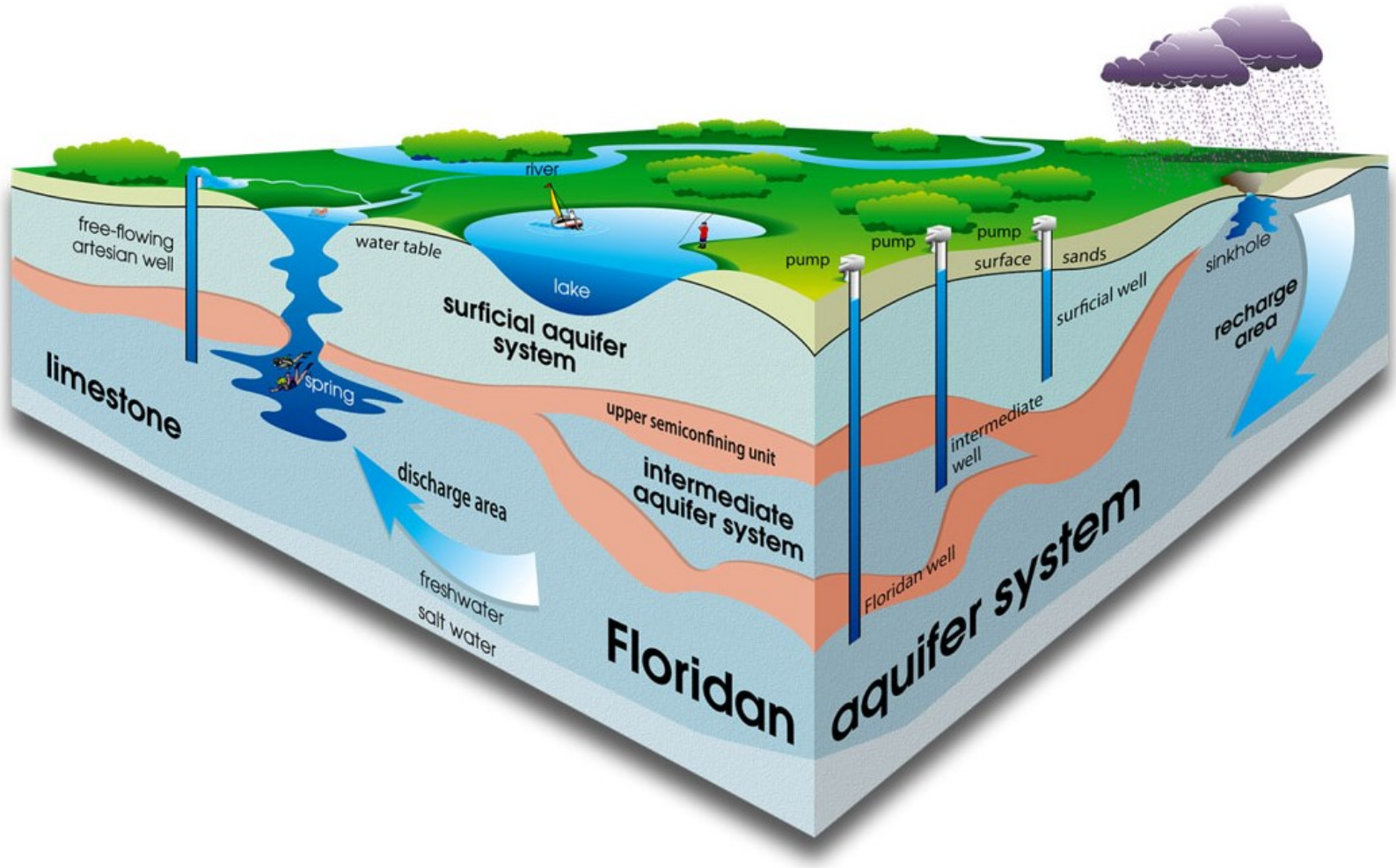
MISSISSIPPI GEOLOGICAL SOCIETY

eBULLETIN

Volume 72 No. 3 November 2023



SEPTEMBER SPEAKER
Rawdon Seager - Carbon Capture and Storage

2023 ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION ON STRATIGRAPHIC NOMENCLATURE
Dr. David Dockery III, RPG

