

February 15, 2013

Mr. Robert Thrower
Tribal Historic Preservation Officer
Poarch Creek Band of Creek Indians
5811 Jack Springs Rd
Atmore, AL 36502

SUBJECT: 106 REVIEW FOR NRC EARTHQUAKE RECONNAISSANCE

Dear Mr. Thrower:

The United States Nuclear Regulatory Commission (NRC) intends to conduct research to identify paleoliquefaction features in Tennessee. This work consists of reconnaissance along eroded river cutbanks and drainage ditches. The intent of this letter is to provide you with notification of our activities and to initiate the National Historic Preservation Act, Section 106 consultation process with your tribe.

Background

Estimating the location, size, and timing of paleoearthquakes or prehistoric earthquakes (for this project paleoearthquakes include more recent events which occurred prior to the use of modern instrumentation used for recording ground motions) is important in assessing seismic hazards for existing and new nuclear power plants. During large earthquakes, some soils undergo liquefaction (large increase in water pressure between soil grains due to cyclic shaking which causes a significant decrease in soil strength) and produce characteristic geologic features. Identification and study of these features is important to constraining our estimates of source areas and recurrence of large earthquakes.

Project Details

The river reconnaissance consists of using a canoe or motorboat to travel down river sections shown in Figure 1 and listed below to visually locate sand blows and dikes, which are types of liquefaction features. We anticipate locating 2 to 14 features per 10 km stretch of river. At locations where liquefaction features are observed, we will anchor the boat and 1 to 2 researchers will access the shore on foot. The researchers will be onshore for the short period of time required to characterize the feature dimensions and, in some cases, to collect a small soil sample of approximately 5 cm by 15 cm as well as a few organic samples such as leaves or twigs to be used in radiocarbon dating. Up to 2 sediment samples and 2 organic samples could be collected at each location. At some sites, no samples will be collected at all. The majority of samples will be obtained from a scraped area 17 cm x 17 cm x 2 cm in size. A few samples will be taken from a slightly larger scraped area (1.3 m x 1.3 m x 5 cm). Sampling will be done by hand with a standard shovel or smaller hand tools.

The river reconnaissance field work is scheduled to take place during the months of September through December 2013. In performing our sampling, we will be sensitive to any historic properties. We will be aware of where we anchor the boat, where we walk and where we

sample in relation to potential historic properties. Sample sizes are expected to be limited to approximately 5 cm by 15 cm samples. Due to the limited scope and minor disturbance of this field work, the NRC believes this project would have "no adverse effect" on any historic properties, assuming such properties were present.

List of Rivers

- Hatchie River
- Obion River
- Wolf River

Not listed are drainage ditches that the U.S. Army Corps of Engineers might excavate or clean over the next two years providing exposures of opportunity for paleoliquefaction features.

Closure

Pursuant to the regulations of the Advisory Council on Historic Preservation, 36 CFR Part 800, we are requesting your comments on our preliminary conclusions regarding potential historic properties in regard to the river reconnaissance work. If you have any questions or require additional information regarding our planned activities, please contact Thomas Weaver by phone at (301) 251-7654 or by email at Thomas.Weaver@nrc.gov. All written correspondence should be sent to the NRC at the following address with attention to the Document Control Desk. We look forward to your feedback.

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Sincerely,

/RA/

Michael J. Case
Director, Division of Engineering
Office of Nuclear Regulatory Research

R. Thrower

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cc: Ms. Jennifer Barnett
Federal Programs Archeologist
Tennessee Department of Environment & Conservation, Division of Archaeology
Cole Building #3
1216 Foster Avenue.
Nashville, TN 37243

Dr. Martitia Tuttle
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Dr. Thomas Weaver, P.E., NRC/RES/DE/SGSEB
Mr. Andrew Pessin, Esq., NRC/OGC/GCLR/RMR
Mr. Stuart Easson, NRC/FSME/DILR/ILB

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ADAMS Accession No.: ML13044A004

OFFICE	RES/DE/SGSEB	RES/DE/SGSEB	OGC (via email)	D: RES/DE
NAME	T. Weaver	R. Hogan	A. Pessin	M. Case
DATE	2/13/13	2/15/13	1/15/13	2/15/13

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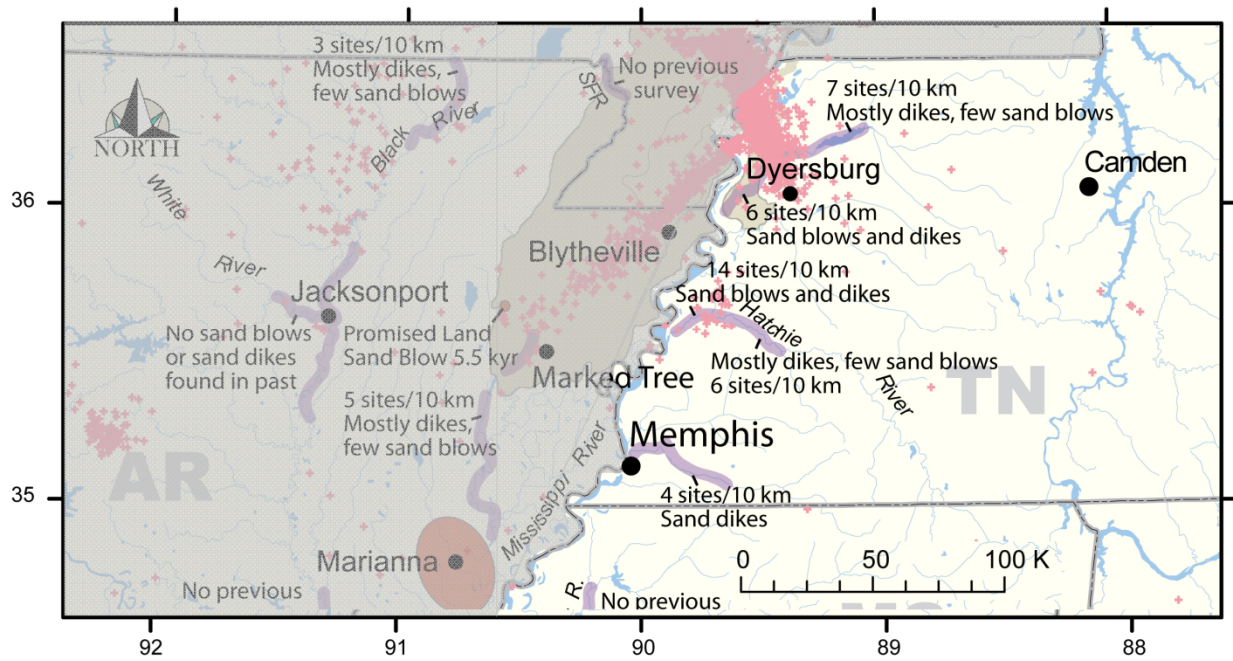


Figure 1 Map of paleoliquefaction study area. River sections for paleoliquefaction reconnaissance delineated in purple.