

Newsletter

SUMMER 2023, Volume 33, Number 3

Research Laboratories of Archaeology, Campus Box 3120, University of North Carolina, Chapel Hill, NC 27599-3120

Society Website: http://www.ncarchsociety.org

EXCAVATING A MANY LAYERED DAM

Mary Glenn Krause, RA, and Matthew Jorgenson, RPA (Current and Former AECOM Archaeologists)

"It is no secret that North Carolina is proud of its homegrown agriculture and agribusiness industries. Growing up in the North Carolina public school system, I knew that NC was the number one producer of tobacco and sweet potatoes in the United States before I knew multiplication tables. Even now, I still look forward to my annual State Fair visit to see the cows, honeybees, poultry tents, and the state's largest pumpkin. When a particular data recovery arose that combined three of my interests (archaeology, state history, and agriculture), I was a very excited archaeologist." — Mary Glenn Krause

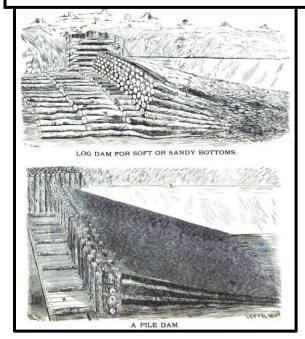


Fig. 1 – Historic Photograph of the Gillis Mill (courtesy of the Andrew Gillis Family).

As part of the proposed widening of Gillis Hill Road near Fayetteville in Cumberland County, the North Carolina Department of Transportation (NCDOT) contracted AECOM to perform an archaeological study of Site 31CD2209 (the Gillis Mill) in order to mitigate any adverse effects the project may have on the resource. Luckily, the majority of the Gillis Mill site was located outside the project's Area of Potential Effects (APE) and will be preserved, meaning the Scope of Work (SOW) for the project allowed for an array of research and analytical tasks not often utilized in a standard data recovery project. In general, the research design called for comparatively limited fieldwork with a concomitant expansion of research questions pertaining to topics such as landscape archaeology, rural industry, and regional mill technology.

The Gillis Mill site (31CD2209) was first identified along Rockfish Creek in 2018 by AECOM archaeologists during archaeological survey and testing studies for NCDOT's Gillis Hill Road project (Sittig and Potere 2019:56-66). In addition to the mill site within the APE, the overall Gillis complex includes a farmstead and family cemetery outside the APE and, further afield, a church and neighboring farms with which the Gillis family would have interacted. The site is named for the prominent Gillis family, who first settled in the Fayetteville area in the late eighteenth century and whose eighth generation still owns and operates the farm. Oral history from the Gillis family places the initial construction of the Gillis Mill in the first decade of the nineteenth century. The earliest historic documentation of the Gillis Mill is on an 1860-1865 Map of Fayetteville, which explicitly depicts the family home, pond, and "sawmill." The mill continued to be documented through the remainder of the nineteenth century and into the first quarter of the twentieth century. The pond and mill dam were likely refurbished in the first few years of the twentieth century when ownership passed from John Gillis to his sons William John Gillis and Malcolm Duncan Gillis in 1902. The sons ran an advertisement for a special fishing weekend at the mill pond in the Weekly Observer in August 1914 that stated the pond was just 15 years old. The Gillis family provided the AECOM archaeology team with a digital image of a photograph of the mill (Figure 1), hand-labeled with "Down By The Old

Fig. 2 – Two Dam Types from The Construction of Mill Dams (Leffler 1874:23, 59).



Mill Stream" and also "18" suggesting the photo dates to 1918. Beyond the 1920s, it is unclear how long the mill and mill pond were used.

Archaeological remnants of the site consist of a sandy dam across the Little Rockfish Creek bottomlands with remnant submerged timbers where two former mill structures near either end of the dam once existed. Midway up the southern slope of the valley is a historic road trace. Above that, an extant farm complex and family cemetery lie along the upland edge overlooking Little Rockfish Creek.