MONTHY QUIZ
Steve Walkinshaw

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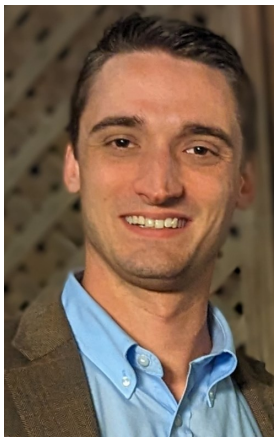
PRESIDENT'S LETTER



Dear MGS Membership,

GCAGS had the midyear meeting on October 25. Tim Palmer and I attended virtually and saw an excellent presentation for the GeoGulf conference. GeoGulf 2024 will be in San Antonio, 10-12 of April 2024 with the theme: School of Rock, Expert Geology with a Soundtrack. We voted to approve the location of GeoGulf 2025. The East Texas Geologic Society and the Shreveport Geologic Society have teamed up to host the conference at Stephen F. Austin State University in Nacogdoches, Texas. I will provide more information as it becomes available.

We continue to hold our monthly luncheons at the River Hills Club. We have had excellent food and distinguished lecturers thus far. I hope you have marked your calendars for our annual BBQ at the Jackson Yacht Club Thursday, November 9 at 6:00 p.m. We are expecting a good turnout. We very much appreciate your attendance, as it adds value to each of our events. We are charging $20 at the door for the BBQ to cover the cost of the event. At the BBQ, we will continue to push for membership, $30 will get you into the BBQ and cover your membership dues. If you are not current on your membership dues, please get those to us as soon as possible.

I look forward to seeing you at one of our upcoming events,

Jonathan R. Leard, RPG

MDEQ-Office of Geology

Surface Geology Division

Phone: (601)-961-5352

Website: https://www.mdeq.ms.gov/geology/work-areas/surface-geology/

2023-2024 MGS MEETING SCHEDULE

When	What/Who	Where
September 13	Chad Winter - FC&E Engineering	River Hills - 11:30am
October	Tim Palmer	River Hills - 11:30am
November	Rawdon Seager	River Hills - 11:30am
December		River Hills - 11:30am
January		River Hills - 11:30am
February		River Hills – 11:30am
March		River Hills – 11:30am
April	TBD	River Hills - 11:30am
TBD	Spring Fling	Jackson Yacht Club

OFFICERS MEETINGS
TBD
TBD
TBD
TBD
TBD
TBD
TBD
TBD

SEPTEMBER SPEAKER

Rawdon Seager

Mississippi Section

"Carbon Capture and Storage and the CO2 Storage Resources Management System (SRMS)"

Rawdon Seager

SPE Distinguished Lectuer/Gaffney, Cline, & Associates

Wednesday, November 8, 2023

11:30 am Lunch/ 12:00pm Discussion

The River Hills Club

Jackson, Mississippi

Abstract:

After the lecture, members will understand the importance of carbon capture and storage in the transition to a lower carbon future, and know how to evaluate quantities consistently using the SRMS.

As part of the international effort to combat global warming, significant attention is being given to ways to sequester (store for the long-term) carbon dioxide, which is a major contributor to the greenhouse effect. It is therefore critical that there is a universal means to record the storable quantities by recognizing the maturity of the projects to be implemented and the confidence that can be placed in the estimated volumes to be sequestered.

This talk will look at some of the ways in which carbon dioxide can be stored and provide a review of the CO2 Storage Resources Management System (SRMS) framework prepared by the Society of Petroleum Engineers to classify and categorize the storable quantities.

Biography:

Rawdon Seager is a reservoir engineer with over 50 years' experience in the international oil and gas arena with Shell, Huffco and, since 1985, Gaffney, Cline & Associates, where he is Chief Reservoir Engineer and Global Director of Quality Assurance. He is currently ivolved in CCS studies and application of the SRMS.

He has a BSc in Physics from Bristol University and an MSc in Petroleum Engineering from Imperial College, London. Rawdon is past Chairman of the SPE Oil and Gas Reserves Committee and past member of the Board and current Chair of the Reserves Definitions Committee of the SPEE.

