



FOUR CORNERS GEOLOGICAL SOCIETY NEWSLETTER

January 2006

Since 1950

Next Meeting and Presentation

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Four Corners Geological Society

January Meeting and Presentation

DATE:

Friday, January 27, 2006

SPEAKER:

Reed H. Meek, Petroleum Geologist, XTO Energy, Fort Worth, TX (see bio on page 5)

TOPIC:

“Delineation of Four “Type Producing Areas” (TPAs) in the Fruitland Coal Bed Gas Field, New Mexico and Colorado, Using Production History Data”
(see abstract on page 4)

PLACE: Courtyard Marriott, PINE ROOM, 560 Scott Ave, Farmington, New Mexico, (505) 325-5111

AGENDA:

5:30 PM Social Hour

6:30 PM Dinner-----Choice of: Ricotta Chicken or Sliced Sirloin of Beef

7:30 PM Presentation

COSTS:

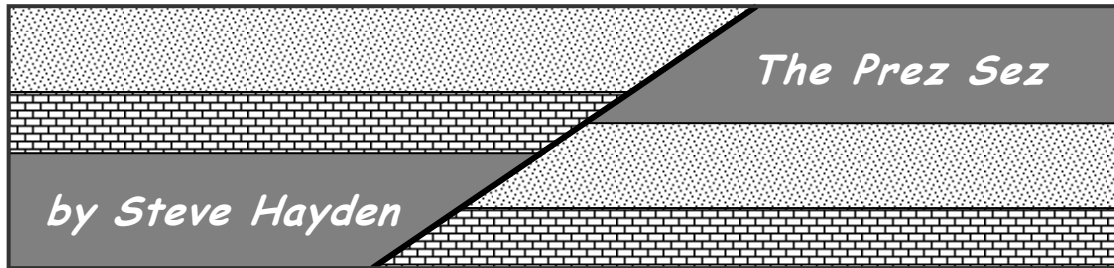
\$20.00 per person (dinner and talk), \$2.00 per person (talk only), students free (talk only)

Reservations! for the meeting and presentation should be made by Wednesday, Jan. 25.

Farmington Contact: Mike Dawson – email: mdawson@br-inc.com, phone: (505) 326-9770

Durango Contact: Steve Cossey – email: cosseygeo@aol.com, phone: (970) 385-4800





The holiday season is over and a new year has taken us by storm.

We have begun the process to build our own website. We will soon have the Four Corners Geological Society site at fourcornersgeologicalsociety.org. FCGS.org was already taken by the Freeborn County Genealogical Society.

The FCGS Foundation has agreed to provide some assistance to offset travel expenses for Fort Lewis Geology students presenting their senior thesis research to the Geology Society of America, Rocky Mountain Section spring meeting in Gunnison. These students will give their talks to the FCGS for the April meeting program.

We will have an executive committee meeting prior to the January meeting to discuss scholarship issues and the progress on our website.

Reed Meek with XTO will be our speaker this month with a talk on the Fruitland Coal producing areas in the SJB. I hope to see everyone there.

Steve

January 27, 2006 Presentation



Delineation of Four “Type Producing Areas” (TPAs) in the Fruitland Coal Bed Gas Field, New Mexico and Colorado, Using Production History Data

Reed H. Meek
Division Geologist, XTO Energy
810 Houston St., Fort Worth, TX 76102
Reed_Meek@XTOEnergy.com

ABSTRACT

The Fruitland Coal gas field is a continuous-type hydrocarbon accumulation covering more than 2000 mi² in the San Juan Basin. Reported cumulative production through 2004 is >11.5 TCFG and >236 MBO from over 5270 wells. Individual well cumulative production is highly variable: <1 MMCF to >43,000 MMCF gas; 0 to 31 MBBL Oil, and 0 to 7 MMBBL water. Individual well peak gas rates range from <100 MCFD to >20,000 MCFD. Four distinct NW-SE trending “type producing areas” (TPAs) can be delineated, based upon similarities in reservoir characteristics and production behavior, which are broadly consistent within each TPA, but change dramatically across TPA boundaries. Some key characteristics of each TPA are: TPA1: low to medium gas and water rates, low C₂₊. TPA2: low gas and water rates, high C₂₊, oil, low CO₂; TPA3: (aka “The Fairway”) very high gas rates, dry CH₄ with high CO₂; TPA4: moderate to high gas and water rates, low C₂₊, moderate CO₂. In TPA1 and TPA4 water rates tend to decline slowly and peak gas rates are reached after several years of production. In TPA3 water rates decline quickly and peak gas rates occur within the first two years of production. TPA3 and portions of TPA4 were originally overpressured, while TPAs 1&2 are underpressured. Variations in production behavior can be linked to underlying geological controls, especially coal rank, coal thickness, pressure regime, and hydrodynamics. These variables affect the primary controls on gas production: hydrocarbon content and composition, initial reservoir pressure, initial water saturation, and cleat permeability.

