



# FOUR CORNERS GEOLOGICAL SOCIETY NEWSLETTER

**November 2006**

Since 1950

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## **Next Meeting and Presentation**

November FCGS Meeting and Presentation in Durango – p. 2  
Speaker abstract and bio. – p. 4

*The Prez Sez* – p. 3

## **General Announcements**

Advertising & News – p. 5 – 6

**Membership Renewal Form 2007** p. 7 – 8

# Four Corners Geological Society

## November Meeting and Presentation

**DATE:**

Friday, November 17, 2006

**SPEAKER:**

Dr. Fraser Goff, Retired, Los Alamos National Laboratory (LANL)

**TOPIC:**

“Resurgence and Lake History of the Valles Caldera, New Mexico”

**PLACE:** Fort Lewis College, Durango, Colorado

**\*\*\*\*\* AGENDA:**

4:00 - 6:00 PM - [FLC Geoscience Department](#), 300 Berndt Hall, Fort Lewis College

6:30 PM Dinner - [College Union Building](#), Fort Lewis College, Durango, CO

7:30 PM Presentation

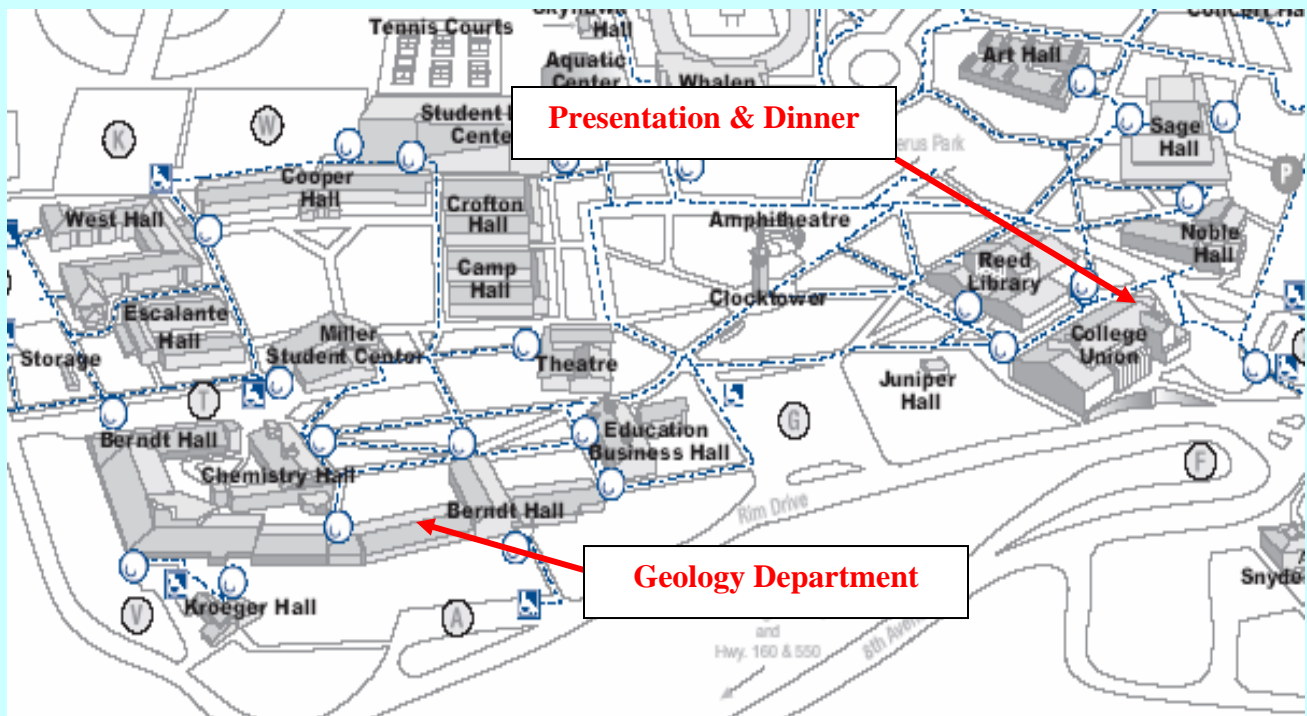
**COSTS:**

\$20.00 per person (dinner and talk), \$2.00 per person (talk only), students free (talk only)