CURRENT PRICES

Market Watch

Crude Oil Dec 2023

+ WATCHLIST

OPEN

Last Updated: Nov 7, 2023 2:58 p.m. EST - Delayed quote

$77.37

-3.45 -4.27%

SETTLEMENT PRICE 11/06/2023

$80.82

Natural Gas Dec 2023

+ WATCHLIST

OPEN

Last Updated: Nov 7, 2023 at 2:59 p.m. EST - Delayed quote

$3.174

-0.09 -2.76%

SETTLEMENT PRICE 11/06/2023

$3.264

832-731-7468

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Petroleum Geologist

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LA CPG #345

Available for Consulting

MONTHLY POST

Dr. David Dockery III RPG

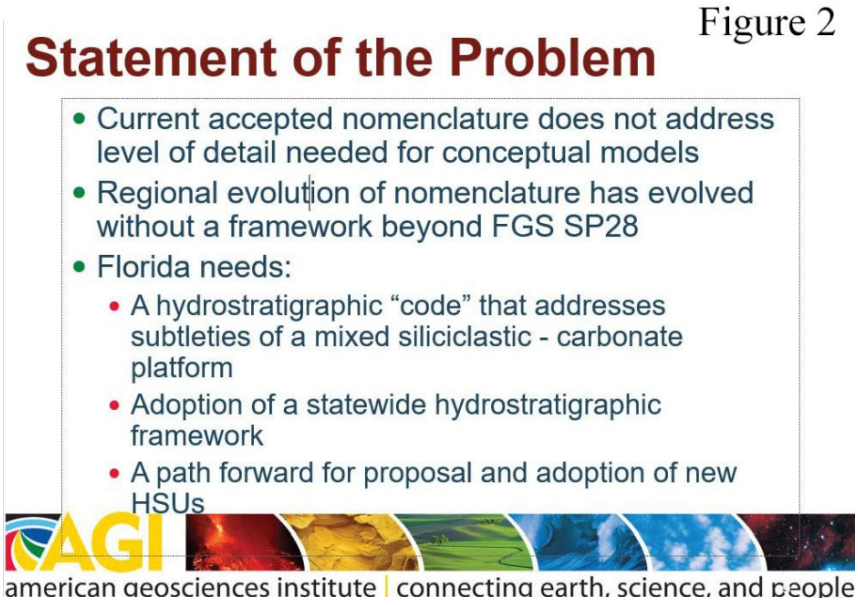
2023 ANNUAL MEETING OF THE NORTH AMERICAN COMMISSION ON STRATIGRAPHIC NOMENCLATURE

