

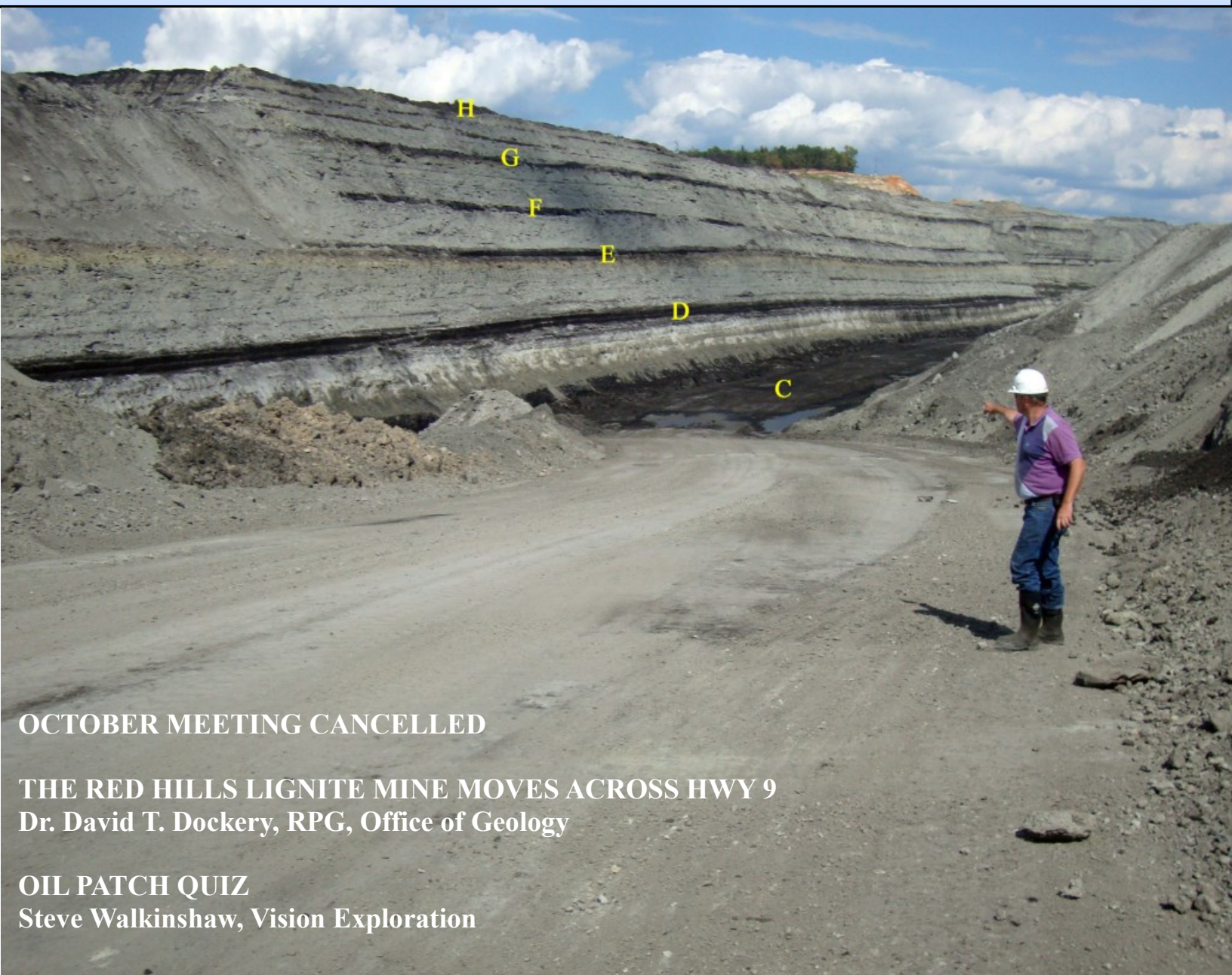
MISSISSIPPI GEOLOGICAL SOCIETY

eBULLETIN

Volume 70

No. 2

October 2021



OCTOBER MEETING CANCELLED

THE RED HILLS LIGNITE MINE MOVES ACROSS HWY 9

Dr. David T. Dockery, RPG, Office of Geology

OIL PATCH QUIZ

Steve Walkinshaw, Vision Exploration



www.missgeo.com



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PRESIDENT'S LETTER

David Snodgrass, MSOGB



MGS Members,

Oil/natural gas and gasoline prices are steadily rising. Just today, Oil was at \$80.53/ bbl, natural gas at 5.69/MCF and the average cost to fuel your vehicles is about \$3.00/gal in Mississippi. In short, energy costs are rising, and in some cases leading to shortages in major economies worldwide. In the United States, the average retail cost of a gallon of gas is at a seven-year high, and winter fuel costs are expected to surge, according to the U.S. Energy Department. And yet, oil-and-gas production remains below the nation's peak reached in 2019 when we were gleefully energy independent. Why is that? I think most, if not all of us know the answer. Sadly, as with everything else these days, it's politics. Sigh.

Brent Bailey with the Public Service Commission said, "Some energy analysts and policy pundits say we are on the cusp of a major energy transformation in the U.S. They point to many factors, including but not limited to, a shift in customer demands, increasing cost competitiveness of renewables, a desire for decentralized energy and greater energy security that drive local economic development, corporate sustainability pledges, and the movement to decarbonize the grid."

