

All are invited to attend the monthly meeting of the
Nittany Mineralogical Society
Wednesday, January 16, 2013

Penn State facilities policies and our status require that those attending this meeting on campus **MUST BE 18 OR OVER**. We are actively working toward a better situation for our future meetings.

The Mystery of the Audible Earthquakes near Moodus, Connecticut, along the Eastford Fault and Lineament

by Dr. Bob Altamura

Our January meeting will be held Wednesday the 16th in the room 114 auditorium of Earth & Engineering Sciences Building on the west side of the Penn State campus in State College, PA. Maps are available through our web site.

– NO JUNIOR ROCKHOUNDS MEETING THIS MONTH –

6:30 to 7:30 p.m.: Social hour, refreshments in the lobby

7:30 to 8:00 p.m.: announcements, questions, answers; door prize drawings

about 8:00 p.m.: featured program

*The event has free admission, free parking, and free refreshments, and is open to all –
Bring your friends and share an interesting evening.*



Cave Hill, near Mount Tom, Connecticut

This presentation will report the results of an investigation by the author and his research group of the source of reoccurring earthquakes near the small village of Moodus, Connecticut, as part of a search for recent and potentially active faults beneath the extensive glacial deposits of southern New England. The rocky hills near Moodus historically are known for loud noises and tremors intermittently heard and felt. Archaeological evidence indicates a concentration of ancient Indian sites in this area, suggesting that the Moodus area held special significance for native peoples. Tribes such as the Wangunk and Mohegan frequented the area for social and religious gatherings, and referred to it as Machemoodus, “the place of many noises.” Colonists who settled the area occasionally heard noises emanating from Mount Tom near the confluence of the Connecticut and Salmon Rivers. A second site, frequently mentioned as the source for the

sounds, is Cave Hill (shown above), approximately a mile NNE from Mount Tom. The cave’s shape is similar to the bell of a trumpet. In the cave, seismic vibrations in the rock are imparted to the air and amplified. A precise set of physical conditions must be met for this to happen.

Mapping of faults in southern New England is hampered by extensive and relatively thick (~10 feet) glacial deposits that cover approximately 95% of the bedrock. In an effort to see through the haze of the glacial cover we used an integration of the study of topographic maps and Light Detection And Ranging (LiDAR) imagery, geological field mapping, geochemical and geophysical data to identify a 125-km long regional brittle structure in eastern Connecticut and south-central Massachusetts. We have named it the Eastford lineament based on its coincidence with the 50-km-long Eastford fault in northeastern Connecticut. Close examination of LiDAR imagery and topographic maps suggests that the Eastford fault continues southwestward to the Moodus area and beyond, to where it coincides with a previously mapped 7-km long fault.

See the January Bulletin for the complete, illustrated article.

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