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Division of Geological Survey

# **SUBSURFACE GEOLOGY OF THE SERPENT MOUND DISTURBANCE, ADAMS, HIGHLAND, AND PIKE COUNTIES, OHIO**

RI-146

A new report published by the Ohio Department of Natural Resources, Division of Geological Survey concludes that a 5-mile-diameter area of highly disturbed bedrock at the intersection of Adams, Highland, and Pike Counties is a deeply eroded crater formed by a meteorite impact approximately 250 to 300 million years ago. This feature, named the Serpent Mound Disturbance after the famous prehistoric Indian effigy located near the southwestern edge of the disturbed area, is the single-most complex geologic structure exposed at the surface in Ohio.

An investigative team made up of geologists from the Division of Geological Survey and geologists formerly of the University of Glasgow (Scotland) became convinced of the impact origin of the structure after recognizing rock and mineral features unique to impact craters in rock cores that had been collected from the site in the 1970's. The geologists also recognized evidence of an impact crater in geophysical surveys and remote satellite-imagery for the area.

Paleomagnetic analyses of rock samples recovered from the drill core indicate the impact of the meteorite occurred during the Permian Period (about 250 to 300 million years ago) when continents were fused together into a single supercontinent called Pangea, and the area of present-day Ohio lay just south of the equator.

The recently published report describing subsurface geology of the Serpent Mound disturbance is titled: Report of Investigation No. 146, Subsurface geology of the Serpent Mound disturbance of Adams, Highland, and Pike Counties, Ohio, and is available from the Ohio Department of Natural Resources, Division of Geological Survey. The cost of the report is \$20.00 plus \$1.35 tax and \$ 4.00 postage. To order this report, and other publications/products of the Division of Geological Survey, or to obtain more information, call or write: The Geologic Records Center, Division of Geological Survey, 4383 Fountain Square Drive, Columbus, Ohio 43224-1362. Telephone (614) 265-6576. E-mail: [geo.survey@dnr.state.oh.us](mailto:geo.survey@dnr.state.oh.us). Orders can be charged to VISA or MasterCard.



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