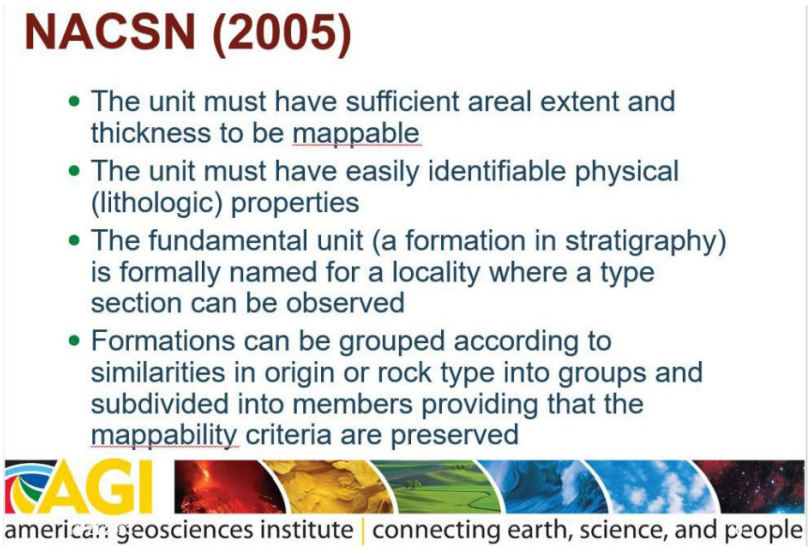
David T. Dockery III, RPG

Meeting concurrently with the 2023 Annual Meeting of the Geological Society of America (GSA) in Pittsburg, Pennsylvania, were the Mid-Year Meeting of the Association of American State Geologists (AASG) and the North American Commission on Stratigraphic Nomenclature (NACSN). I am one of three members who represent AASG as an NACSN Commissioner. The NACSN met on Monday, October 16, in the Fayette Room of the Westin Pittsburg Hotel from 1:00-5:00 p.m. and was called to order by the Commission's Chair Matt Joeckel, State Geologist of Nebraska. In previous years that I have served on the Commission, we have added substages and chemostratigraphy to the North American Stratigraphic Code. Such additions do not come without much debate. The recommended change to the Code must be published a year before it can be voted on. This year a committee, including Matt Joeckel and myself, was formed by unanimous vote to consider adding hydrostratigraphy to the Stratigraphic Code. The NACSN meeting included those in person and via Zoom meeting as shown in Figure 1.

The purpose of adding hydrostratigraphy to the Stratigraphic Code is to ensure uniformity in the way we define and name aquifers. Jon Arthur, former State Geologist of Florida and now Director of the American Geosciences Institute, gave a presentation on the subject with the question, "Is there a case for a Hydrostratigraphic Code?" Author showed problems in the State of Florida where the same aquifer is called by multiple names. He said, "When you are talking about an aquifer, it's important that people know which aquifer you are talking about." We are fortunate in Mississippi that our aquifers are named after the formations that contain them, so are "in compliance" with the current Stratigraphic Code for lithostratigraphy. In Figure 2, the slide at left states the problem; the slide at right provides solutions from the Stratigraphic Code for lithostratigraphy.