With that said, Mississippi will soon be embracing green hydrogen projects. What is green hydrogen? Green hydrogen is based on the generation of hydrogen — a universal, light and highly reactive fuel — through a chemical process known as electrolysis. This method uses an electrical current to separate the hydrogen from the oxygen in water, much like we did in high school chemistry class. If this electricity is obtained from renewable sources it will produce energy without emitting carbon dioxide into the atmosphere. Once the green hydrogen is produced, it will be stored in salt caverns located and created in Mississippi salt domes. I look forward to bringing you more information on this subject in the near future.

Finally, as previously mentioned, due to the ongoing Covid-19 pandemic the MGS as decided to postpone our monthly luncheons at the River Hills Country Club until further notice. Hopefully, we will be getting back to normal soon in the upcoming months as this will not last forever. I look forward to updating everyone next month, so stay tuned. For now, take care and stay safe.

MGS President,

David H. Snodgrass

2021-2022 MGS MEETING SCHEDULE

When	What/Who	Where
Cancelled	Fall BBQ	Jackson Yacht Club-5:30pm
October	Cancelled	River Hills – 11:30am
November	TBD	River Hills – 11:30am
December	Merry Christmas	
January	TBD	River Hills - 11:30am
February	TBD	River Hills – 11:30am
March	TBD	River Hills – 11:30am
April	TBD	TBD
May	Boland Scholarship Awards	TBD

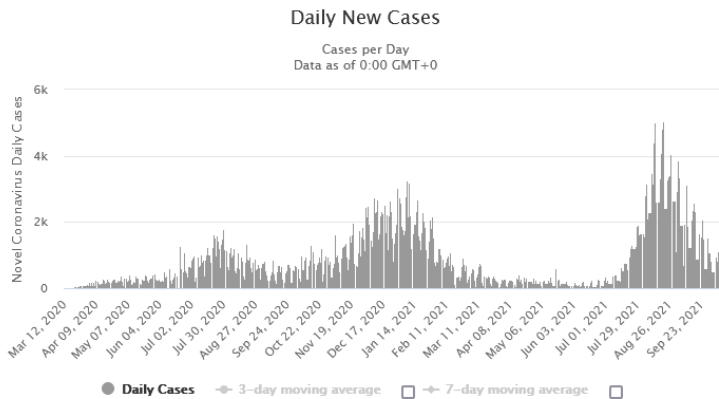
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Pearl, MS 39208 mnbirdwell@comcast.net

OFFICERS MEETINGS
TBD
TBD
TBD
TBD
TBD
TBD
TBD
TBD
TBD
TBD

Daily New Cases in Mississippi





MGS SCHOLARSHIP AWARDS

Faculty & Students,

This is a new year and the Mississippi Geological Society along with the Boland Scholarship Fund would like to remind you that we want to honor the most outstanding overall students for the 2021-2022 year.

Each year, the Boland Scholarship awards 1 student from each institution a check that rewards students for their hard work and dedication to the Geosciences and their community.

