

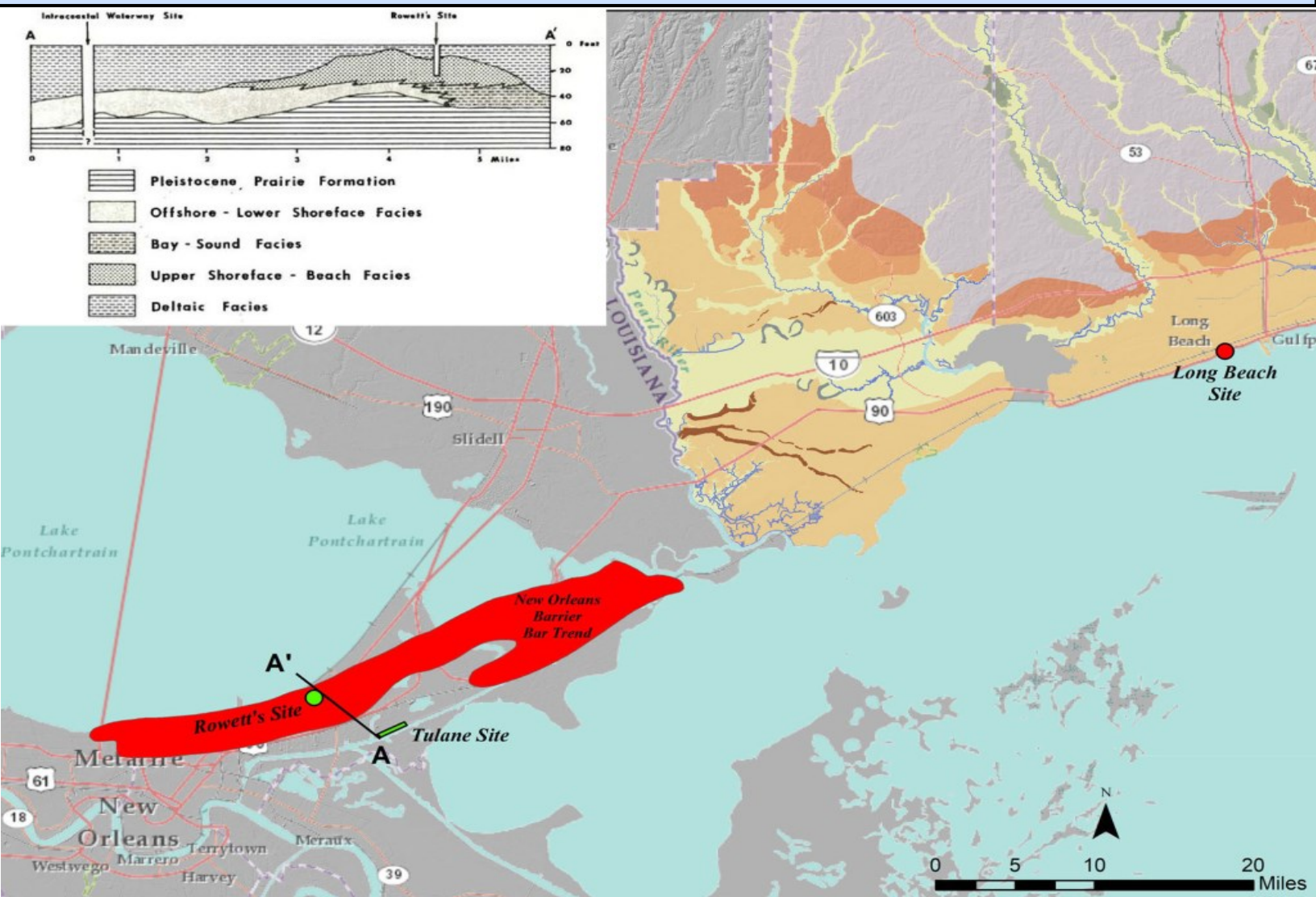
MISSISSIPPI GEOLOGICAL SOCIETY

eBULLETIN

Volume 73

No. 4

December 2024



2024 CHRISTMAS PARTY
Jackson Yacht Club

**NEW ORLEANS BARRIER BAR TREND AND LONG BEACH,
MISSISSIPPI, HOLOCENE FOSSIL SITES**
Dr. David Dockery III, RPG, James E. Starnes, RPG, Jonathan R. Leard, RPG

MGS QUIZ
Steve Walkinshaw



www.missgeo.com



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PRESIDENT'S LETTER



Dear MGS Members,

Happy Holidays!

