



# AGS NEWSLETTER

ARIZONA GEOLOGICAL SOCIETY, INC. JUNE 2006

## DINNER MEETING SPEAKER JUNE 6, 2006

**CHRISTOPHER J. POTTER, U.S. GEOLOGICAL SURVEY, DENVER**  
The Front of the Brooks Range: Geologic Structures and Hydrocarbon Resource Assessment on Alaska's North Slope

**ABSTRACT:** The Brooks Range in northern Alaska records: (1) a late Jurassic through Early Cretaceous arc-continent collision and related crustal shortening; (2) mid-Cretaceous extension; and (3) renewed shortening in the Tertiary. The latter period of shortening was likely a response to plate convergence in southern Alaska. The Brooks Range foothills on Alaska's North Slope compose the frontal part of this complex orogenic belt. Although the Cretaceous tectonic events are recorded in the structures and stratigraphy of the foothills belt, the primary structures of this belt are Tertiary thrust faults and folds that compose the front of the Tertiary deformational wedge. The age of these structures range from Paleocene to Miocene, with the Miocene deformation most prominently expressed north of the Northeastern Brooks Range in the Arctic National Wildlife Refuge.

The Brooks Range foothills record a transition in structural style from thin-skinned in the west to strongly basement-involved in the east. Additionally, there is a south-to-north structural transition across the western and central North Slope, from a complexly deformed triangle zone in the south to a broad fold belt in the north. These regional structural variations form the basis for definition of a variety of structural "play types" in the USGS assessments of undiscovered oil and gas beneath the North Slope.

This talk will review the structural patterns and evolution of the Brooks Range foothills, illustrate how these regional patterns affect the assessment of oil and gas resources on the North Slope of Alaska, and provide some insight into the overall process of estimation of undiscovered hydrocarbon resources in northern Alaska. In general, the deformed area beneath the foothills and southern part of the Arctic coastal plain is found to be much more prospective for gas than for oil, in contrast to the undeformed region to the north. Such relations will be discussed in the context of petroleum systems and the burial and thermal history of the North Slope. *Dr. Christopher Potter can be contacted at [cpotter@usgs.gov](mailto:cpotter@usgs.gov) or (303) 236-1735.*

## Dinner Meeting Schedule:

**Inn Suites Hotel:** 475 N. Granada Ave. in Tucson

Cash Bar @ 6 pm Dinner @ 7 pm Talk @ 8 pm

Cost: With reservation: Members \$20, Guest \$22, Students \$7 Without reservation \$2 additional. Please call (520) 663-5295 by 5 pm before **June 5th**. Indicate if a low-salt or vegetarian meal is required. Please cancel if you are unable to attend.

## CALENDAR OF EVENTS:

- July 11 AGS Dinner Meeting, Nyal Niemuth, Overview of Mineral Resources in Arizona
- August 1 AGS Dinner Meeting, Douglas Bartlett, Environmental Hydrogeology of Porphyry Copper Mines
- Sept. 5 AGS Dinner Meeting, Patrick Leahy, USGS
- October 3, AGS Dinner Meeting, Lewis Teal, Newmont Yanacocha Mine



## Other Geoscience News:

The next **Geologist Examination** for the **Arizona Board of Technical Registration** is scheduled for October 6. Visit [www.btr.state.az.us](http://www.btr.state.az.us) and [www.asbog.org](http://www.asbog.org) for more information.

Mark October 10 on your calendar for a **U of A Dept. of Geosciences Alumni Happy Hour**. More details will be provided closer to the event.

## AGS 2007 SYMPOSIUM UPDATE



### Ores and Orogenesis: Circum-Pacific Tectonics, Geologic Evolution, and Ore Deposits

Hilton Tucson El Conquistador  
Golf & Tennis Resort

24-30 September 2007

[www.agssymposium.org](http://www.agssymposium.org)

Plans continue to move along with emphasis on publicity, exhibits, and advertising.

**Karen Bolm, Exhibits Chair**, has worked up the rates for the 8' x 10' exhibitor booths, and prepared a layout for the Exhibit Hall. Booths fees include a 6' draped table, 8' high backdrop, 3' side rail, and 2 chairs. The commercial booth fee before February 1, 2007 is \$1,200 (\$1,500 after Feb. 1st). A limited number of non-profit booths are available for \$1,000. Please contact her for more information at [kbolm@usgs.gov](mailto:kbolm@usgs.gov).

**Dean Kleinkopf, Advertising Chair**, prepared a flyer soliciting potential advertisers. Ads will run in the Program Booklet or Field Trip Guidebooks starting from \$100 for a business card ad (\$125 for color) to \$900 for a full page color ad (7.5" x 10"). Download the flyer from the AGS Symposium web site or contact Dean at [dklnkpf@usgs.gov](mailto:dklnkpf@usgs.gov).

**Don Ernest, Publicity Chair**, prepared an updated flyer to take to the May 2006 SEG meeting "Wealth Creation in the Mineral Industry", which was hosted by our co-sponsoring organization Society of Economic Geologists. General

information, sponsorship, and advertising flyers were placed at the SEG and SRK Consulting booths. Meanwhile **Eric Seedorff, Co-Chair** and **Don Hammer, Sponsorship Chair** personally visited potential sponsors and exhibitors at the conference. The next round of publicity is focused on the SEG newsletter and the newsletter for the Geosciences Department at the University of Arizona. If you are interested in sponsorship or can suggest a potential publicity venue, please contact Eric at [Seedorff@geo.arizona.edu](mailto:Seedorff@geo.arizona.edu).

**Bob Cummings, Field Trip Chair**, has 19 tentative field trips including one-day and multi-day trips in Arizona, Nevada, Sonora and Chihuahua, and California.