In Spring 2021, AECOM archaeologists performed data recovery studies on the mill complex. Field excavations were focused on a hand-excavated trench through the mill dam within the APE to document its structure and construction methods. Outside the APE, the archaeological team performed non-invasive reconnaissance to map other elements of the complex with an eye towards evaluating the natural and constructed landscape and how its inhabitants utilized it. This article presents the details of the dam's construction.

As we approached the data recovery, a main research question was: "How was this mill dam constructed?" In the Carolina Sandhills and around the time this dam was built in the early 19th century, builders were generally designing mill dams to accommodate the lack of available stone, an abundance of timber, sandy soils, a modesty in scale of enterprise, and generally limited capital. To withstand water pressure from the waterways they were impounding, dams had to be solidly constructed. Leffel (1874:23, 59) presents a number of dam forms, including dams suitable for soft earth such as the "log dam for soft or sandy bottoms" and "pile dam" (**Figure 2**). The former consisted of a solid revetment of earth overlying a mass timber structure, while the latter consisted of a vertical timber wall with forward braces and an earthen revetment. Often cribbing would support a series of strongbacks, spaced about five feet apart of both rough and hewn logs. These strongbacks would have a double thickness of one inch planking nailed to them (McVarnish 2008:237). What we found, though, did not conform to these typical patterns.

During fieldwork a series of six units was placed perpendicular across the dam. Five of these were excavated to understand the construction techniques of the dam with one unit at the apex of the dam left unexcavated to provide perpendicular profile data as well as maintain hydrology in the area. No evidence of timber strongbacks, cribbing, or revetments was encountered. Instead, what was revealed was a hodgepodge of distinct soils (24 in all) used to construct the earthen dam. Despite the variability in the soils, a clear construction method was identified. In general, the dam consisted of a compacted clay core or foundation to provide strength over which sand was mantled to give the dam height and girth (**Figures 3 & 4**).

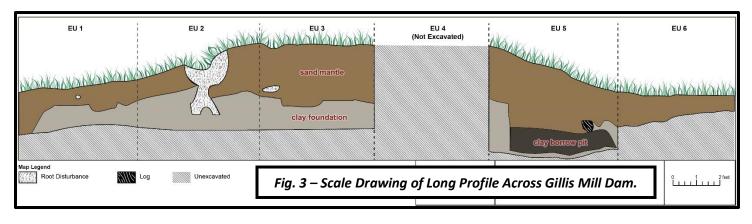




Fig. 4 - Photograph of Perpendicular Profile Along Gillis Mill Dam.

The clay core of the dam was sourced from the immediate surrounding landscape evidenced from borrow trenches identified immediately on each side of the dam. While no artifacts were recovered from the clay soils during excavation, a number of artifacts were recovered from the sandy mantle. The recovery of both prehistoric and historic items, coupled with the sandy nature of the soils, suggests the mantle sands were acquired from the upland landscape surrounding the Rockfish Creek valley. Further, the recovery of a mix of nineteenth and twentieth century historic items provides evidence of the frequent upkeep and repairs this dam would have required over the 100-plus years of its use.

In conclusion, apparently a big ol' pile of dirt can hold back a mill pond...if constructed correctly. Strength was provided by a dense clay foundation, while pool height could be achieved through overlying sands. The method is not without its issues, mainly frequent upkeep of the soft sands, but it is effective as evidenced by its continued presence in the Little Rockfish Creek bottomlands.

References:

Leffel, James (1874) The Construction of Mill Dams. James Leffel & Co., Springfield, Ohio. Electronic resource available at https://bit.ly/3klekTb.

McVarish, Douglas C. (2008) American Industrial Archaeology: A Field Guide. Left Coast Press, Walnut Creek, California.