Please note that there is no monthly meeting at River Hills this December. Instead, we are sponsoring The Oil and Gas Industry Christmas Party on December 12 at 5:30 PM at the Jackson Yacht Club. Membership renewal forms will be available at the door. If you plan to attend, please register here as a guest: <https://mslandmen.com/meet-reg1.php?id=7>

Thank you to Dwayne Purvis from Purvis Energy Advisors for presenting last month on “Economic Surprises of Late Life Production.”

We look forward to our January meeting where we will hear from Dr. Adam Skarke from Mississippi State University. Dr. Adam Skarke is a geologist with broad research interests in the fields of marine geology and geophysics. The goal of his research is to better understand fundamental physical relationships between sediment transport, morphological expression, stratigraphy, and subsurface fluid flow in seafloor environments that span the continental margin from coastal waters to the deep sea.

GEOGULF2025 in Nacogdoches is calling for abstracts for April 6-8, 2025. Submission has been extended to December 20. For more information, visit www.geogulf2025.org or email Kurt.Ley@kingwoodexploration.com.

If you have a topic or are interested in presenting at our meetings, please let me know. We are always looking for speakers and subjects for our 2025 schedule.

Thank you for your ongoing commitment to the Mississippi Geological Society.

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/>



2024-2025 MGS MEETING SCHEDULE

When	What/Who	Where
September 11	The Ice Ages in Mississippi - James Starnes	River Hills - 11:30am
October 9	Toddy Guidry - Core Lab	River Hills - 11:30am
November 13	Dwayne Purvis P.E	River Hills - 11:30am
December 12	Christmas Party	JYC - 5:30pm
January 8		River Hills - 11:30am
February 12		River Hills – 11:30am
March 12		River Hills – 11:30am
April 9		River Hills - 11:30am
May	Spring Fling	TBD

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[illegible]



THE OIL & GAS INDUSTRY

*Christmas
Party*

5:30PM
12TH DECEMBER

JACKSON YACHT CLUB

We can't wait to see you!



CURRENT PRICES

Market Watch

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

[+ WATCHLIST](#)

☀ OPEN

Last Updated: Dec 16, 2024 at 11:59 a.m. EST - Delayed quote

\$ **70.54**

▼ -0.75 -1.05%

SETTLEMENT PRICE 12/13/2024

\$71.29



Natural Gas Continuous Contract

[+ WATCHLIST](#)

☀ OPEN

Last Updated: Dec 16, 2024 at 11:59 a.m. EST - Delayed quote

\$ **3.192**

▼ -0.088 -2.68%

SETTLEMENT PRICE 12/13/2024

\$3.280





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MONTHLY POST

Dr. David Dockery III RPG

The New Orleans Barrier Bar Trend and Long Beach, Mississippi, Holocene Fossil Sites

David T. Dockery III, RPG, James E. Starnes, RPG, and Jonathan R. Leard, RPG

If the City of New Orleans had been built 5,000 years ago in mid-Holocene times, it would not have occupied the Mississippi River levee and backswamp between the River and Lake Pontchartrain. It would have been built on a barrier island like Galveston, Texas, or even Cancun, Mexico. At that time, the present Mississippi coastline barrier bar island trend extended to New Orleans. Today, those sandy beaches under New Orleans, known as the New Orleans Barrier Bar Trend, are buried beneath deltaic muds of the present Mississippi River Delta. These sands are encountered in bore holes for building and infrastructure foundations. The barrier sands under the city are less compactable than the mud-rich delta deposits which overlie them and thus makes a better foundation substrate. The sand also contains the remains of fossil marine creatures, especially molluscan seashells. Figure 1 shows the subsurface extent of the New Orleans Barrier Bar Trend in red, a cross section of the trend at upper left, the locations of the cross section, and the Rowett, Tulane, and Long Beach fossil sites.

