



#### **April 2008**

#### **President's Column**

# Opportunity to Give Back

It was May of 1977 that I was introduced to the Petroleum Business. I had graduated from the University of Idaho with a B.S. in Geological Engineering with the idea of traveling the world doing mineral exploration. The mid-70's was not a good time for the mining industry but the petroleum industry was booming. David Hawk, the manager of I.G.C. Production Companysubsidiary Intermountain Gas Company (natural gas utility for Idaho) gave me my break. With no experience in the petroleum industry or "soft-rock" experience, he hired me for the summer. I was pointed to his vast library on the Petroleum Industry and told to start copying and reading. He then gave me several assignments to survey the outcrops throughout the western part of the Snake River Plains and to put together information on the potential for natural gas. To my surprise I found that in the early 1920's a rig caught fire near the town of Payette, Idaho and there were several old wells that were heating some homes, but nothing commercial. I investigated the many outcrops of low-grade coal that might be providing some of the source for the gas accumulations. The company was drilling wells on the Douglas Creek Arch (Piceance Basin) near Rangely, Colorado and taking leases in the overthrust belt of Idaho.

This summer job led to the company funding my Master thesis work. I sat my first well the summer of 1978 near Driggs, Idaho looking onto the Tetons. Even though I was to be the company representative and learn all about mudlogging, drilling, and geology, I soon realized the "real" geologists at the time wanted me to be scouting out the best fishing holes for when they came to the drillsite. What I would give to be young again. This well happened to be in the middle of my thesis area and was eventually used as part of my study of the Cretaceous

stratigraphy in the area.

So what is my point? I wouldn't be here today writing this story if David Hawk had not mentored me and given me a taste of the Oil Business. I have enjoyed the ride, both the down-times and the uptimes. I hope we have a few more years of these good times.

There are a number of companies hiring recent graduates and sponsoring summer interns. I would like to encourage more of you to do so. I know some sole proprietors that utilize high school students and undergraduates. It does take a little time, but the rewards are fantastic.

WTGS is sponsoring the Maps-in-School Program. PBS-SEPM is hoping to sponsor an intern field trip this summer. PBS-SEPM, with the help of a number of sponsors, is providing six students an opportunity to join us on the upcoming Spring Field Trip April 4-6. SPE, PBGS, WTGS, PBS-SEPM all give out scholarships to deserving students. For so many years no one wanted to go into the Petroleum Industry. Now, there is a real need for the next generation to hand off the baton and set forth. Are you going to stand by?

Be a hero to a young person—I would like to say thank you to all the David Hawks in our industry that share their experience and time.

#### David J. Entzminger

## **PBS-SEPM Luncheon Schedule**

April 15: FutureGen's Aftermath, the Opportunities Ahead

Hoxie Smith, Director of PPDC

Updates can be found online at: www.pbs-sepm.org

#### **May 20:** Karsting or Hydrothermal-Dolomites: What is the Reservoir Development in the Ellenburger

Dr. Robert (Bob) G. Loucks

*Sr. Research Scientist*, Bureau of Economic Geology, University of Texas at Austin

Please contact Paula with your reservation at (432)683-1573 or <a href="mailto:wtgs@basinlink.com">wtgs@basinlink.com</a>

# "The FutureGen Aftermath -What Lies Ahead for Permian Basin Energy Projects"

It was three years of hard work in the region's endeavor to bring the world's first near-zero emissions coal-fired power plant to the Permian Basin at Penwell, Texas. Although we weren't selected, we have realized the positive outcome of bringing our communities together to work on a common goal. It was truly a regional effort and opened the doors for communication as we work to bring significant energy projects to the Permian Basin.

The Permian Basin is the best-suited location in the country for Clean Coal Technology, because we have a CO<sup>2</sup> market and regard CO<sup>2</sup> as a commodity rather than a waste. It is common knowledge to this group that the Permian Basin needs CO<sup>2</sup> to extract more oil from our existing mature fields. And, not only is CO<sup>2</sup> injection the best way to get it out, it is currently selling at an all-time high of \$1.50 to \$2.00 per mcf. This represents a significant revenue stream for a power plant that has the ability to capture and sell the gas using **IGCC** (Integrated Gasification Combined Cycle) technology.

