JOURNAL #7 - October 2019

The Indian Mounds on the LSU campus have long been objects for speculation by scientists and researchers. Recent studies, which included cesium vapor magnetometer-gradiometer surveys and core samples, suggest the mounds are much older than originally thought. See the article at the end of this issue for more details.

Still Keeping up with the Times:
More on Continuing Education Requirements and Audits

As we reported in Journal 6 (February 2019), one of the most frequently asked questions from licensees is "What kinds of courses and activities do I need to take to meet the continuing education requirement for renewal?" Prior to the auditing process, the board had taken the view that its role is not to endorse any particular organization, institution, or agency or to supply specific information to fulfill the requirement. Licensees received only vague suggestions regarding "professional geoscience activities." With the recent inception of the continuing education audit program, the resulting responses from those licensees selected for audits, however, have revealed that licensees may, indeed, need guidance selecting courses, programs, and activities acceptable to the audit review team.

The board members responsibly agreed that providing a list of activities and courses regarded as meeting the continuing education requirements in the past may be a good idea. Of course, no list is

exhaustive, but at least giving licensees a starting point will help you to plan your year so you can fulfill the 14 hours of professional development and one hour of geoscience ethics training required. And making your planning easier will make the job of the board's audit review committee easier as well.

As one board member recently told a group of geoscientists, think geology, geology, geology. The best advice is to look for opportunities in the area of geoscience through participating in the many geoscience organizations available, taking online courses offered by these organizations – particularly local ones (the Houston Geological Society comes to mind) – or other state boards, or attending geoscience conferences and meetings. We often hear that our licensees don't live near cities or towns that have geological societies, but nearly all have access to the Internet. Taking a couple of the wide range of geoscience-related online courses each month will more than fulfill the requirement. A brief explanation of the board's newly minted guidelines for acceptable continuing education activities can be found on our website here.

Also keep in mind that company ethics courses – unless they are directly related to geoscience – are rarely acceptable to fulfill the one hour of ethics training for your license. Instead, look for courses offered by geoscience organizations and other state boards. Most are either low cost or free. Also, safety courses and training for handling hazardous materials necessary for your job will not count for your geoscience continuing education credit. While we do hope that all licensees take these courses when needed, they are not considered to be related to your profession in a way that will enhance your geologic knowledge.

And finally, use the log sheet provided on the website's Continuing Education page (see the download link at the bottom of the page). Other states' requirements may differ, so the board has provided this sheet to help you accurately document appropriate activities. Included on the page is an example of a completed log to use as a reference.

If in doubt about a course or activity, please contact the administrative office. Meanwhile, the link to that list-in-progress is here. Please feel free to help us add to this list by suggesting societies, organizations, agencies, universities, online courses, etc., by contacting us at www.lbopg.org, apply@lbopg.org, or 225-505-3766.

Renewal Reminders Are Now Electronic

As we reported in the last journal issue, we had been seeing an increase in returned mail due to out-of-date physical mailing addresses for some of our licensees. The increase in first-class postage rates is a cause for some concern affecting our operating budget. We have been sending renewal notices by email for the last year or so to remedy this situation. The results have been much better than regular mail. For example, if we don't have valid email addresses, we know immediately with no cost, and we can then attempt to contact those licensees by other means, including phone calls. However, we still send license cards to the physical addresses, so please be sure we have your correct contact information – email, physical mailing address, and phone number.

Seal Use Rules

The rules for seal use are finally official! They appear in the October 2019 issue of the *Louisiana Register* and can be found here. These rules went into effect immediately upon publication, so please make a point of reading them as soon as possible. Also, be aware that the new rules did not modify Chapter 15, section 1501(B)(4) of the originally adopted rules, so that subsection is still in effect (regarding electronic seals and transmission of documents). You can access all rules, including the new ones, on the LBOPG.org website here.

New Information Suggests that LSU Indian Mounds Are the Oldest Man-made Structures in the Western Hemisphere

(This article first appeared in the Summer 2019 issue of LSU Alumni Association Magazine *and is reprinted here with permission from the LSU Alumni Association.)*