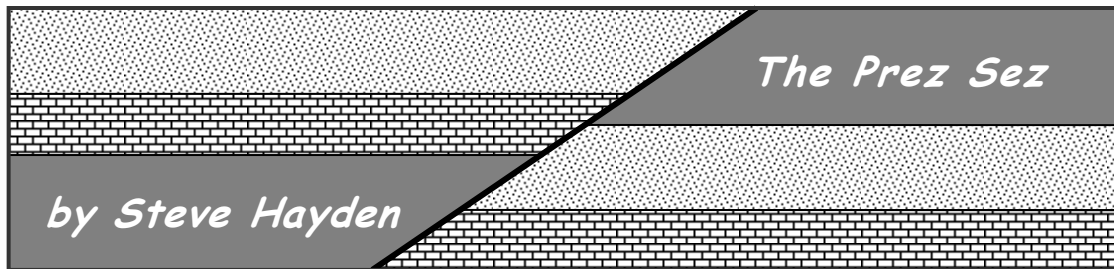
**Reservations!** For the meeting and presentation should be made by Wednesday, Nov. 15.

Farmington Contact: Steve Hayden – email: [steve.hayden@state.nm.us](mailto:steve.hayden@state.nm.us), phone: (505) 334-6178

Durango Contact: Kim Hannula – email: [hannula\\_k@fortlewis.edu](mailto:hannula_k@fortlewis.edu), phone: (970) 247-7463



FLC Campus



The Fort Lewis College Geosciences Department will be hosting a reception in 300 Berndt Hall from 4 to 6 pm. There will be drinks and hors d'oeuvres in the newly renovated Geoscience Department office space, tours of the new ICP-OES lab, and displays of recent student research projects. Come help them celebrate their new digs!

A special thanks to FCGS members Bob Owen, Mary Gillman and the Thurston's who donated enough money to purchase 12 Leica microscopes for the FLC geoscience department.

Please don't forget to fill out the FCGS 2007 membership renewal and I hope to see everyone on November 17 for this month's great topic on the Valles Caldera.

**Steve**



## **Resurgence and Lake History of the Valles Caldera, New Mexico**

**Fraser & Cathy Goff  
Los Alamos  
National Laboratory**

### **ABSTRACT**

The Valles caldera is the world's type resurgent caldera and formed 1.25 Ma during eruption of about 300 km<sup>3</sup> of upper Bandelier Tuff. New geologic mapping and laboratory research combined with past information provides additional constraints on caldera processes at this world famous feature including 1) the timing and duration of resurgence, 2) recognition of extensive caldera wall collapse breccias, and 3) the timing, extent, and mineralization of several postcaldera lakes.

### **SPEAKER BIOGRAPHY**

Fraser Goff received his B.S. in chemistry from San Jose State College in 1971 and his Ph.D. in earth science from the University of California, Santa Cruz in 1977. He was employed by the U.S. Geological Survey as chemist and geologist in evaluation of The Geysers-Clear Lake geothermal region, California (1974-1977). He spent a year as Senior Geologist at Rockwell Hanford Operations working on the Basalt Waste Isolation Project. In 1978 he joined Los Alamos National Laboratory (LANL) where he was a member of geology and geochemistry groups working on a variety of projects in geothermal energy research, exploration, and development, and in field volcanology. In 1991 he became Adjunct Professor at the University of New Mexico where he lectures and teaches field courses in volcanology and geothermal exploration. He retired from LANL in 2004 to devote more time to field geology and geochemistry. These projects are supported by the NM Bureau of Geology & Mineral Resources and by the Valles Caldera National Preserve. Fraser has spent 28 years working in the Jemez Mountains and Valles caldera.



General Announcements/News from other Geo-Societies



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**Strategic Research Institute**

Register now for the 5th Annual Gas Shales Summit, November 30-December 1, 2006 at The Brown Palace in Denver, sponsored by Halliburton and Schlumberger. The symposium will touch on; Iranian oil and gas, the Mississippian Caney Shale in Oklahoma, geochemistry of Baltimore Canyon (offshore east coast) and Permian Basin (West Texas) "old-new" gas, mudlogging in unconventional reservoirs, evaluation of fractured black shale prospects, and the Barnett Shale in the Delaware Basin. Rates are \$1195 before October 20th, \$1395 from October 20th to November 25th and \$1495 thereafter. The government rate is \$895. To register call 800-599-4950 or 212-967-0095, email [info@srinstitute.com](mailto:info@srinstitute.com) or visit [www.srinstitute.com/shalegas](http://www.srinstitute.com/shalegas).