Speaker Biography

Twenty-one years oil and gas experience with major and independent companies including Conoco, Yates Petroleum, Marathon, and XTO Energy. Work experience includes the following basins San Juan, Permian, and Texas Gulf Coast, and Bowen Basin (coalbed methane in NE Australia). Worked the San Juan Basin for Conoco from 1986-1995. Joined XTO Energy in Fort Worth in 2003 to work the San Juan Basin. Current projects include continuing development of the Fruitland Coal field in New Mexico and Colorado, re-development of Ute Dome Paradox Field, and 80-acre infill drilling in Mesaverde and Dakota sandstones.

Education: M.S. Geology, 1983, The University of Wisconsin - Madison. B.S. Geology, 1981, Brigham Young University, High School Class of 1975 in Pocatello, Idaho.

Publications and talks: include 1993 and 2005 AAPG abstracts and oral presentations on Fruitland Coal field.

Personal: Married 23 years to Sandy. We are the parents of four children ages 13 - 22.



General Announcements/News from other Geo-Societies

San Juan Float Trip Permits – How to fill them in

Thanks very much to everyone who sent away to the BLM on behalf of the society for an application to float the San Juan River this spring. Several of you have contacted me for more information on filling the applications in. According to Tom Ann and Gary, please use the following format: Requested launch site = Mexican Hat, Takeout site = Clay Hills. Requested lunch & takeout dates, in order of preference, are: June 12 – 17, June 13-18 and June 14-19. Number of persons in group = 20. (Last months letter from Kim is on page 10)

Wyoming Geological Association

The WGA is soliciting papers for inclusion in a new series of books designed to embrace the diversity of Wyoming's geology. The series will be a high quality, peer-reviewed publication in both hardbound and digital formats. Please turn in your abstracts as soon as possible to Tim McCutcheon, Wyoming Geological Association, P.O. Box 545, Casper, Wyoming 82602. Phone (307) 237-0027.

The Wyoming State Geological Survey (WSGS) has released the latest installment of Wyoming Minerals Update, a quarterly publication about developments and activities in Wyoming's mineral industry. Go to the WSGS web site <http://www.wsgs.uwyo.edu> and click on "Wyoming Mineral Updates" in the "Featured Links" section.

Arizona Geological Society

The fall, 2005 issue of Arizona Geology (Vol 35, no.3), is titled, "Drill Holes in the Luke Salt Body Penetrate Underlying Fault". This 4-page article is authored by Jon E. Spencer and Steven L. Rauzi of the AGS. The winter, 2005 issue (Vol. 35, no. 4), is titled, "Abrupt Initiation of the Colorado River and Initial Incision of the Grand Canyon". This 4-page article is authored by Jon E. Spencer and Philip A. Pearthree of the AGS. To order these, or any other publications of the AGS, visit their website at www.azgs.az.gov. Or contact the AGS at 416 W. Congress St., Suite 100, Tucson, Az. 85701.

Mark your calendars for the 2006 Tucson Gem and Mineral Show, February 9-12 at the Tucson Convention Center. This is the largest show of it's kind and dealers from the US and and many other countries will be present.

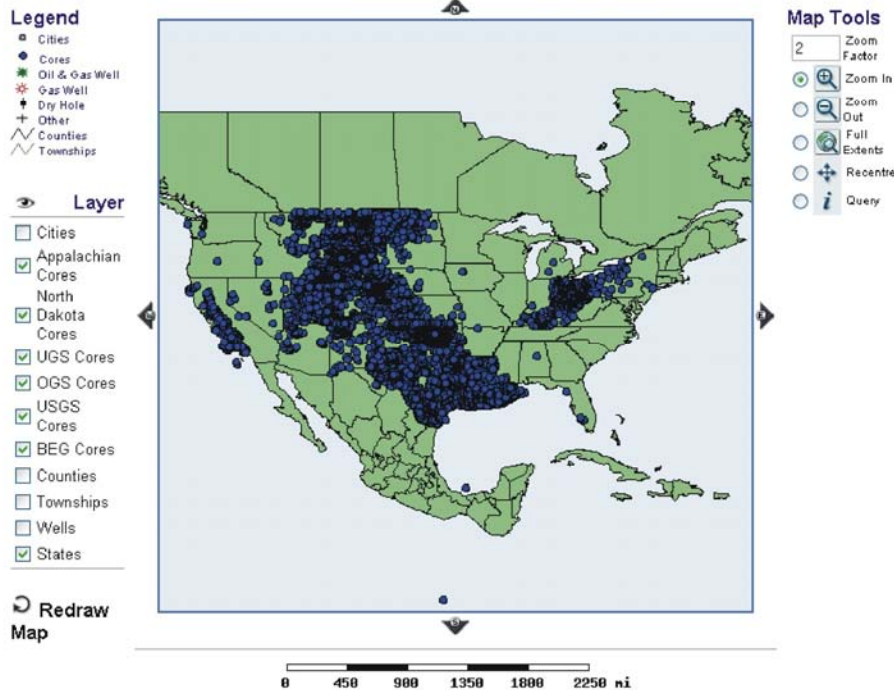
Planning continues for the September, 2007 AGS Symposium on Ores and Orogenesis. They will be posting preliminary information on field trips, general sessions and sponsors soon on their website at www.agssymposium.org.