The outlook for the basin is "opportunity": wind farms, nuclear projects, solar photovoltaic research, clean coal technology, and the continued development of our oil and gas resources.

Our main challenge is attracting skilled workers as we are reaching full employment of the existing labor force. However, when these projects come with accompanying large payrolls, they will attract the workforce. We will do all that we can to continue to meet training needs through our community colleges and the University systems – both UTPB and Texas Tech University.

Our Permian Basin communities understand energy better than any geographic location in the country. Pulling together to bring regional innovative projects to the Permian Basin will continue to allow our area communities and economies to thrive.



**Speaker Biography** 

W. Hoxie Smith, M.S., P.G. – Mr. Smith graduated from Colorado State University with a B.S. Degree in Geology (1982) and joined ARCO Exploration Company, Denver, Colorado where he conducted exploration for hydrocarbons in the complex overthrust region of western Montana. He received his Master's Degree in Geology from the University of Texas of the Permian Basin working (1995)while for Dawson Geophysical Company in Midland, Texas and serving as the Project Manager for a U.S. Department of Energy Project. From 1996 he served full-time as a Principal and Vice President of GeoSpectrum, Inc., a reservoir development company based in Midland. Mr. Smith has presented at numerous professional society meetings, including national conventions of the American Association of Petroleum Geologists, the Society of Exploration Geophysicists, and the Society of Petroleum Engineers. He has authored and co-authored over twenty-five publications in his field. Mr. Smith is currently the Director of Midland College's Petroleum Professional Development Center providing continuing education coursework and timely industry-oriented workshops for oil and gas professionals. He is the current

Chair and Continuing Education Director of the Permian Basin Section of the Society of Petroleum Engineers; Past-President, Permian Basin Geophysical Society; a member of the Midland Annual CO<sup>2</sup> Conference Committee; as well as holding a recent position as Regional Coordinator for FutureGen Texas.

# Mark your Calendars

## **APRIL**

**April 3:** PBS-SEPM Board Meeting

April 4-6 PBS-SEPM Annual Field Trip-"Leonardian Slope Transition Facies of the Guadalupe Mountains"

**April 8: Richard G. (Dick) Boyce** - "Pinon Field Study with Implications for Texas Overthrust Natural Gas Exploration"

April 9 : PBGS Luncheon Meeting
Speaker: Kevin Werth and Larry Linardi
Topic: "3D Seismic Acquisition Program at DFW Airport"

**April 15: Hoxie Smith**, Director of PPDC – "FutureGen's Aftermath, the Opportunities Ahead"

April 17: SIPES Luncheon Meeting

**April 20-23: National AAPG Convention-** San Antonio, Texas **April, 2008** 

April 23-26 WTGS Field Trip "Cambro-Ordovician Rocks of Central Texas: Application to the Subsurface"

## **MAY**

May 13 WTGS Luncheon Meeting
Speaker: Tony D'Agostino, OMNI Laboratories
Weatherford Core Evaluation Svcs., Houston, TX
Topic: "Age, Sequences, Depo-Models, and Biofacies:
U.S. Mississippian Shale-Gas Basins"

May 19: PBS-SEPM Board Meeting

#### May 20: Dr. Robert (Bob) G. Loucks

Sr. Research Scientist, Bureau of Economic Geology, University of Texas at Austin; "Karsting or Hydrothermal-Dolomites: What is the Reservoir Development in the Ellenburger"

**May 22** WTGS Awards Dinner, Petroleum Club, 6:30pm. Please call the office for reservations no later than Tuesday, May 20.

# Let us tell your story of the **Permian Basin History**

We are featuring a new item in the newsletter which includes a story from our "well-seasoned" geoscientists. These may be their favorite plays, that once-in-a-lifetime project or well, or stories about their fellow workers (the pictures could be very interesting). If you would like to write a story or know of someone that would like to contribute, please contact David Entzminger, 686-6741.

# Are you a PBS-SEPM member?

Applications on the website: www.pbs-sepm.org

# PBS-SEPM- upcoming elections

In the next few weeks you should be receiving a ballot for the 2008-09 slate of officers. I would encourage you to get involved by voting. The society only gets stronger with your participation.