Figure 2



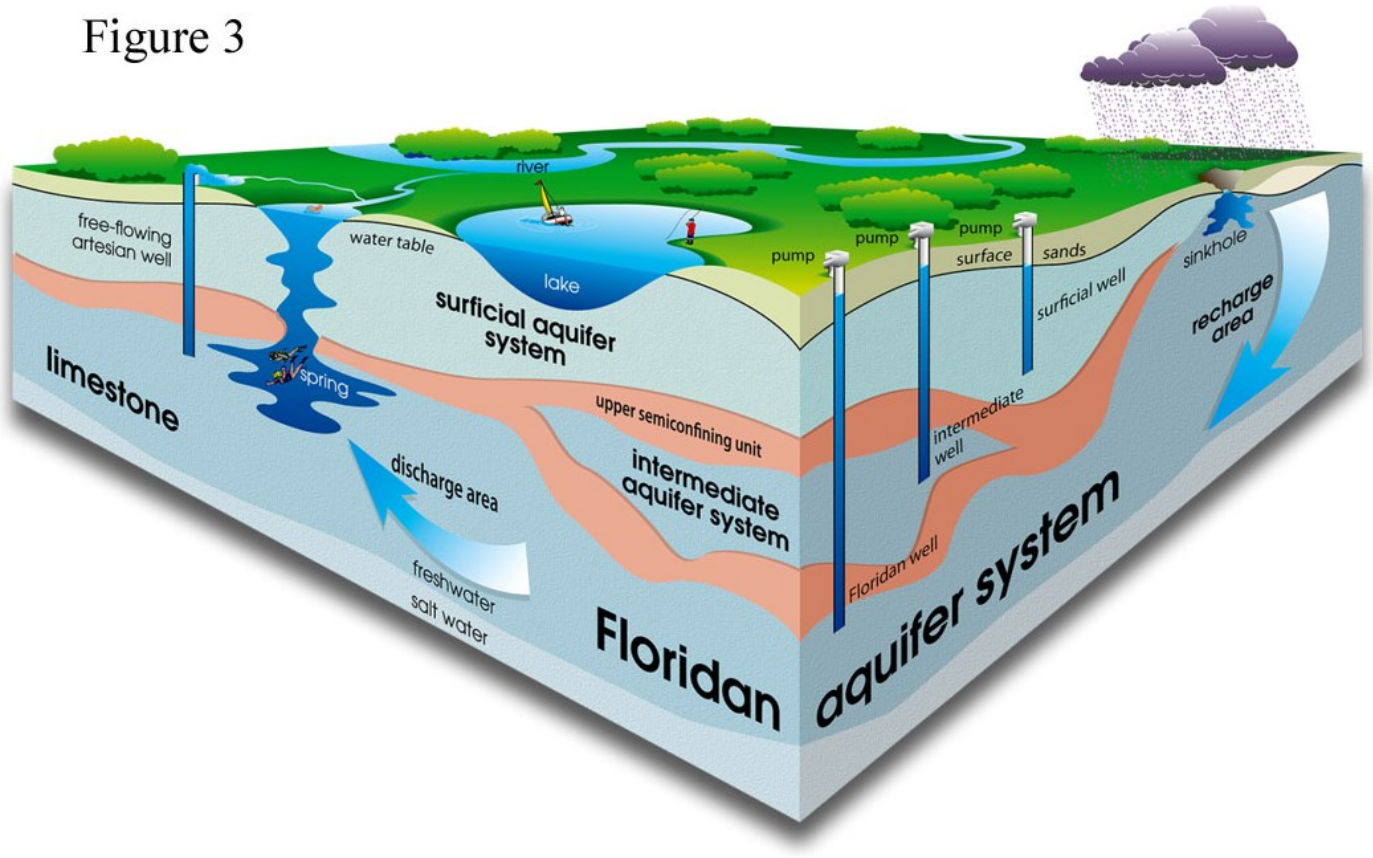


MONTHLY POST

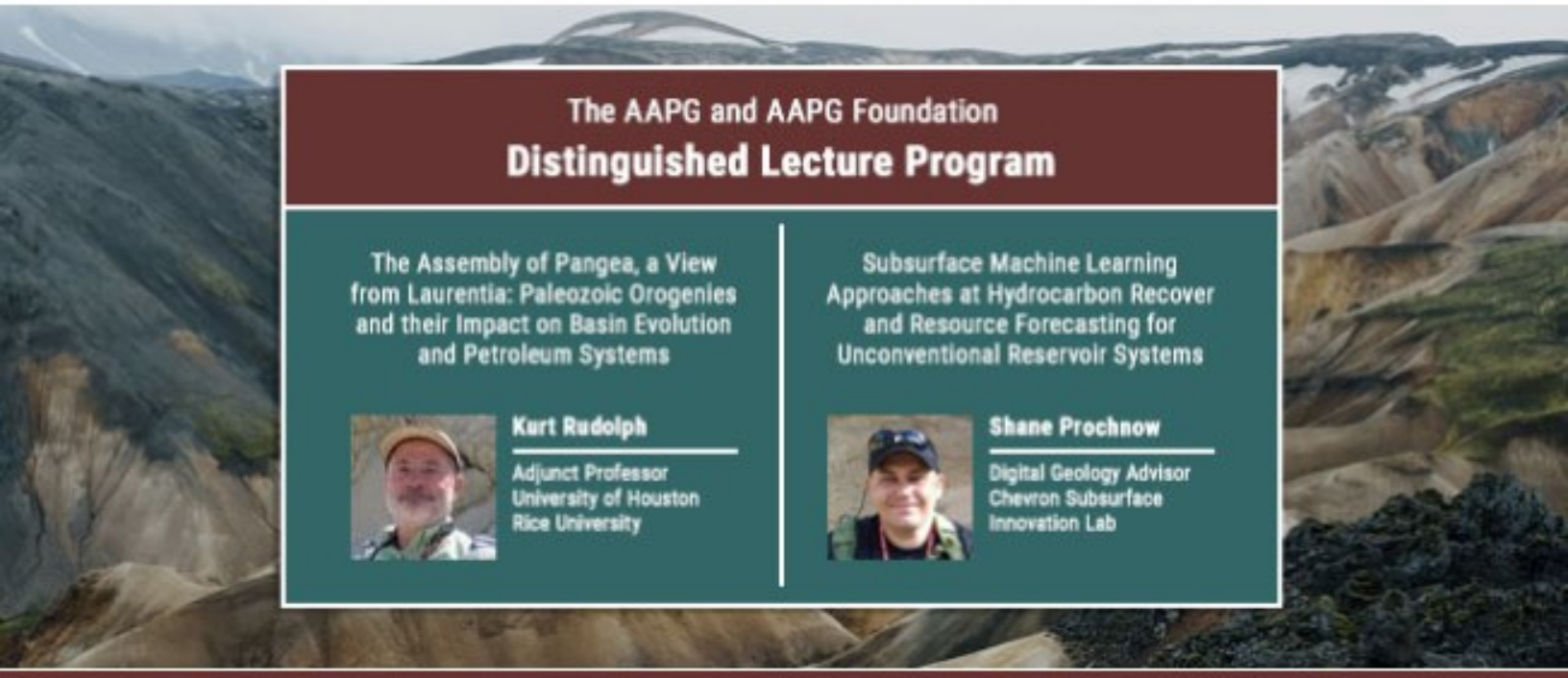
Dr. David Dockery III RPG

Figure 3 is from an online brochure of the Central Florida Water Initiative entitled *Water for Tomorrow*. This image shows how the karst aquifer systems of central Florida combine various lithostratigraphic formations into just three aquifers, the Surficial Aquifer System, Intermediate Aquifer System, and Floridian Aquifer System. These systems are not tied to the state's lithostratigraphic formations and will require new nomenclatural guidance in a revision of the North American Stratigraphic Code.

Figure 3



AAPG
Distinguished Lecture Program



14 and 28 November at 12 p.m. (CST) via Zoom

The 2023-24 AAPG Distinguished Lecture program welcomes the next two speakers of the program's 2023 season. Kurt Rudolph will present his lecture, **The Assembly of Pangea, a View from Laurentia: Paleozoic Orogenies and their Impact on Basin Evolution and Petroleum Systems**, on 14 November at 12 p.m. (CST), and Shane Prochnow will present his lecture, **Subsurface Machine Learning Approaches at Hydrocarbon Recover and Resource Forecasting for Unconventional Reservoir Systems**, on 28 November at 12 p.m. (CST). All lectures will be followed with Q&A sessions.

GEOLOGY POST

ARTICLES, PAPERS or NEWS?

ATTENTION!!!!! Industry, Professors and Students:

I am looking for more content from the industry and our schools.

Submissions can include anything from professional papers, thesis abstracts, job opportunities to pictures. Anything!!!!

If you have any information or news you would like to share with the Society **PLEASE** email them to the MGS Editor at:

mcaton13@yahoo.com

Thanks & Regards,

Matt Caton
Editor

GEO LINK POST