**Claudia Stone, Field Trip Guidebook Chair**, is researching the costs to prepare the full-color guidebooks.

**Bob Kamilli and Jon Spencer, Program Chairs**, are in the process of lining up speakers and have worked up the room assignments for the talks, Core Shack, and Short Courses.

**Ann Pattison, Short Course Chair**, is soliciting your ideas for Short Courses. Two courses are lined up at this point - one by **Allan Moran** on the preparation of 43-101 Reports and the other on uranium deposits by **Karen Wenrich**.

**Steve Enders and Spencer Titley** are coordinating with SEG on the course content for the one-day SEG Symposium **Supergene Processes in the Context of Tectonics and Climate Change**.

There is still room for you to get involved.

The next scheduled meetings of the AGS Symposium Committee are on Wednesday evenings, **21 June and 19 July** at 5:30 pm at 353 ENRB (USGS Building) on the U of A campus. Please visit [www.agssymposium.org](http://www.agssymposium.org) for additional information including the flyers for booths, ads, and sponsorships.

## MEMBER NEWS

We regret to inform you of the deaths of geologist **Richard Hay** in February and mining engineer and exploration geologist **Byron S. Hardie** on May 3rd. Both were true gentlemen and will be missed.

The **2006 Membership Directory** will be compiled in **July** with the contact information of current members. Current membership is 379, 319 of whom have renewed for 2006. If you have a "05 Renew" on your newsletter, this is your final newsletter. If you've had a recent change in address, phone, or email, please contact Vice Secretary Bret Canale at [twocans@cox.net](mailto:twocans@cox.net).

While you are renewing your dues, please consider a donation to the Courtright Scholarship Fund or to support the AGS Symposium in 2007.

## AGS SUMMER BOOK SALE

Now's the time to pick up your copy of an AGS map, field trip guidebook, or map at a discount. Copies will be available at the dinner meeting or by mail (with postage/handling added). Please contact the AGS Secretary at (520) 663-5295 or [corihoag@msn.com](mailto:corihoag@msn.com) if you would like to order a copy by mail.

AGS Digest #7	\$1	Tectonic Digest #10 w. maps	\$5
AGS Digest #9	\$1	AGS Digest #13	\$5
Rel. of Tectonics to Ore Deposits in S. Cordillera,			\$10
Gold & Silver Deposits of Basin & Range, Digest 15			\$17
Frontiers in Geol. & Ore Deposits of Arizona and the Southwest			\$20
Geologic Evolution of Arizona, Digest 17,			\$45
Mesozoic Rocks of S. Arizona & Adjacent Areas			\$15
Prot. Geology & Ore Deposits of Arizona, Digest 19			\$20
Porphyry Copper Deposits of Amer. Cordillera			\$55
AGS Digest 21, Desert Heat - Volcanic Fire by D. Kring			\$14



## 2006 MEMBERSHIP DIRECTORY SPONSORSHIP

AGS is now accepting advertisements for the 2006 AGS Membership Directory. High quality photos of scenic Arizona, interesting outcrops, and our members are also needed. If you can volunteer your time to help with the pre-production and post-production work, let us know. The rates for advertising are listed below:

SIZE	RATE	APPROX. DIMENSIONS
Business Card	\$25	Standard Business Card
½ Page	\$100	4.7" w x 4" h
Full Page	\$200	4.7" w x 7.9" h

**What is needed:** AGS can work with a variety of formats for your company ads: camera-ready, a business card, or an electronic file (.bmp, .doc, .jpg, tif, .pdf, etc.). The artwork will fit in the size limitations listed above. Feel free to submit a digital or hard copy sized to 8.5" x 11" and we will size it to fit. AGS retains digital copies of all ads published in 2005, so can place those ads again without a hard copy or digital file.

**Date needed:** July 30 deadline - directory will be published in early August. Advertisers will receive a copy of the directory.

**Send to:** Please email digital copies directly to VP Marketing, Michael Alter at [malter@clearcreekassociates.com](mailto:malter@clearcreekassociates.com) or mail a hard copy to: AGS, P.O. Box 40952, Tucson, AZ 85717. If you have questions, call Mike at (520) 622-3222. Remit payment by check with the copy of the advertisement. AGS will send you an invoice (if needed) and a receipt. Thanks for your support.



ARIZONA  
GEOLOGICAL SOCIETY

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Tucson, AZ 85717-0952

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www.arizona-geological-soc.org

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SYMPOSIUM

For info on ordering AGS  
publications, visit  
www.arizona-geological-soc.org.  
AGS books & maps are sold at the  
dinner meetings and by the  
Arizona Geological Survey.

*Current membership stands at 379. If you have a "05 Renew" on your address, please renew your 2006 calendar year dues. As always, please keep us up-to-date as you move, change jobs, or email addresses.*

## 2006 AGS MEMBERSHIP APPLICATION OR RENEWAL FORM

**Please mail check with membership form to: Arizona Geological Society, P.O. Box 40952, Tucson, 85717**

**Dues (check box)  1 year: \$15;  2 years: \$30;  3 years: \$40;  full-time student (membership is free)**

Name: \_\_\_\_\_ Position: \_\_\_\_\_

Company: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Street City State Zip Code

Work Phone: \_\_\_\_\_ Home Phone: \_\_\_\_\_

Fax Number: \_\_\_\_\_ Cellular Phone: \_\_\_\_\_

E-Mail: \_\_\_\_\_ I wish to receive newsletter by E-mail

If registered geologist/engineer, indicate registration number and State \_\_\_\_\_

Enclosed is a \_\_\_\_\_ tax-deductible contribution to the J. Harold Courtright Scholarship Fund.

Enclosed is a \_\_\_\_\_ tax-deductible contribution for the 2007 AGS Symposium.