We look forward to a great year and hope to see you at our monthly meetings.

Best Regards,

Matt Caton
Editor



THE UNIVERSITY OF
SOUTHERN
MISSISSIPPI

MILLSAPS
COLLEGE



MONTHLY POST

Dr. David T. Dockery III RPG

THE RED HILLS LIGNITE MINE MOVES ACROSS HIGHWAY 9

David T. Dockery III

How does a lignite mine move across a highway?—very carefully. Figure 1 is a “Life of Mine Map” of the Red Hills Lignite Mine. On the shaded area west side of Highway 9, from southeast to northwest, are sectors mined in 1998-2007, 2008-2012, 2013-2017, and 2018-2022. On the west side are areas to be mined that include an initial box cut in 2020-2022 and sectors to be mined in 2023-2027 and 2028-2032. So how does the mine cross the highway? In the enlargement at the bottom of Figure 1, is an arrow showing the mine traffic underpass on Highway 9, and another arrow pointing to the proposed at-grade dragline crossing, which is planned for mid-2023.

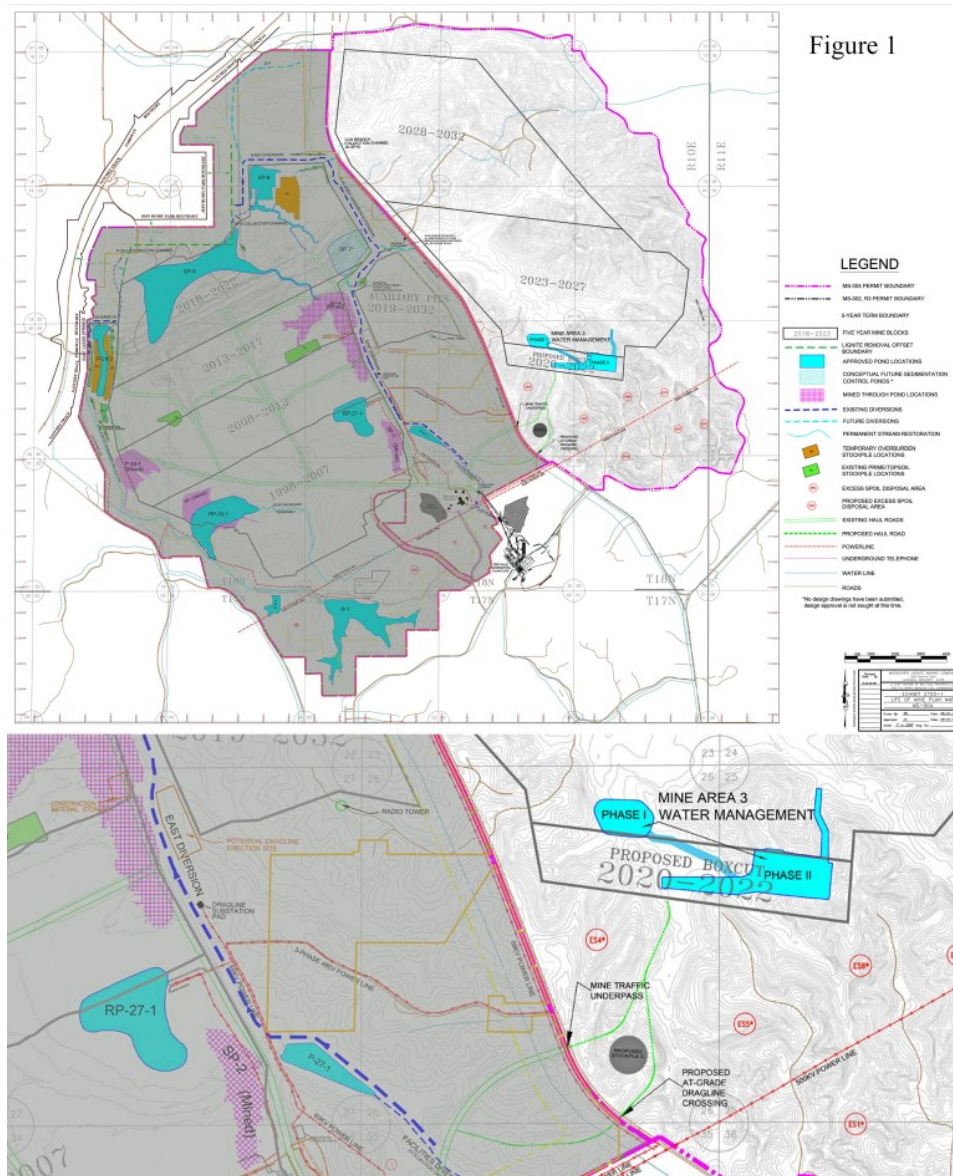


FIGURE 1



MONTHLY POST

Dr. David T. Dockery III RPG

Figure 2 shows the newly constructed Highway 9 mine traffic underpass and associated new highway bridge.



FIGURE 2



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Dr. David T. Dockery III RPG

Figure 3 shows heavy equipment crossing Highway 9 to finish a sediment pond and to establish a haul road on the east side of the highway.



FIGURE 3



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Figure 4 shows lignite seams C-H as mined in 2014.