Sittig, Peter, and Sarah Potere (2019) Intensive Archaeological Survey and Evaluation for the Widening of SR 1102 (Gillis Hill Road) from SR 1418 to US 401, Cumberland and Hoke Counties, North Carolina. AECOM, Raleigh, North Carolina. Prepared for North Carolina Department of Transportation. Copies available at North Carolina Office of State Archaeology, Raleigh.







SOUTHEASTERN CONFERENCE ON HISTORIC SITES ARCHAEOLOGY (SECHSA)

Drs. Geoffrey Hughes and Linda Stine are helping to organize this year's Southeastern Conference on Historic Sites Archaeology (SECHSA) to be held <u>August 25th and 26th</u> at the Blandwood Museum, a National Register and National Landmark site in downtown Greensboro, North Carolina. This year's conference is in honor of Dr. Leland Ferguson, a colleague, mentor, and teacher to many historical archaeologists in the Carolinas and beyond. The overall theme will be "Communities and Crossroads" in recognition of Greensboro's historic role as one of North Carolina's prominent hubs for transportation, industry, and education. Student attendance is free; however, prior registration is strongly encouraged. For more details and a schedule, please see <u>www.sechsa.org</u>. Institutions, firms, or people interested in helping with sponsorship are directed to the webpage for information.



2023 FIELD SCHOOL UPDATES





In June, Brett Riggs and Jane Eastman of Western Carolina University (WCU) led the third season of fieldwork at the Cherokee town site of Watauga in Macon County, North Carolina (see Volume 32 No 4.pdf (unc.edu)). This summer our work focused on some newly acquired property east of the site center. Thirteen undergraduate students explored two previously untested areas on the eastern edge of the site using magnetometry survey and shovel

testing. Shovel tests recovered some mid- to late-eighteenth century Qualla pottery and European trade goods. In addition, two shovel tests encountered subsurface pit features. The magnetometer results identified many subsurface anomalies, and we selected one to explore with excavation. The three pit features that were excavated provided evidence of the Revolutionary War-era Cherokee community of Watauga Town that was burned at least

twice by British and American forces between 1761 and 1776. No specific evidence of these events had been discovered during previous work at the site. The three excavated pit features represent: a refuse-filled daub processing pit on the southeastern edge of the community; a root cellar that would have been in the floor of a cabin; and a daub-filled basin also in the area of the cabins. Large quantities of burned clay daub were present in the latter two pits, documenting the burning of rail-cabins that would have had abundant clay chinking. Several other cabins are indicated in the magnetometer results in this general area. These results provide the opportunity to further explore these very important events in Cherokee and American history.



Kelly Hoover and Dr. Jane Eastman excavating a root cellar.

ARCHAEOLOGY

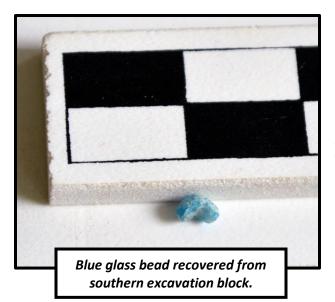
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

UNC-Chapel Hill's Research Labs of Archaeology (RLA) field school took place from May 17 to June 23, 2023. Drs. Heather Lapham and Mary Beth Fitts, together with Teaching Assistants Devin Henson and Joy Mersmann, led eleven students in a project designed to learn more about Site 31OR812, located in the Korstian Division of Duke Forest along New Hope Creek. This site was discovered during the 2022 RLA field school, which had the objective of locating remains of a Native village exposed by flooding in 1870 and documented by local newspapers. Imported blue glass beads were noted in the newspaper accounts, evidence that the site could be the remains of Adshusheer, home to Eno Will and visited by John Lawson in 1701.

The 2022 field school identified deeply buried Native pottery and lithic artifacts along with a gunflint fragment and a piece of a clay pipe with a rouletted design similar to those popular in the Chesapeake region during the seventeenth century. Building on these tantalizing finds, objectives of the 2023 field school were to learn more about the spatial extent of this site, clarify depositional processes, and find cultural features associated with the seventeenth century deposits.