USGS TAPESTRY OF TIME AND TERRAIN http://tapestry.usgs.gov The CCGS is donating to all of the 5th and 6th grade schools in the Coastal Bend. Check it out—it is a spectacular map. You might want a framed one for your own office. The one in my office has glass and a metal frame, and it cost $400 and it does not look as good as the ones we are giving to the schools. Call Owen 510-6224 if you want one for your office for $150. Duncan, Mike, Chris, Dave, Bob Randy, Seb., Kevin, Ken, Craig, Patrick, Robert.

FREE TEXAS TOPO'S http://www.tnris.state.tx.us/digital.htm these are TIFF files from your state government that can be downloaded and printed. You can add them to SMT by converting them first in Globalmapper. Other digital data as well.

FREE NATIONAL TOPO'S http://store.usgs.gov/b2c_usgs/b2c/start/(xcm=r3standardpitrex_prd)/.do go to this webpage and look on the extreme right side to the box titled TOPO MAPS DOWNLOAD TOPO MAPS FREE.

http://www.geographynetwork.com/ Go here and try their top 5 map services. My favorite is 'USGS Elevation Date.' Zoom in on your favorite places and see great shaded relief images. One of my favorites is the Great Sand Dunes National Park in south central Colorado. Nice Dunes.

http://antwrp.gsfc.nasa.gov/apod/astropix.html Astronomy picture of the day — awesome. I click this page everyday.

http://www.spacimaging.com/gallery/ioweek/iow.htm Amazing satellite images. Check out the gallery.

http://www.ngdc.noaa.gov/seg/topo/globegal.shtml More great maps to share with kids and students.

www.geo.org Don't forget we have our own web page.

http://micro.magneet.fsu.edu/primer/java/scienceoptiscu/owersof10/

http://asterweb.jpl.nasa.gov/galery/default.htm Great satellite images of volcanoes

http://terra.nasa.gov/gallery/ More here

www.ermapper.com They have a great free downloadable viewer for TIFF and other graphic files called ER Viewer.

