene terrace. Doug Sain was the Senior Supervisor again this year ably assisted by Supervisors Sarah Walters and Kara Bridgman Sweeney. The last three one-meter units down in the terrace were completed by Jean Guilleux and Carol Reed stopping at about the 95.35-meter level where ground water was encountered. At the end of the 2009 season, a total of 14 cubic meters had been hand excavated and water screened over eighth-inch screen. As planned, several one-meter units were started in the top of the terrace yielding numerous interesting flakes and bend breaks. The preservation of chert in the terrace is remarkable with some flakes looking like they were made today. The normal weathering prone Allendale chert remains intact in the moist and often water saturated sediments. Because of

their highly siliceous condition coupled with the lower energy, back swamp deposits within which they rest, there is good reason to believe microwear analysis might be possible with these artifacts. The Pleistocene terrace is now set up for several more seasons of excavation in its upper meter.

Beginning in Week II, the third operation was started, that of the Clovis dig on the Hillside. Led by Senior Supervisor Ashley Smallwood of Texas A&M University, and assisted by University of Tennessee graduate student supervisors Erik Johanson, Robert Lassen, and Adam Russell, and University of Florida doctoral student Kara Bridgman Sweeney, excavations were resumed in unfinished 2008 pits. They were ably assisted by Bill Covington and Ernie Plummer who excavated their own units.

Units still open on the upper firebreak were completed and Ernie Plummer excavated three units further up the hill to probe the northern limits of the Clovis occupation. Dense Clovis floors were found in all three units indicating the Clovis occupation still continues similar to that to the south. One classic Clovis point preform



Fig. 7: Examples of exotic Clovis lithics from the Topper site, 38AL23. (SCIAA photo by Daryl P. Miller)

base was found (Fig. 5), broken by a flute resulting in a reverse hinge fracture. The reverse side shows the typical overshot flaking so well known for Clovis biface manufacture. A 13-centimeter long Clovis macroblade was also found in



Fig. 8: Dr. Dennis J. Stanford of the Smithsonian Institution lecturing at the Allendale Paleoindian Expedition basecamp. (SCIAA photo by Jessica Belman)

three pieces that mended together (Fig. 6). The fragments were found within 40 centimeters of each other spatially and within two centimeters vertically indicating integrity of the Clovis deposit. One two-meter square was excavated by Robert Lassen further east down the upper firebreak to probe the eastern extent of the Clovis occupation. The typical dense deposit of Clovis artifacts was also found there extending the site another 25 meters. The positive tests to the north and east add another probable 2,000 square meters of Clovis occupation to the Hillside. More work is planned for 2010 up hill to the northeast to test for possible changes in site function.

An interesting pattern that has been building for Clovis at Topper is the infrequent presence of exotic lithic artifacts, i.e., not made of the local Allendale chert. Five of the six artifacts (Fig. 7) are metavolcanics indicating a Piedmont origin. The sixth, a quartz crystal scraper, is ultimately from the Piedmont, though it might have been obtained from the Savannah River. The type of metavolcanics, such as dark fine-grained tuffs and rhyolites, suggests a North Carolina origin for these items

(Goodyear et al. in press). Such exotics may be giving an indication of the mobility range of Clovis people in the Savannah River Valley and perhaps their relationship with Clovis peoples to the north.

Concurrent with every week was the field laboratory directed by Erika Shofner. Erika masterfully kept up with all artifact washing including the March dig findings and conducted basic analysis of the all the Holocene age materials. Judith Scruggs helped out with artifact sorting for the entire season aided by various volunteers each week. Megan

Hoak was in residence for the entire season processing and sorting the Pleistocene materials related to her stratigraphic-taphonomic analysis for her master's thesis.