Students learned how to dig shovel tests during the first two weeks of the field school as they gathered more information about the extent of Site 31OR812. This work identified a concentration of pottery on the north side of a backchannel of New Hope Creek. Two excavation blocks were then laid out, one in the newly identified northern area and another to the south, near test units that yielded seventeenth-century artifacts in 2022.

Artifacts recovered from these excavation blocks are still being processed, along with flotation samples and a column sample taken by Dan Richter, professor of soils and forest ecology at Duke University's Nicholas School of the Environment. However, some notable discoveries were made in the field. In the northern portion of the site, plow scars intruded into a midden deposit that contained deer bone, pottery, and lithic artifacts. The latter included





Profile of southern excavation block with field school students and staff. From left to right: Jada Mosley, Sarah Grimes, Joy Mersmann, Henry Haren, Ryan Millis, Sydney Mahon, and Rosalia Basilio Mendoza.

multiple examples of a translucent raw material that resembles chalcedony, which is uncommon locally and may be evidence that this community maintained economic networks extending to the north and east. Despite the use of 1/8"-screens, no seventeenth-century artifacts were found in this area during the field school.

At the other excavation block, 50 meters to the south, students washed increasingly clayey soils through the 1/8" screens. This muddy work paid off one afternoon when they found half a blue glass seed bead. The bead was recovered from the same stratigraphic layer that yielded seventeenth-century artifacts in 2022 and resembles examples recovered from the seventeenthcentury Mitchum Site on the Haw River. Preliminary examination of profiles from this southern excavation block suggests that multiple living surfaces buried by flood deposits are present in this portion of the site. We suspect that the most deeply-buried village debris in the southern excavation block may be contemporary with that uncovered to the north, and hope to test this possibility using artifact analysis and radiocarbon dating. It may be that the seventeenth-century community built their homes on top of the remains of an earlier village.

In addition to archaeological field methods, students learned the importance of public outreach. They provided tours to Duke Forest visitors and created social media content. We were also happy to welcome visitors from the North Carolina Indian Heritage Commission, UNC's American Indian Center and American Indian and Indigenous Studies program, Orange County Natural and Cultural Resources Division, and the Office of State Archaeology.

We can now say with some confidence that Site 31OR812 contains the remains of a seventeenth-century Native village, likely the same one uncovered by flood-related erosion in 1870. However, we believe additional work will be necessary to determine whether this village can be equated with Adshusheer. To date, no architectural features have been identified in the southern portion of the site where seventeenth-century artifacts were found. Lawson noted that Adshusheer was "fortify'd in" like Occaneechi Town, so identifying the remains of a palisade at 31OR812 would go a long way to putting the home of Eno Will back on the map.



Southeastern Archaeological Conference

The 79th Annual Meeting of the Southeastern Archaeological Conference (SEAC) will be held October 25-28, 2023, at the Chattanooga Convention Center in Chattanooga, Tennessee. The program for the upcoming meeting will be made available later this Fall. For more details, please visit Meeting Details – Southeastern Archaeological Conference (southeasternarchaeology.org) and follow them @SEACArchaeology on either Twitter or Facebook as they gear up for #SEAC2023.

Grant-in-Aid Program

The North Carolina Archaeological Society (NCAS) invites applications for The Whitey Graham Award (WGA) in support of research pertaining to North Carolina archaeology. The WGA is underwritten by the NCAS Endowment Fund which was established in 2001 from the proceeds of the sale of the "Blue Banks" property near Greenville. The sale took place largely through the efforts of then-president Robert Graham. We owe him our thanks for making these grants possible! Applicants must be members of the North Carolina Archaeological Society (exemptions for public educators, as defined below, will be considered) and must also meet one or more of the following criteria:

- 1. An applicant must be: (a) a graduate or undergraduate student actively pursuing a degree in archaeology or a related field; (b) an individual enrolled in an internship program with a museum, a state historic site, an archaeological park, or a Native American group (with state or federal recognition); (c) an avocational archaeologist who is a member of the North Carolina Archaeological Society and has over time demonstrated a concern for the protection or study of archaeological resources within the state (including working under the direction of professional archaeologists); or (d) a public educator (e.g., school teacher or museum personnel). Collaborations between educators are encouraged.
- 2. An individual must apply for the award with a proposal that states how the grant will aid in the individual's research relevant to North Carolina archaeology. Each proposal must include (a) a statement of research design (up to 2 pages long), (b) a budget showing how grant funds will be spent in pursuing this research, (c) a curriculum vitae, and (d) and a letter of support from a professional archaeological mentor or advisor. The advisor is expected to take an active role in overseeing and/or guiding the research to completion and should explicitly indicate a willingness to do so in the letter. Public educator applications include all of the above but can substitute the following for the research design statement above: (a) an explanation of the educational goals and methods or activities used to promote public awareness of archaeology in North Carolina (up to 2 pages long).
- 3. Each grant award will not exceed \$500. The budget may include any direct expense in support of the proposed research, except for wages paid to the grant's recipient. Examples of allowable expenses include travel (fares, mileage, and per diem), supplies, and fees for specialized services (photography, radiocarbon dating, drafting, etc.). Grant funds may not be used for indirect costs or institutional overhead.
- 4. Selection criteria shall include, but need not be limited to, (a) the quality of the proposed research, (b) the likelihood that the research can be successfully carried out in a timely manner, (c) the individual's promise as a professional or avocational archaeologist, and (c) the degree to which the individual has contributed to the programs of the North Carolina Archaeological Society. Note that the committee reserves the right to make no award in any given year.
- 5. Normally, the term of the grant shall be for one year, subject to extension for an additional year. The recipient shall submit interim reports of progress and expenditures to the Committee's chair at six-month intervals from the initial date of the grant. A final report is due within six months after the grant's term ends. This final report must include a description of the project's research results, as well as a detailed summary of expenditures made under the grant. If asked, the recipient of the grant will present the results of his or her research at a meeting of the North Carolina Archaeological Society. Each recipient is also required to submit an article on the grant-supported research to the NCAS Newsletter or to the Society's journal, North Carolina Archaeology. Grant recipients should acknowledge the North Carolina Archaeological Society in any printed, electronic, or graphic material produced through the grant and in announcements at any public meetings, classes, or events to which the grant gives rise, as follows: This (publication, project, etc.) was produced in part by a grant from the North Carolina Archaeological Society.

The next deadline for receipt of proposals is November 1, 2023. Awards will be announced by December 31, 2023. Email all materials to NCAS Grant-in-Aid Program co-chairs, Dr. Randy Daniel (danieli@ecu.edu) and Dr. David Moore (dmoore@warren-wilson.edu).

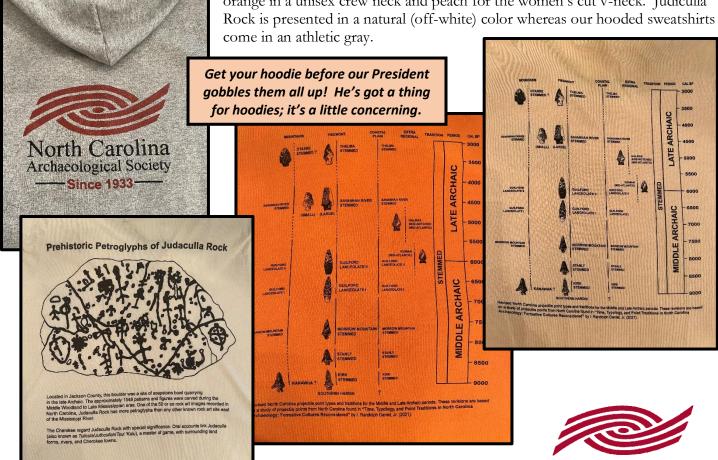




"Bring out your... New Merch"