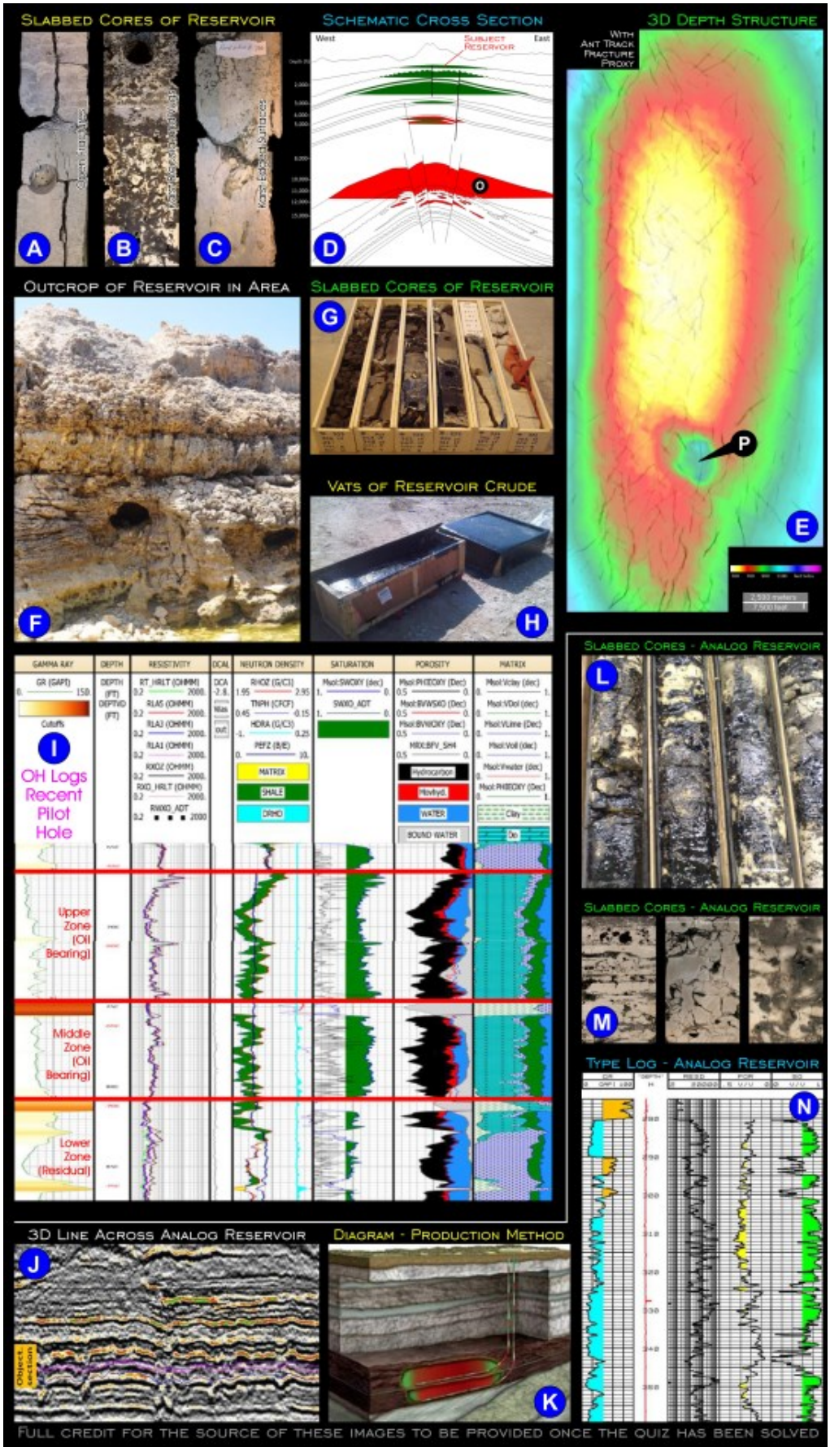
www.drillinginfo.com This is an incredible (subscription) well and completion data service for independents. Can be demo'ed for free.