Lignite seams in the Red Hills Lignite Mine as pointed to by James Starnes. Picture was taken on September 29, 2014.

FIGURE 4



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Figure 5 is of a haul truck with three tiers of people standing in front and on the truck for scale to emphasize the truck's size.



Figure 5. Group picture of RPG field-trip participants on and in front of a haul truck at the Red Hills Lignite Mine; the top of the dredge can be seen in the mine at left. Picture (color negative 597-23; Image 829) taken on October 7, 2006.

FIGURE 5

The Red Hills Lignite Mine delivers some 3.5 million tons of lignite per year to the Red Hills Generation Facility, which supplies electricity to the Tennessee Valley Authority. The U.S. Department of Interior, Office of Surface Mining Reclamation and Enforcement announced by letter on September 14, 2021, stating: "I am pleased to announce that the Mississippi Lignite Mining Company's award submission for reclamation work at its Red Hills Mine in Choctaw County, Mississippi, is the winner of the Office of Surface Mining and Reclamation and Enforcement's (OSMRE) 2021 *Good Neighbor Award*." "OSMRE's *Good Neighbor Award* is among the highest honors a mining reclamation project can receive. Congratulations to you and your team on earning this distinction!"



CURRENT PRICES

Crude Oil WTI (NYM \$/bbl) Front Month

[+ WATCHLIST](#)

☀ OPEN

Last Updated: Oct 14, 2021 at 2:03 p.m. EDT - Delayed quote

\$ **81.41**

SETTLEMENT PRICE 10/13/2021
\$80.44

▲ 0.97 1.21%



Natural Gas Continuous Contract

[+ WATCHLIST](#)