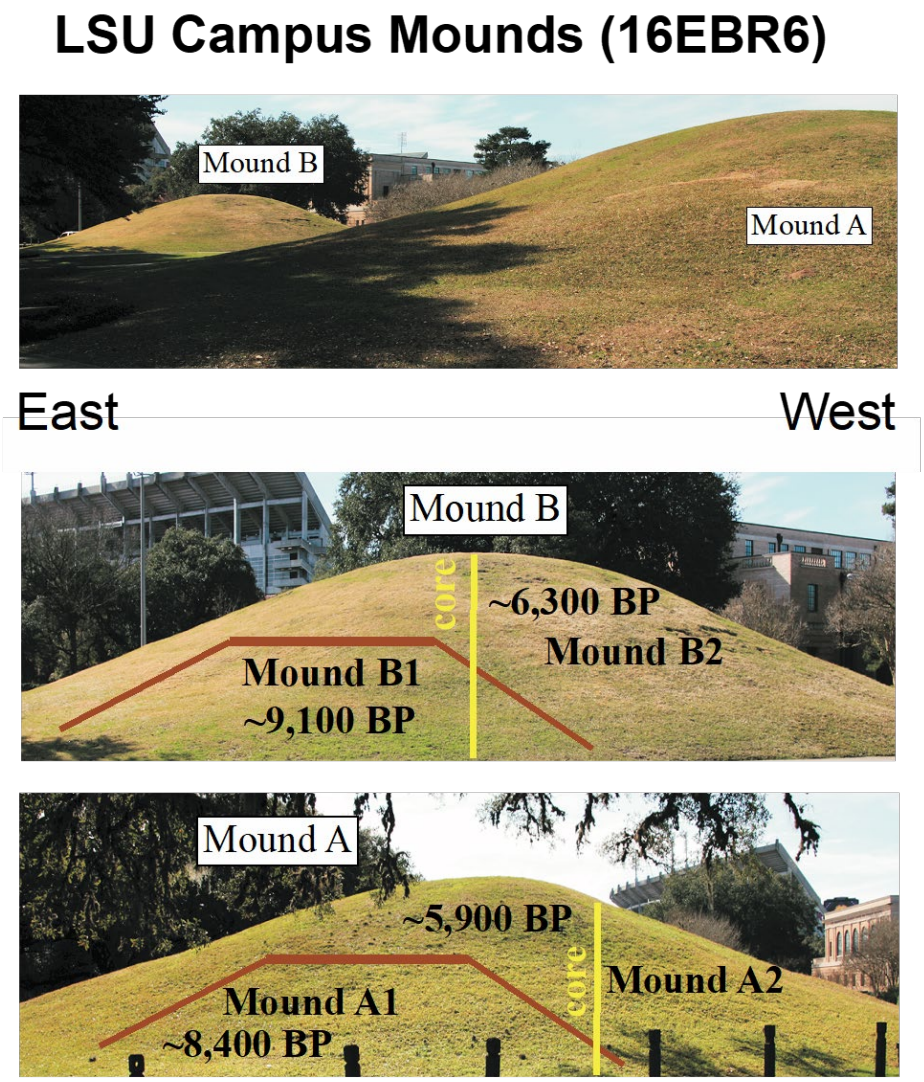
Recently, the LSU Department of Geology and Geophysics, in collaboration with several other units at the University – Coastal Studies Institute, Geography and Anthropology, and Physics and Astronomy – found that the Indian mounds on the LSU campus were originally constructed about 10,000 years ago. This new information, based on cores taken from the mounds and analyzed using the latest radiocarbon dating technology by third-party company Beta Analytic, means that the mounds are the oldest extant human structures so far discovered in the Western Hemisphere – and some of the oldest on Earth.