PTTC ROCKIES CORE LOCATOR

A FREE Internet Resource Giving
Access to 143,766 Cores from
Collections Across 30 States

PTTC Interactive Core Index Map of US



PTTC Rockies announces the introduction of CORE LOCATOR - the first web and map-based index to the location of core data across the USA. Cores are referenced from several HUGE COLLECTIONS, including those of the BEG, the USGS, and the North Dakota, Utah and Oklahoma Geological Surveys. Data from the Eastern US includes collections from the Geological Surveys of all the Appalachian States. NEW DATA POSTED ON A REGULAR BASIS!

Visit www.ptticrockies.org

Click on "CORE LOCATOR"

And Try It Today!

Rocky Mountain Association of Geologists

The RMAG is sponsoring a short course on January 12th, 2006, titled, “Structure and Geology of the Overthrust Belt”. Register online at www.RMAG.org or call them at (303) 573-8621.

The Colorado School of Mines is offering a special course on continental rift tectonics, sedimentation, and inversion in the spring semester of 2006, followed by a field trip to the Atlas Mountain ranges of Morocco May 18-28. For information contact John Warme at jwarne@mines.edu or (303) 273-3816.

The 12th Annual 3-D Seismic Symposium, “Resource-full Rockies” will be held Friday, March 10th, 2006 at the Marriott Hotel in downtown Denver. Registration begins January, 2006 at www.rmag.org.

The Colorado Oil and Gas Association and the Rocky Mountain Association of Geologists are again presenting, “Two Great Meetings, One Great Event” August 7-9, 2006 at the Colorado Convention Center. This event will focus on the business side and the scientific side of Rocky Mountain natural gas. Submit your abstract by February 1 to bluneau@slb.com. Use the heading of “COGA-RMAG 2006” in the subject line. Abstracts are limited to 250 words or less in the following format: TITLE / Author, Affiliation / Text of Abstract.

The AAPG is running several short courses and field trips this spring. These include; “E&P Methods and Technologies: Selection and Applications” April 7-9, 2006, “Modern Terrigenous Clastic Depositional Systems” April 23-30, May 22-29 and September 18-25, “Strategic Play Analysis”, April 8-9, and “Clastic Reservoir Facies and Sequence Stratigraphic Analysis of alluvial Plain, Shoreface, Deltaic, and Shelf Depositional Systems” April 23-29. There will also be a Geologic Field trip to Trinidad and Tobago April 26-May 2. For more information email the AAPG education department at educate@aapg.org, log on to www.aapg.org/education/index.cfm, or call (918) 560-2678.

James A. Peterson of the University of Montana has updated his “Carboniferous – Permian Hydrocarbon System, Rocky Mountains – Great Basin Region, Major Historic Exploration Objective” open file report. The

report is 54 pages long and includes 45 illustrations. It is available from the RMAG for \$10 plus \$7 shipping, plus any applicable sales tax. To order, log onto www.rmag.org and go to Publications, or call the RMAG office at (303) 573-8621.



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Dear Mr. Heath,

Does Four Corners Geological Society have a book award program for geology books set in your area? Earlier this year we published *Carving Grand Canyon* by geologist Wayne Ranney – it has done very well with a second printing on press as I write this. Grand Canyon Association has a mission to support the education and science of the Park, Mr. Ranney’s book helps us to accomplish this goal.

I appreciate any information you can share with me and look forward to hear from you soon!

Sincerely,
Helen

Helen Thompson
Public Relations
Grand Canyon Association
928.638.7033
hthompson@grandcanyon.org
www.grandcanyon.org

✦ Around the Corner ✦

It's Time to Apply for Float Permits!