No need to search for the Holy Grail because there's new NCAS apparel available for purchase by emailing our stockperson extraordinaire Mr. Tom Beaman (tbeamanjr@aol.com). The Bella Canvas tees are \$16, and the hooded sweatshirt is \$30. The second in the projectile point series comes in burnt orange in a unisex crew neck and peach for the women's cut v-neck. Judiculla Rock is presented in a natural (off-white) color whereas our hooded sweatshirts



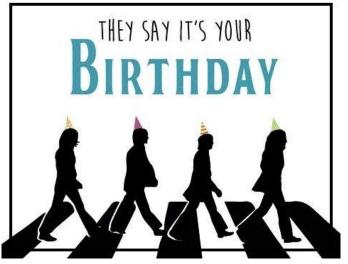


CONGRATULATIONS, LINDA!!!

Retirement is a major life milestone that marks the ending of one chapter but also the start of another. The Anthropology Department and Archaeology Program at UNC – Greensboro (UNCG) hosted a retirement party for Dr. Linda Stine on April 29th at the Blandwood Carriage House. The North Carolina Archaeological Society would like to wish Linda all the best in whatever adventures lie ahead. Now the fun begins!









(this one's for whoever wasn't down with fiddy)

WHAT: NCAS Annual Fall Meeting (and Birthday Party...I hope there's cake; I like cake.)

Saturday, October 7th and Sunday, October 8th, 2023 WHEN:

Canon Lounge, Gladfelter Bldg., Warren Wilson College (Saturday program and reception) WHERE:

Biltmore Estates (Sunday morning site tourwhere it all began 90 years ago!)	
SATURDAY TIMELINE:	
9:00am	Gladfelter Building opens (event set-up)
9:30-10:00am	Morning Reception (check-in, coffee/refreshments [I think that means doughnuts])
10:00-10:50am	NCAS BOD Meeting followed by the Membership Meeting (Opening Remarks and Announcements for the Silent Auction, Saturday Reception & Sunday Tour, Raffle, and Elections)
11:00-11:15am	Dr. Scotti Norman (Warren Wilson College) – "Overview of the Warren Wilson College Archaeology and Anthropology Program: Current Projects"
11:15-11:55am	Dr. David Moore (Warren Wilson College/Joara Project) – "Joara and Fort San Juan: Sixteenth Century Native Americans and Spanish Colonizers in Western North Carolina"
11:55-12:35pm	Dr. Tom Whyte (Appalachian State University) – "Warm-Weather Tourism in Boone, a Trend that Began 12,000 Years Ago"
12:35-1:35pm	LUNCH BREAK (ON-SITE, provided by TRC Environmental)
1:45-2:25pm	Dr. Jane Eastman and Dr. Brett Riggs (Western Carolina University) – "Astronomical Landscapes in Western North Carolina"
2:25-3:05pm	Dr. Alice Wright (Appalachian State University) – "Old Data, New River: Revisiting and Revealing the Indigenous Landscapes of Northwestern North Carolina"
3:05-3:45pm	Dr. Cameron Gokee (Appalachian State University) – "Oral and Archaeological Histories of

Junaluska: A Black Appalachian Community"

3:45-4:45pm **Q&A Session/Comments/Election Results** – Time to mingle, place your winning bids, network, and check your insta

6:30-8:30pm **RECEPTION** (sponsored by the North Carolina Archaeological Council) – Music (BYOI – bring your own instrument?), cake (I knew it!), treats, raffle prize drawing & pick-up, silent auction results and pick-up... non-sanctioned pre-late-night shenanigans...