http://terrasrver.com/ Go here to download free aerial photo images that can be plotted under your digital land and well data. Images down to 1 meter resolution, searchable by Lat Long coordinate. Useful for resolving well location questions.

http://www.fs.fed.us/gpnf/volcanocams/msh/ This is a live cam of Mt. St. Helens refreshed every 5 minutes. At the bottom are old videos of past eruptions in this cycle. It is worth a watch especially now.

MONTHLY POST

Steve Walkinshaw



MONTHLY POST

Steve Walkinshaw

Oil patch quiz time. A shallow, highly karsted carbonate reservoir filled with very heavy crude, tar and bitumen is trapped atop a prolific field in this country (see panels "A" through "H"). Excluding large vugs, matrix porosity range is 10% to 37% and permeability ranges from 1 md to 1 darcy.

This reservoir is often compared to a carbonate reservoir in another country that is also relatively shallow and highly karsted (see panels "I" through "N"). The analogous reservoir is estimated to harbor 300 to 574 billion barrels of bitumen in place.

A new production method was recently attempted here; it had previously been implemented in the analogous field ("K").

Questions...

Part 1: What field am I referring to?
Part 2: What country?
Part 3: What's the (a) name and (b) age of the reservoir?
Part 4: Is the karsting of this reservoir considered mostly epigenic or hypogenic?
Part 5: What's the informal name of its topseal?
Part 6: What's the (a) name and (b) age of the underlying reservoir "O"?
Part 7: What's the (a) name and (b) age of the analogous reservoir "N"?
Part 8: In what country is it located?
Part 9: Was the karsting of "N" mostly epigenic or hypogenic?

Bonus:

Part 10: What production method is illustrated in "K"?
Part 11: What company operates field "E"?

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2023-2024

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September 2023 – May 2024

I. Bulletin Advertisements:

Size	Rate/Year	Amt. Remitted
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1/2 Page Ad (6" x 4")	$300	$_____
1/4 Page Ad (3" x 4")	$200	$_____
Business Card Ad (1 1/2" x 3")	$100	$_____
Professional Listing (1/2" x 3")	$ 50	$_____

II. Web Page Advertisements (www.missgeo.com):

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Second Page Banner Ad	$250	$_____
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(Note: Please contact Steve Walkinshaw at (601) 607-3227 or mail@visionexploration.com for details concerning placing your ad on the MGS web site.)

Total Remitted $_____

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2013-2014 Neil Barnes
2014-2015 Ezat Heydari
2015-2016 Jack Moody
2016-2017 Cragin Knox
2017-2018 David Hancock
2018-2019 Dr. David Dockery
2019-2020 James O. Sparks
2020-2023 David Snodgrass

Monthly Post

Steve Walkinshaw

ANSWERS

Part 1: What field am I referring to? Alawi Field
Part 2: What country? Bahrain
Part 3: What's the (a) name and (b) age of the reservoir? (a) Aruma Formation, (b) Maastrichtian (Upper Cretaceous)
Part 4: Is the karsting of this reservoir considered mostly epigenic or hypogenic? epigenic
Part 5: What's the informal name of its topseal? the Black Shale
Part 6: What's the (a) name and (b) age of the underlying reservoir "O"? Khuff Formation, Middle to Late Permian
Part 7: What's the (a) name and (b) age of the analogous reservoir "N"? (a) Grosmont Formation, (b) Upper Devonian
Part 8: In what country is it located? Canada (Alberta)
Part 9: Was the karsting of "N" mostly epigenic or hypogenic? While both clearly occurred, it appears most of the severe early karstification was probably hypogenic
Part 10: What production method is illustrated in "K"? steam EOR; SAGD stacked horizontal steam injector - heavy oil producer pair
Part 11: What company operates field "E"? Tatweer Petroleum