☀ OPEN

Last Updated: Oct 14, 2021 at 2:03 p.m. EDT - Delayed quote

\$ **5.761**

SETTLEMENT PRICE 10/13/2021
\$5.590

▲ 0.171 3.06%





MONTHLY QUIZ

Steve Walkinshaw

OIL PATCH QUIZ

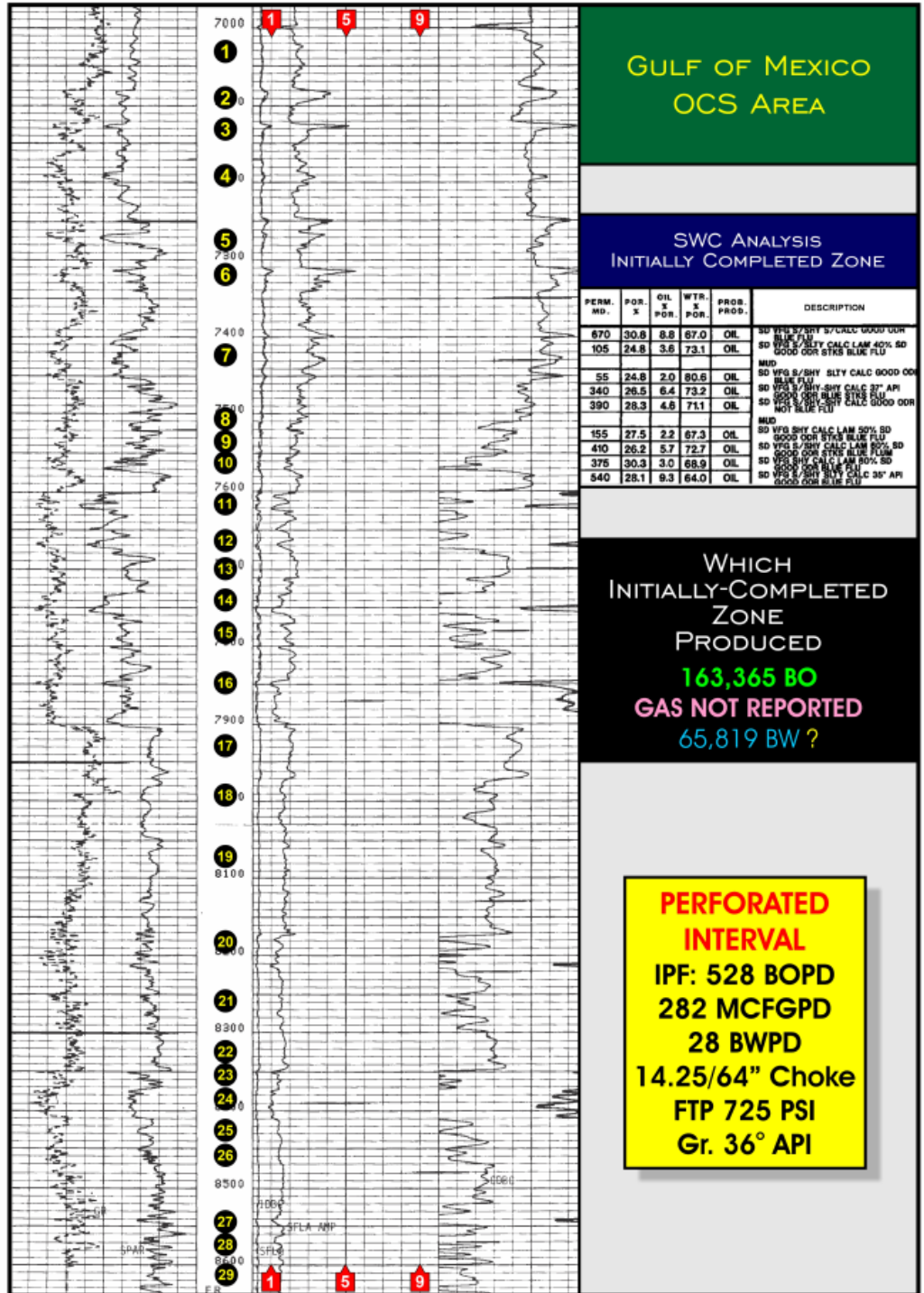
Oil patch quiz time. A well drilled around 30 years ago in the Gulf of Mexico encountered oil trapped within a sandstone reservoir. The well was cased for completion and the zone was perforated, yielding an initial potential of 528 BOPD + 282 MCFGPD with 28 BWPD. This zone eventually produced over 163,000 barrels of oil prior to its abandonment. The analysis of the sidewall cores cut across the producing sand is shown.

PART 1

Which zone was perforated in the initial completion?

PART 2

What is the age of the reservoir?





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](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.magnet.fsu.edu/primer/java/scienceoptiscu/owersofl0/>

<http://asterweb.jpl.nasa.gov/gallery/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://terraserver.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/gpnl/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.



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Dr. David T. Dockery III

*** deceased**

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MISSISSIPPI GEOLOGICAL SOCIETY

P.O. BOX 422, JACKSON, MISSISSIPPI 39205-0422

2021-2022

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1/4 Page Ad (3" x 4")	\$200	\$ _____
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Second Page Banner Ad	\$250	\$ _____
Professional Listing/Link	\$100	\$ _____

(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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1977-1978	Sarah Childress	2018-2019	Dr. David Dockery
1978-1979	Les Aultman	2019-2020	James O. Sparks
1979-1980	Philip R. Reeves	2020-2021	David Snodgrass



MONTHLY QUIZ

Steve Walkinshaw

ANSWERS

PART 1

Which zone was perforated
in the initial completion?

Zone #7

PART 2

What is the age of the
reservoir?

Pleistocene