If you would be interested in a position on a committee or the board, please contact any of the current board members found on page 9 of this newsletter.

# PERMIAN BASIN SECTION – SEPM OFFICER CANDIDATES 2008/2009

#### PRESIDENT ELECT

*Fred H. Behnken* Kinder Morgan Production Company, L.P.

#### **Biographic Information**

Staff Geologist Kinder Morgan Production Company, L.P. Previously consulting as FHB Stratigraphic Services, ARCO Permian, ARCO Exploration Co., Mesa Petroleum, Union Oil of California, Asst Prof. (Geol) at Augustana College, IL and Texas Tech University, Lubbock. Augustana College - BA Geol 1967 University of Wisconsin, Madison -MS Geol 1969 and Ph.D. Geol 1972 PBS-SEPM 1970-PBS-SEPM Treasurer, 2<sup>nd</sup> VP, 1<sup>st</sup> VP, President-Elect, and President. National SEPM Member 1969-**Gulf Coast Section SEPM** WTGS Member 1970-AAPG Member 2006-Roswell Geological Society 1985-SPE Member Paleontology Society 1968-2007 Texas Licensed Professional Geologist

## 1<sup>ST</sup> VICE PRESIDENT

Hollie Lamb

Stanolind Oil and Gas Corp. 432-688-4250 hlamb@stanolind.com

#### **Biographic Information**

Geo Engineer – Stanolind Oil and Gas Corp.

Lakehead University – BS – Engineering (Civil)

Northern College – Survey Technician & Architectural

Technician

WTGS Member – 2005 –

WTGS Luncheon Coordinator July 2007 -

SEPM Member – 2005 – SEPM Field Trip Committee 2007

SPE Member - 2005 -

#### 2<sup>nd</sup> VICE PRESIDENT

#### Terri McGuigan

Independent

#### **Biographic Information**

Previously Land Manager - Endeavor Energy Resources, LP University of Texas of the Permian Basin – BS Geol 2005 and currently obtaining MS Geol

SEPM Member - 2004

PBS-SEPM Member - 2003 -

PBS-SEPM Treasurer - 2007-2008

AAPG Member - 2002

WTGS Member - 2003 -

WTGS Fall Symposium Co-Chair Moderators and Judges -2006, 2007

WTGS Delegate to SWS – AAPG – 2007-2010

AAPL Member 1998

Certified Professional Landman - 1999

PBLA Member 2006

#### TREASURER

#### Debrah S. Gann

ARCADIS US, Inc.

#### **Biographic Information**

Project Scientist / Geologist

ARCADIS U.S. Inc.

University of Texas of the Permian Basin - BS

Geol 1992 and MS Geol 2000

PBS-SEPM Member 1996-

PBS-SEPM 2<sup>nd</sup> Vice President 2007-2008

WTGS Member 1996-

WTGS Continuing Ed. Chairman 2006-2008

AAPG & AAPG-DEG Member 2000-

AAPG-DEG Health & Safety Committee 2006-2007

SWS-AAPG: DEG Advisory Board Member

2003-2004

SWS-AAPG 2004 State Conference - Environmental Session Technical Committee &

Moderator

Business & Professional Women Member 2004-

BPW Corresponding Secretary 2006-2008

BPW Communications Chair 2004-2008

NGWA Member 1996-

SPE-ESG Member 1996-

Texas Licensed Professional Geoscientist

Tennessee Registered Professional Geoscientist

#### Louis J. Mazzullo, CPG Mazzullo Energy Corp.

#### **Biographic Information**

President

Mazzullo Energy Corp., Midland

Previously Senior Exploration Geologist, Brigham Oil & Gas; Mediterranean Resources (both Austin); Petroleum Geological Consultant

for 24 years; previously Uranium Exploration & Development geologist,

Phillips Petroleum Co. and Energy Resources Corp.