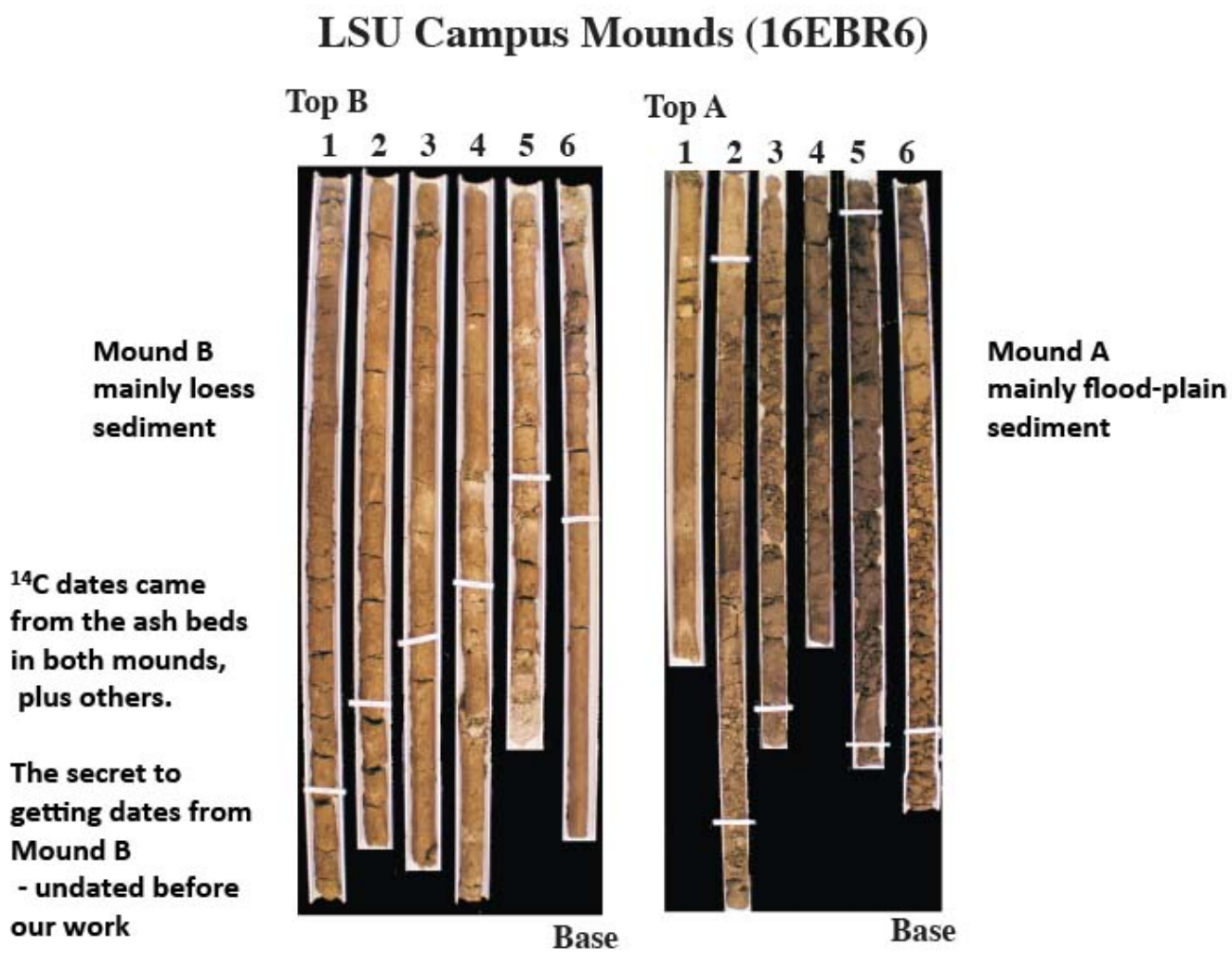
Since 2008, department Chair Brooks Ellwood has led a team of researchers and students participating in several GEOL 4019/GEOG 4019 classes over the years, and they have collectively uncovered some amazing facts about the mounds. To begin, they believe that both mounds were built in three stages, with new sediment added to the top of these mounds after long gaps in time. The original mounds date to about 10,000 years, and the newest materials are in the range of 6,000 years old. The researchers noted that, at about the second time the original mounds were abandoned, a major global climate event affected the region, which resulted in a sea level rise of at least 40 feet and climate deterioration. Prior to this dramatic event, the area where the mounds were built probably overlooked a brackish estuary similar to modern-day Mobile Bay. The area where Tiger Stadium sits today would have been about 75 feet lower than it is now, perhaps along the edge of the water, and the people who lived there may have depended on their food supply from oysters and fish in this estuary. The influx of fresh water that resulted when a HUGE glacial lake far to the north flushed into the North Atlantic, causing global sea level rise, would have had a serious impact on the way of life for the people living near the mounds. They most likely would have had to find other food sources – hence, they abandoned the site.

Perhaps even more astounding is that the mounds exhibit burned layers, or ash lenses, which indicates that the builders intended these structures for much more than simply lookout points – a previously considered theory on the mounds' purpose. Within these layers of burned materials, the researchers discovered burned bone and phytoliths, microstructural remains of plants made of silica, that are

indicative of very specific plant types – and not plants that would suggest these burned zones were used for cooking. Instead, the types of plants found in the lenses were reeds, cane, and in some cases, wild rice.

Even more intriguing, the chemical composition – primarily lead and chromium – found within the burn horizons is consistent with that of a type of modern tattoo ink, the yellow mineral crocoite. These results led researchers to speculate that the mounds may have served as cremation sites. Requests to perform DNA testing have been ruled out, respecting the wishes of national tribal people. However, all these new findings provide better insight into the age, uses, and structure of these iconic landmarks.





And this final note…

As we mentioned in our previous journal issue, we are embarking upon a project to discover and report on geoscience work in Louisiana, wherever that work is being produced. Since our office is in Baton Rouge, we started with research and other work at LSU. We are hoping to be in contact with other Louisiana colleges and universities that offer geoscience courses and perform geoscience research because we would love to include those institutions as well. If you have leads or contacts we can follow to learn more about projects that exemplify the importance of geoscience to Louisiana and beyond, please send us that information. You can contact us at apply@lbopg.org or 225-505-3766.