SUNDAY TIMELINE:

9:30am Gather in the Parking Lot at Gladfelter Building, Warren Wilson College, to board the vans that will transport you back in time (i.e., drive you to Biltmore Estates...I'm doing my best here)

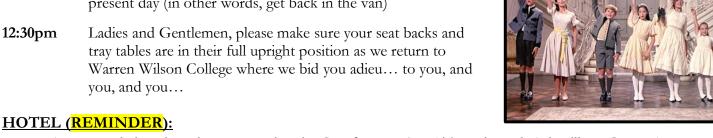
10:00am Arrive at Biltmore Estates to meet Scott Shumate (Biltmore Estates Archaeologist) who will guide us on a 2-hour walking tour of sites on the Biltmore grounds (please dress accordingly depending on the

weather)

12:00pm Tour concludes, and we are all regrettably whisked back to the

present day (in other words, get back in the van)

12:30pm Ladies and Gentlemen, please make sure your seat backs and



Accommodations have been secured at the Comfort Inn (1435 Tunnel Road, Asheville, NC 28805 [828.298.4000 or 828.298.0197]). A special group rate has been offered for ONLY Saturday night, October 7, at \$114.75 plus tax (double-occupancy rooms). We have 20 rooms blocked. If you choose to stay Sunday night, the rate will be \$203.00 plus tax for that night. Fixed Cut-off Date for the special rate is September 6, 2023. Ask for the "NCAS BLOCK" to secure one of the double-occupancy rooms at the special rate for the night of the October 7 event. The hotel is easily accessible and only 3 miles from WWC. Other hotels are nearby but the rates are variable (\$\$). Complimentary breakfast is offered at the hotel. Every room has a microwave, coffee maker, fridge, and flat screen tv. Laundry facilities are also on site as is

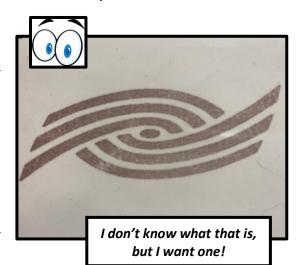
a heated pool.

MERCH:

As always, Tom will be on hand at the merchandise table where <u>raffle</u> tickets will be sold (\$1 each or 6 for \$5). Not only will there be new merch in stock (see the new t-shirt/hoodie designs in this issue), but we will also be offering some special 90th Birthday swag for sale only on Saturday.

HELP:

If you are interested in helping with setup or break down of our special event, please contact Linda Carnes-McNaughton by email at lfcmdoc@gmail.com. She needs some helpers and facilitators. If you have any special items you'd like to include in the Silent Auction, please let her know ASAP.



THANK YOU!

The NCAS would like to extend a heart-felt thank you to **Dr. Scotti Norman** for allowing us to use their wonderful facilities, to Scott Shumate for taking the time to lead a gaggle of folks around such an historic landmark, and to our very own Dr. Linda Carnes-McNaughton for spearheading all of the behind-the-scenes stuff so that this momentous time for our society can be commemorated!



Thank you





SECHSA 2023 Greensboro, NC (August 25-26, 2023) Schedule – SECHSA 2023

Southeastern Archaeological Conference Chattanooga, TN (October 25-28, 2023)

https://www.southeasternarchaeology.org/annual-meeting/details/

Society for Historical Archaeology
Oakland, CA (January 3-6, 2024)
Society for Historical Archaeology Conference
Information (sha.org)

Society for American Archaeology New Orleans, LA (April 17-21, 2024) Final Program (saa.org)

NCAS Board

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Watkins-Kenney

NCAS Newsletter Publication Schedule

All NCAS members should submit articles and news items to Paul J. Mohler (pjmohler@ncdot.gov) for inclusion in the Newsletter. Please use the following cut-off dates as guides for your submissions:

Winter Issue – January 31 Summer Issue – July 31 Spring Issue – April 30 Fall Issue – October 31

NC ARCHAEOLOGICAL SOCIETY

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