Brooklyn College, CUNY - BA Geol 1973

State University NY, Stony Brook- MS Earth & Space Sciences, 1975

University of Chicago- MS Geophysical Sciences, 1976 PBS-SEPM 1988-89, President

Various committees and field trip planning

WTGS Member 1981- present

Various committees

Dedicated Service Award, 1992-93

AAPG Member 1977- present

Wyoming Registered Geologist

AAPG Certified Petroleum Geologist

Levorsen Award Recipient, 1990 & 1999, Southwest Section **AAPG** 

Cheney Science Award, 2005- Southwest Section AAPG

#### **SECRETARY**

#### James L. Hawkins

Schlumberger.

#### **Biographic Information**

Borehole Geologist/Horizontal Well Placement Engineer Schlumberger – Data Consulting Services

University of Texas of the Permian Basin – BS 1993

University of Texas of the Permian Basin – MS 2005

18 Years Oil & Gas Experience in Permian Basin

AAPG Member 1991-

DEG & EMD

PBS-SEPM Member 1993-

SEPM National Member 2007-

WTGS Member 1993-

APGE Member 1997-

GSA Member 2007-

# Jesse Garnett White Kinder Morgan

Jesse white@kindermorgan.com

#### **Biographic Information**

Staff Geologist, Yates Team

Kinder Morgan Production Company LLC

University of Alaska Fairbanks - MS Geol 2007

University of Idaho - BS Geol 2003

GSA Member - 1999

AAPG Member - 2000

SEPM Member - 2003

ALASKA MINERS ASSOCIATION - 2003

ALASKA GEOLOGICAL SOCIETY - 2003

IAS Member - 2006

WTGS Member - 2007

PBS-SEPM Member – 2007

NOTE: President-Elect, 1st Vice President, & 2<sup>nd</sup> Vice President Candidates are unopposed.

# 2007-08 Corporate Sponsorships

If you are interested in a sponsorship opportunity, please call Paula Mitchell for more details at (432) 683-1573













Former Rotary Laboratory, Inc.

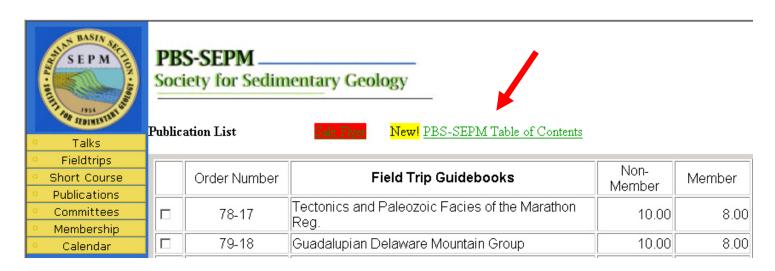


# **HALLIBURTON**

We would like to THANK our Corporate Sponsors for their support

# PBS-SEPM DIGITAL PUBLICATION PROJECT

Check this out-----www.pbs-sepm.org/publications. You can now go to the PBS-SEPM website and search all their publications' tables of contents for topics, articles, authors. Just click on the PBS-SEPM Table of Contents- an Adobe PDF will be launched. You can use the Bookmarks on the left side or use the search function. Yes, you might find that little bit of information that will make your next exploration or development project a success. Limited time offer--- it will be part of the new digital publication package coming out in April.



The compilation of all the Tables of Contents is a quick reference to all PBS-SEPM publications. Since this file has been OCR, one can use **word searches** to find a publication, article, subject or author. On the Toolbar, you will find a binocular "search", click on it and you will get the search menu (Figure 1, p. 7). By simply typing in the information you would like to find, and clicking the search key, you will be shown to all the places that have that word or words (Figure 2, p. 7).

All publications have been **Bookmarked** and put into three categories: Publications, Special Publications or Core Workshops (Figure 3, p. 7). By simply clicking on any of these categories, they will expand to the publication list. "Click" on the desired publication and you will be taken directly to that page. All publications have a "Table of Contents" associated with them and by going to the next page(s), you will be able to view all the articles in that publication. You can also get to any of the "Tables of Contents" from the bookmarks by expanding any of the individual publications and "clicking" on the Table of Contents below the publication of choice.

