

# ALABAMA GEOLOGICAL SOCIETY 48<sup>TH</sup> ANNUAL FIELD TRIP

## *Of Mushwads and Mayhem: Disharmonically Deformed Shale in the Southern Appalachian Thrust Belt*

Leaders: William A. Thomas and Jack C. Pashin

Dates: December 15 (~7:30 PM) to December 17, 2011 (~5:30 PM)

Place: Hampton Inn Colonnade, Birmingham, AL (near intersection of I-459 and U.S. 280)

Registration fee: \$125 for members; \$150 for nonmembers (membership costs \$15); \$100 for students.

On this year's field trip, we will be visiting exposures of mushwads and other tectonically thickened shale masses in the Conasauga Formation, Chattanooga Shale, and Floyd Shale/Parkwood Formation. Participants will have a unique opportunity to view the complex internal structure of mushwads, as well as the more gently deformed roof and floor rocks.

Mushwads constitute a unique style of thrust duplex in the southern Appalachian thrust belt. A mushwad is a ductile duplex that forms in weak, argillaceous sedimentary rocks, whereas the more familiar brittle duplexes consist of internally coherent horses that form in mechanically stiff rocks, such as limestone and sandstone. The internal structure of a mushwad includes a chaotic assemblage of disharmonic folds and laterally discontinuous thrust faults.

The evolution of a mushwad begins with deposition of a thick succession of muddy sediment. During regional overthrusting, this succession becomes extremely overpressured and is thickened tectonically to multiples of the original sediment thickness. Indeed, southern Appalachian mushwads are locally thicker than 12,500 feet. Giant mushwads overlie a frontal ramp in the floor thrust; the roof thrust is deformed as the mushwad grows. Some of the tectonically thickened shale masses contain voluminous natural gas resources and are emerging targets for exploration and production.

Come join us on the 10<sup>th</sup> anniversary of the initial publication (in the AAPG Bulletin) of the definition of a mushwad! The field trip is eligible for professional development hours that may be applied to geological licensure. Attendance is limited to 45 participants, so please register early.

We have reserved a block of 20 rooms at the Hampton Inn Colonnade. Single or double rooms can be reserved at the special meeting rate of \$94/night by calling 205.967.0002 or on the internet: [http://hamptoninn.hilton.com/en/hp/groups/personalized/B/BHMCOHX-AGS-20111215/index.jhtml?WT.mc\\_id=POG](http://hamptoninn.hilton.com/en/hp/groups/personalized/B/BHMCOHX-AGS-20111215/index.jhtml?WT.mc_id=POG) When calling, please remember to specify the group, "Alabama Geological Society."

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### Registration Form Alabama Geological Society 48<sup>th</sup> Annual Field Trip

Name: \_\_\_\_\_ Address: \_\_\_\_\_

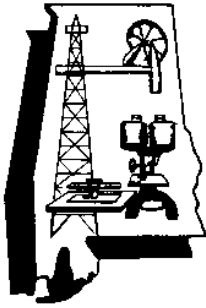
Address (cont'd): \_\_\_\_\_ Shoe size: \_\_\_\_\_

Phone: \_\_\_\_\_ e-mail: \_\_\_\_\_

Make checks payable to the Alabama Geological Society and mail to the following address:

Alabama Geological Society  
P.O. Box 86614  
Tuscaloosa, AL 35486-0055

visit us at <http://homepage.mac.com/jpashin/AGS.htm>



**Field Trip  
Release and Indemnity Agreement  
Alabama Geological Society**

I, \_\_\_\_\_, in consideration of the receipt by me of permission from the Alabama Geological Society ("AGS") to participate in a Field Trip entitled \_\_\_\_\_ **Mushwads and Mayhem: Disharmonically Deformed Shale in the Appalachian Thrust Belt** to be conducted on **December 15-17, 2011**, and sponsored by the Alabama Geological Society, the receipt of such permission being hereby acknowledged, and being fully aware that the Field Trip may involve hazardous and/or dangerous activities, and/or be in a location in and/or around other hazardous and dangerous conditions, and recognizing and accepting the risks, known and unknown, involved in a Field Trip, hereby release and will indemnify, defend and hold harmless AGS, the agents, officers, servants, and employees of AGS, and the leader or leaders of the Field Trip (collectively referred to as "indemnitees") of and from any and all liabilities, claims, demands, actions, and causes of action whatsoever arising out of or relating to any loss, damage, or injury, including death, as may be sustained by me, and to any loss, damage, or injury to any property of mine, while involved in any way with the Field Trip, including without limitation traveling to and from the site or sites of the Field Trip (whether by air, water, or land transportation) and at and during all stops and layovers during the Field Trip.

This release and indemnity includes without limitation liabilities, claims, demands, actions, and causes of action to or by third parties as well as to or by me. This release and indemnity includes without limitation liabilities, claims, demands, actions, and causes of action arising out of or relating to any loss, damage, or injury caused in any way by the concurrent or contributory negligence of any indemnitee. This release and indemnity includes without limitation liabilities, claims, demands, actions, and causes of action arising out of or relating to any loss, damage, or injury caused in any way by the sole negligence of any indemnitee. Having made all inquiries deemed by me to be appropriate, I hereby voluntarily assume all risks of loss, damage, or injury, including death, as may be sustained by me or any property of mine while involved in any way with the Field Trip.

In the event the release by me of any indemnitee of any liability, claim, demand, action, or cause of action described herein is determined to be invalid or unenforceable, I agree that my total recovery of damages from the indemnitees, or any of them, both actual and punitive, shall be limited to \$100.00 or the cost of admission to the Field Trip, whichever is less.

In the event any provision of this Release and Indemnity Agreement is determined to be invalid or unenforceable, all other provisions hereof shall continue to be enforceable and shall be interpreted as though said invalid provision had never been contained herein.

This release shall be binding upon my distributees, heirs, next of kin, executors, administrators, and personal representatives.

IN SIGNING THIS RELEASE AND INDEMNITY AGREEMENT, I HEREBY ACKNOWLEDGE AND REPRESENT THAT I HAVE READ THE FOREGOING RELEASE AND INDEMNITY AGREEMENT, UNDERSTAND IT, AND I HAVE SIGNED IT VOLUNTARILY. I UNDERSTAND AND AGREE THAT I WOULD NOT BE ALLOWED TO PARTICIPATE IN THE FIELD TRIP IF THIS RELEASE AND INDEMNITY AGREEMENT WERE NOT SIGNED AND AGREED TO BY ME, AND THAT THE AGREEMENT BY ME TO THE TERMS AND CONDITIONS OF THIS RELEASE AND INDEMNITY AGREEMENT IS AN ESSENTIAL PART OF THE CONSIDERATION FROM ME FOR ME TO BE ALLOWED TO PARTICIPATE IN THE FIELD TRIP.

Dated: \_\_\_\_\_

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Printed name)