## **News from Other Societies**

### ***American Association of Petroleum Geologists***

Mark your calendars now for the 4<sup>th</sup> annual AAPG Winter Education Conference, February 12-16, 2007 in Houston, Texas. There will be courses covering; subsurface mapping / reservoir characterization mapping, properties and volumes / tight gas sandstones / coalbed methane / risk analysis / interpreting rock physical properties from seismic amplitudes / 3D seismic attributes / seismic geomorphology and stratigraphy / log interpretation / advancements in petrophysics / and drill stem tests. Tuition is \$1295 for AAPG members and \$1395 for non-members, or \$325/day for individual courses. For more information, call toll-free 888-338-3387 or 918-560-2650. You can download a registration form at <http://www.aapg.org/education/wec.cfm>.

### ***Rocky Mountain Association of Geologists***

The RMAG is announcing a call for speakers on 3-D Case Histories for their 13<sup>th</sup> annual RMAG/DGS 3-D Seismic Symposium. The meeting will be held on Monday, March 5, 2007 at the Marriott City Center in Denver. Contact either R. Randy Ray ([rrandyray@aol.com](mailto:rrandyray@aol.com)) or Bill Pearson ([bpearson@pearsontechnologies.com](mailto:bpearson@pearsontechnologies.com)) for more information.

## **News from our October Meeting**

Kim Hannula announced that FCGS members have responded to Jim Collier's plea last month for help in replacing Fort Lewis College's old petrographic microscopes with new digital ones. Bill Thurston, Mary Gillam's and Bob Owen's contribution funded 12 new microscopes. Thank you very much!!



# Four Corners Geological Society

## MEMBERSHIP RENEWAL or APPLICATION for 2007

PAGE 1

\*\*\* Please Print and Complete BOTH Pages\*\*\*

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_

Bus. PHONE: (\_\_\_\_) \_\_\_\_\_ Res. PHONE: (\_\_\_\_) \_\_\_\_\_

Fax Number: (\_\_\_\_) \_\_\_\_\_ E-Mail: \_\_\_\_\_

Web page URL: \_\_\_\_\_

### Please Identify a Membership Category:

- |                          |                    |           |  |
|--------------------------|--------------------|-----------|--|
| <input type="checkbox"/> | ACTIVE MEMBER 1    | \$20.00   | Person holding a degree in geology or an allied science and receiving the FCGS Newsletter via <u>email</u>                             |
| <input type="checkbox"/> | ACTIVE MEMBER 2    | \$25.00   | Person holding a degree in geology or an allied science and receiving the FCGS Newsletter via <u>U.S. mail</u>                         |
| <input type="checkbox"/> | ASSOCIATE MEMBER 1 | \$20.00   | Person whose interests are closely associated with geology or an allied science and receiving the FCGS Newsletter via <u>email</u>     |
| <input type="checkbox"/> | ASSOCIATE MEMBER 2 | \$25.00   | Person whose interests are closely associated with geology or an allied science and receiving the FCGS Newsletter via <u>U.S. mail</u> |
| <input type="checkbox"/> | HONORARY MEMBER    | no charge | Year Honorarium was awarded _____ (optional)   |
| <input type="checkbox"/> | EMERITUS MEMBER    | no charge | Year Emeritus status was awarded _____ (optional)  |
| <input type="checkbox"/> | STUDENT MEMBER     | \$5.00    | Undergraduate student majoring in geology or an allied science<br>Year you expect to graduate: _____                                   |

# Four Corners Geological Society

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## MEMBERSHIP RENEWAL or APPLICATION for 2007 PAGE 2

My professional interests are:

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I would like to include a Tax Deductible Contribution to the Four Corners Geological Society Foundation.

Amount of Donation: \_\_\_\_\_  
(Please include a separate check made payable to the Foundation.)

In Memory of (optional): \_\_\_\_\_

To be used for (optional): \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

The dues year begins on January 1.  
For dues paid after March 1, add a \$5 late fee (does not apply to new members).

Please print, complete and return **both pages** of this form with your check for dues made payable to:

**Four Corners Geological Society  
P.O. Box 1501,  
Durango, CO 81302**

**Advertising rates for the Four Corners Geological Society newsletter:**

Full Page Ad (7½" x 9½") \$100/mo. or \$1000/yr.    Half Page Ad (7½" x 4½") \$50/mo. or \$500/yr.  
¼ Page Ad (3½" x 4½") \$25/mo. or \$250/yr.    Business Card (3½" x 2") \$10/mo. or 100/yr.

Odd sizes are \$3.50 per column inch per month, minimum \$10.00

**For more information, please contact the FCGS Treasurer, (vacant). Proceeds will go toward the further development of the Society (i.e., offset meeting costs, publications, etc.).**

**Four Corners Geological Society**

P.O. Box 1501, Durango, CO 81302

<http://www.canyonwinds.com/FCGS/index.html>

**2006-07 Officers**

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