We had a great FCGS float trip on the upper San Juan River last May and are hoping to float the lower San Juan this coming spring. To do that, without paying for a commercial raft outfitter, we need someone in the society (who would be able to go on the trip) to win a BLM float permit in the February lottery. If every member who is interested in going applies for a permit, our chances of winning a slot will be higher than if just one or two people apply.

To apply for a permit you must write to the BLM's Monticello Field Office and request an application form. Yes, snail mail! They will send it to you, (yes, snail mail!). You fill it out and send it back to them (again, snail mail!) before February 1st. If there is a space for asking which section you want to float, put down Mexican Hat to Clay Hills, i.e., the lower San Juan. They run their "lottery" in February – presumably they pull applications blindly out of a giant hat – and notify the winners by (again) snail mail by March 1st. If you win a trip, they will send you the location of the section of the river you can float, and the date you must start your trip. Then you can ask 15 of your closest friends in the FCGS to come with you! You don't need to have a boat personally to apply for a permit. We have enough members with boats that can supply all the gear.

The address is:

Monticello Field Office

B.L.M.

P.O. Box 7

Monticello

Utah, 84535

(435) 587-1544 (only open from 8am – 12 noon)

So don't delay, send off for your application form today! Thanks, Kim Gerhardt

Four Corners Geological Society Financial Report

Financial Report for the year 2004 (from Steve Cossey, 2005-2006
Treasurer)

Current Assets (as of December 31, 2004)

Checking/Savings

CD 013245 -----	\$12,831.23
Freemont Bond Fund #6000203254 -----	12,160.74
Money Market Account -----	11,134.81
Checking Account -----	<u>3,933.98</u>

Total Checking/Savings 40,060.76

Other Current Assets

Inventory Assets/Books -----	\$45,568.00
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Total Current Assets -----
85,628.76

Income

Member Dues -----	
1,865.00	
Dinner Meetings -----	2,891.00
Interest Earned -----	330.13
Book Sales -----	(18,704.23)
Field Trip -----	
100.00	
Reimbursed Expenses -----	600.00
Donation -----	
30.00	
Chama River Trip -----	
5,320.90	

Total Income
(7,567.20)

Expenses

Admin. Expense -----	
237.79	

Chama River Trip -----	
6139.50	
Deposit Correction -----	
10.00	
Licenses and Permits -----	50.00
Meetings -----	3,792.16
Miscellaneous -----	(584.89)
P.O. Box Rental -----	48.00
Postage and Delivery -----	533.01
Printing and Reproduction -----	
1,014.54	
Accounting Fees -----	
180.84	
Book Storage -----	
569.00	
Speaker Expenses -----	
733.32	
Transfer of Funds -----	
50.00	
Total Expenses	12,753.27
Net Income	(20,320.47)

Comparison with Year 2003

	Year 2003	Year 2004
Checking/Savings	\$40,381.23	\$40,060.76
Book Inventory	<u>65,568.00</u>	<u>45,568.00*</u>
Net Assets	105,949.23	85,628.76

* The value of the book inventory decreased due to a decrease in book prices in 2004.



Four Corners Geological Society

MEMBERSHIP RENEWAL or APPLICATION for 2006

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
Year you expect to graduate: _____ |

The dues year begins on January 1.

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

Four Corners Geological Society

MEMBERSHIP RENEWAL or APPLICATION for 2006 PAGE 2

My professional interests are:

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: _____

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**



Cool!



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>

2005-06 Officers

President – Steve Hayden: phone: 505.334.6178, email: Steve.Hayden@state.nm.us

Vice President – Mike Dawson: phone: 505.3269770, email: mdawson@br-inc.com

Secretary – Kim Gerhardt: Phone: 970.375.2700, e-mail: kd@mydurango.net

Treasurer – Steve Cossey: phone: 970-385-4800, email: cosseygeo@aol.com

Book Chairperson – Tom Ann Casey: phone: 970-247-1500, email: mtmassive@frontier.net

Newsletter Editor – Luke Titus: phone: 505.324.6108, email: jtitus@br-inc.com

Past President– Ed Heath: phone: 970-375-1997, email: ewheath@frontier.net

Web Coordinator– Tom Getts email: getts@mindspring.com

Field Trip Coordinator– Kim Gerhardt: Phone: 970.375.2700, e-mail: kd@mydurango.net

Foundation President– Jason Hooten: phone: 970.563.5353, e-mail: jhooten@rwpc.us

Foundation Secretary – Joe Hewitt: phone: 505.599.6365, email: jhewitt@blm.gov

Foundation Treasurer – Jim Hornbeck: phone: 505.325.8874, email: arg@digii.net