Several scholars visited the dig this year providing interesting evening lectures on related topics. Among these was Dr. Randy Daniel of East Carolina University, Greenville, N.C., speaking on the Pasquotank fluted point site in North Carolina. Dr. David G. Anderson spent several days with us and presented an update on his Paleoindian Data Base of the Americas (PIDBA). Dr. Frank Vento, geoscientist from Clarion University of Pennsylvania, toured the geological stratigraphy at Topper and spoke on his work on St. Catherine's Island, GA. where he has radiocarbon-dated paleosols at 22,000 and 13,000. Dr. Chris Moore,

recently minted Ph.D. from East Carolina University and now archaeologist with SCIAA's Savannah River Program, lectured on the work he and Dr. Mark Brooks are doing with Carolina Bays in SC. And in the last week, Dr. Dennis Stanford of the Smithsonian Institution provided an update on his research into the possible European Solutrean connection with the U.S. eastern seaboard and its connection with the origins of Clovis (Fig. 8). Dennis and his wife Dr. Pegi Jodry, also of the Smithsonian, spent several days with us reviewing the preClovis and Clovis excavations and artifacts (Fig. 9) and in general providing interesting insights and commentary on our Paleoamerican studies at Topper. They also had the opportunity to examine several private artifact collections from Georgia and South Carolina.

In the 2008 season, a new PBS program called *TimeTeamAmerica* spent a week with us filming for their series,



Fig. 9: Drs. Dennis Stanford and Pegi Jodry of the Smithsonian Institution viewing the Hillside Clovis excavations, June 2009. (SCIAA photo by Jessica Beltman)



Fig. 10: Archaeological staff and cast of the TimeTeamAmerica program at Topper, June 2008. (SCIAA photo by Meg Gaillard)

which began in 2009. On July 15th, Topper was the subject of a one-hour broadcast featuring the “guest archaeologists” of Time Team. (Fig. 10). This is the first one-hour national broadcast devoted to the site. The format of the program is that their team goes to different sites across America and joins in with a dig in progress filming their experience there as it unfolds over a 72-hour period. This approach allows the public to peer over the shoulder of the archaeologists and experience first hand the realities of fieldwork. The broadcast generated numerous calls and emails about the Topper site and will be helpful in our continued outreach to the interested public. Congratulations to Graham Dixon and Oregon PBS in this inaugural series.

As mentioned by Charlie Cobb in the last issue of *Legacy*, Tommy Charles has formally retired from the University. In June, a luncheon was held in his honor by SCIAA staff where his many contributions to our corporate work were acknowledged. On behalf of the Southeastern Paleoamerican Survey, I presented him with a framed picture of classic South Carolina fluted points as drawn and colored by his colleague of many years Darby Erd (Fig. 11). Several of the points illustrated were originally recorded by Tommy as part of his statewide private collections survey. As a matter of fact, well over half of the 500 plus Paleo points in the state survey have been recorded by Tommy. Though retired, we expect to see him regularly in SCIAA where he has

an office, and as he told me recently, he knows of at least 10 more fluted points that need to be recorded.

As is so often the case, the work of the Allendale Paleoindian Expedition at Topper and other sites on Clariant Corporation property is the beneficiary of several donors and volunteers who help make it a success. Over the years a number of volunteers have made themselves invaluable to our field and lab work by donating their time for the entire season. Among these are Ann and Bill Covington, Joan and Ernie Plummer, Carol Reed, Jean Guilleux, Judith Scruggs, Bill Lyles, and John and Alison Simpson. Thanks to all of them.

Clariant Corporation, owners of Topper and related sites, continues to be a valued friend to our program and the University as they allow and greatly facilitate our work on their land. Plant Manager, Eric Riden, and Daniel Bessenger, Human Resources Manager, were as usual cordial and accommodating hosts as were other Clariant employees. Yesterday’s restaurant in Columbia through Darrell Barnes helped with supplies and storage, which is greatly appreciated. Bill and Jack Kneft of Colonial Packaging have continued to generously provide reclosable plastic bags that no dig can do without. And Jack Willhoit of

American Systems of the Southeast, Inc. has provided printing of our Paleo art, which is much appreciated. To all of these and the numerous individuals who have signed up each year to help us accomplish this important work, a hearty thank you.

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Fig. 11: Tommy Charles receiving framed Paleoindian point art work from Al Goodyear in recognition of Tommy’s valuable contributions to Paleoamerican studies in South Carolina. (SCIAA photo by Jessica Beltman)