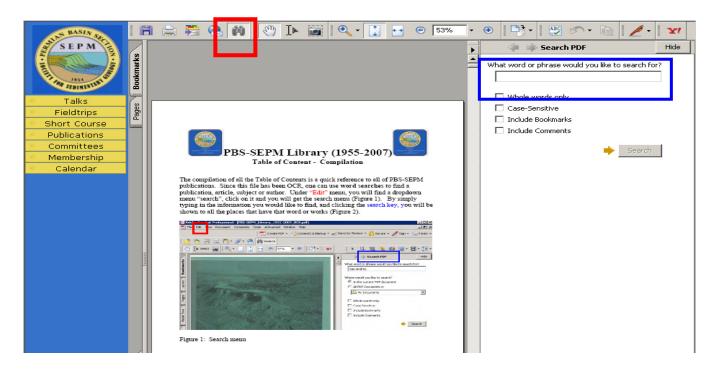


Figure 1: Search menu

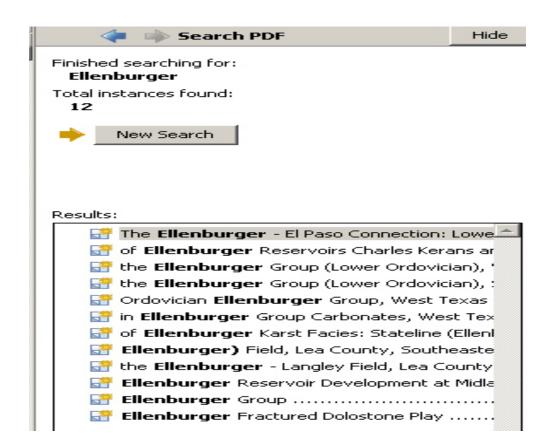


Figure 2: Search retrieval

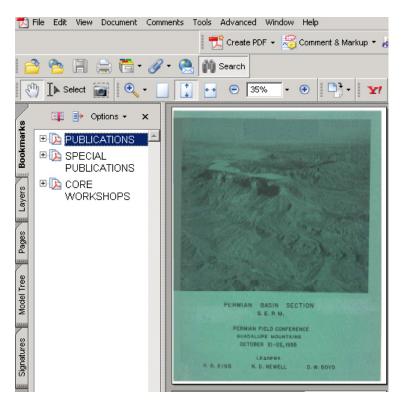


Figure 3: Bookmarks

# **BOARD MEMBERS**

President:	David J. Entzminger	Whiting Petroleum	(432) 686-6700	entzminger@whiting.com
President Elect:	Cory L. Hoffman	St. Mary Land & Explor. Co.	(432) 688-1782	CHoffman@StMaryLand.com
1 Vice President:	Michael A. Senich	Independent	(432) 688-3047	msenich@claytonwilliams.com
2 <sup>nd</sup> Vice President:	Deb S. Gann	Arcadis G & M Inc.	(432) 687-5400	dgann@arcadis-us.com
Secretary:	Rachel E. Aisner	CrownQuest Operating LLC	(432) 685-3116	raisner@crownquest.com
Treasurer:	Teri McGuigan	Independent	(432) 684-9333	tmcguigan1@suddenlink.net
Executive Dir.	Paula Mitchell	PBS-SEPM	(432) 683-1573	wtgs@basinlink.com

# **PBS-SEPM COMMITTEES**

Lunch Arrangements	Cindy Bowden	Kinder Morgan CO <sub>2</sub> Co	(432) 688-3785	cindy_bowden@kindermorgan.com
Newsletter	Please Volunteer			
Luncheon Program	Steve Trudeau	Independent	(214) 683-4044	SteveTrudeau@GMail.com
Calendar	Gilbert Barragan	Whiting Petroleum Inc.	(432) 686-6750	Gilbert.Barragan@whiting.com
Honorary Life	Emily Stoudt	UTPB	(432) 552-2244	stoudt_e@utpb.edu
Nominating	David Farmer	Stanolind Oil & Gas Corp.	(432) 688-4250	dfarmer@stanolind.com
One Day Field Trip	Gilbert Barragan	Whiting Petroleum Inc.	(432) 686-6754	Gilbert.Barragan@whiting.com
Publications	Richard Blackwell	Consultant	(432) 683-4971	rcbgeol@nts-online.net
Publicity	Rick Doehne	University Lands	(432) 684-4404	rdoehne@utsystem.edu
Scholarship	David Farmer	Stanolind Oil & Gas Corp.	(432) 688-4250	dfarmer@stanolind.com
Stratigraphic	Bob Trentham	Director- CEED	(432) 552-2432	trentham_r@utpb.edu
Webmaster	Wendy Savage	Whiting Petroleum Inc.	(432) 686-6750	wendy.savage@whiting.com





# **PBS-SEPM Publications**

Pre-Delivery Sale- until April 15th

This is your opportunity to have the entire PBS-SEPM publication library (1955 – 2007) at your fingertips. There will be an index fully searchable—find a topic or author just by typing in the word(s). All publications are in Adobe PDF. They are bookmarked, and figures are highlighted in the text for quick reference. Those areas that are off limits to geologists like the Glass Mountains or Sierra Diablos have been written up in these publications.

This includes all publications, even the special publications and coveted core workshops. Many items not in original publications. Can you imagine the hidden treasures you have missed? Here is your chance to uncover them.

Library (47 publications) \$100.00 p	plus 8.25% tax and \$5.00 shipping and handling
Core Workshop Collection (82, 83, 85, 98) & \$100.00 p Special Publications (A, 88-28, 96-39, 84, Bob Ward's Permian F	plus 8.25% tax and \$5.00 shipping and handling Review)

Members- Sale Price \$150.00 plus 8.25% tax and \$5.00 shipping and handling

NonMembers- Sale Price \$200.00 plus 8.25% tax and \$5.00 shipping and handling

## Delivery date is planned for April 15th

Name:	Company/A	Affiliation:		
Mailing Address:				
<b>Business Phone:</b>	Fax:		_ Email:	
Payment: check, cash or cree	dit card			
( ) I authorize you to charge	the above to my:			
() MasterCard() VISA()	American Express	Exp. Date: _		
Card number:	Sig	nature:		
	9			

Make cheeks payable to PBS-SEPM.

Please send registration and payment information: PBS-SEPM, P.O. Box 1595, Midland, **Texas** 79702 For additional information **contact:** PBS-SEPM office (432) 683-1573

# PERMIAN CARBONATE/CLASTIC SEDIMENTOLOGY, GUADALUPE MOUNTAINS; Analogs for Shelf and Basin Reservoirs

# April - Special Featured Book - \$5

# PERMIAN CARBONATE/CLASTIC SEDIMENTOLOGY, GUADALUPE MOUNTAINS: Analogs for Shelf and Basin Reservoirs PBS - SEPM Annual Field Trip | April 18, 19 & 20, 1985



BRENDA K. CUNNINGHAM AND CARROLL L. HEDRICK, EDITORS CHRIS BEARD, ROAD LOG EDITOR Publication 85-24

# Publication 85-24

## TABLE OF CONTENTS

Message & Preface Acknowledgements		
Tribute and Dedication		
<b>SECTION ONE</b>	- ROAD LOG	
Day One - Back-Reef Fac	ies	4
Day Two - Back-Reef and	Reef Facies	

#### **SECTION TWO - ABSTRACTS**

Infersed Tectonic Control of Permian Hemi-cylcic sandstone-Carbonate Sedimentation, Northwestern Shelf, Delaware Basin, New Mexico M.P. Candelaria ..... Sea Level and the Capitan Reef Complex. Southwest USA , A Famous Model "In Flux" Tepees: An Environmental Cue in Ancient Carbonates Eolian Origin of Quartzose Sheet Sands in Permian Shelf Facies. **Guadalupe Mountains** S.J. Mazzullo, J. Mazzullo, and P.M. Harris .................71 **SECTION THREE - REPRINTS** Queen Formation (Guadalupian. Permian) Outcrops of Eddy County. New Mexico and Their Bearing on Recently Proposed Depositional Models S.M. Ball, J.W. Roberts, J.A. Norton and W.D. Pollard . . . 75 Guadalupian Depositional Cycles of the Delaware Basin and

#### 

# SECTION FOUR - GENERAL INTEREST

Basin, West Texas and New Mexico

## **Order Publications:**

Northwest Shelf

http://www.pbs-sepm.org/ or call the office (432) 683-1573