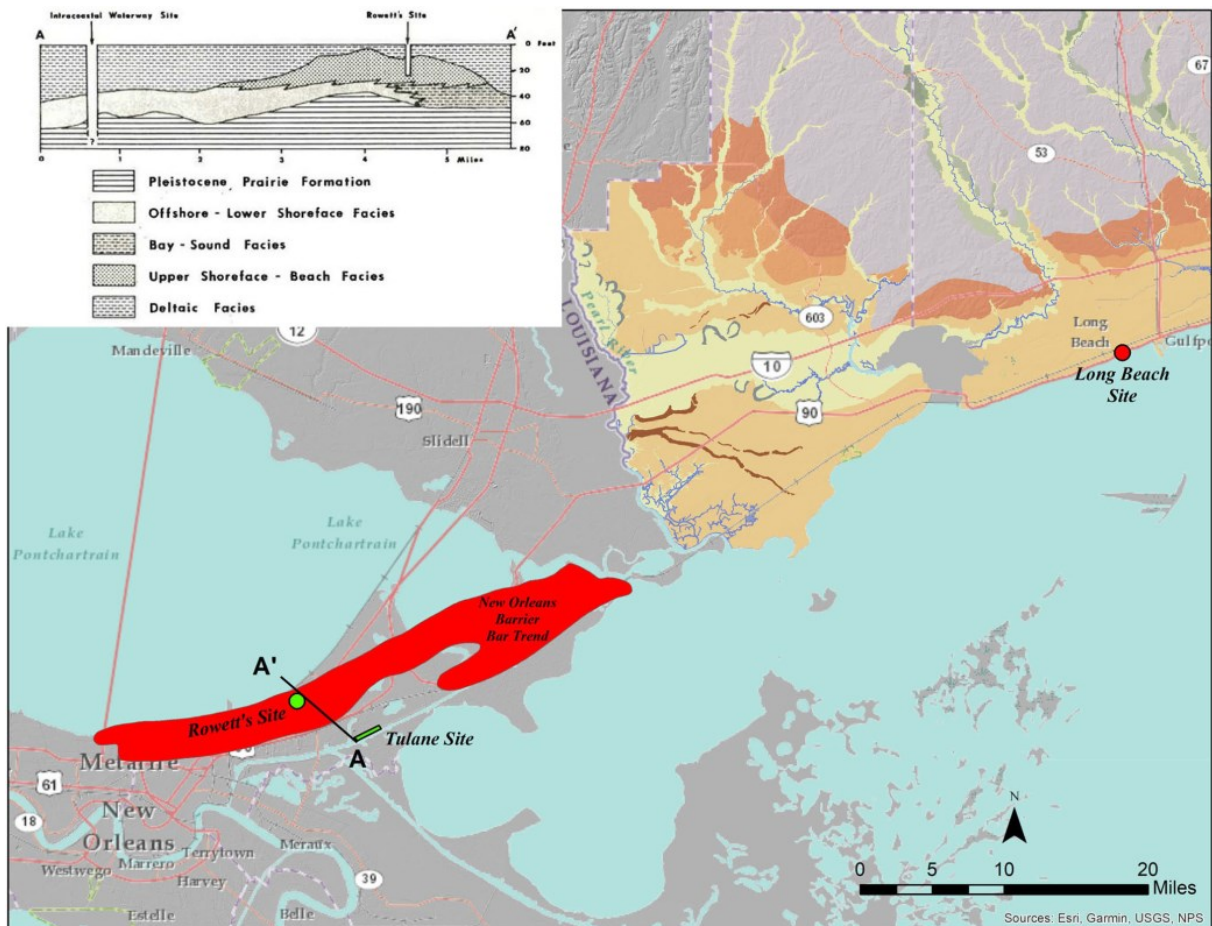


Figure 1. Map of a portion of the Louisiana-Mississippi coastline (by Jonathan Leard), showing (1) the buried New Orleans Barrier Bar Trend in red, (2) the geology of coastal Mississippi in color, (2) cross section A-A" (insert at top and line of section on map), and (4) the locations of the Rowett, Tulane, and Long Beach fossil sites.



MONTHLY POST

Dr. David Dockery III RPG

The Rowett (1957) site, published in the *Gulf Coast Association of Geological Societies Transactions*, volume 7, was discovered during the construction of Interstate 10 in the Little Woods area of eastern New Orleans. Figure 2 shows the Tulane site, which was discovered in September of 1975 when a large number of marine mollusk shells were noted in the material dredged to deepen the Intracoastal Waterway to 27 meters (88.6 feet). Over a period of nine months, ending in May of 1976, Tulane geology students collected and identified 43 species of gastropods, 50 species of bivalves, and two species of scaphopods. The estimated age of the New Orleans Barrier Trend and these fossils is around 5,000 years old. Hollander and Dockery published the Mollusca of the Tulane site in the Fall 1977 issue of *The Compass* (v. 55, no. 1, p. 1-28).



Figure 2. Seashells in dredge piles collected by Tulane students along the Intracoastal Waterway east of New Orleans. Pictures were taken in April 1976.



MONTHLY POST

Dr. David Dockery III RPG

This year, James Starnes and students from the University of Southern Mississippi and Mississippi State University collected Holocene marine fossils from the newly discovered Long Beach, Mississippi, fossil site. Figure 3 shows a collection of young whelk shells of the species *Busycon contrarium* (Conrad, 1840) from that site (at top), and a very large shell of that species from the Tulane site (at bottom).





MONTHLY POST

Dr. David Dockery III RPG

Figure 4 shows a collection of various shells and fossiliferous beach rock from the Long Beach site.



Figure 4. Seashells and fossiliferous beach rock (lower right) collected by University of Southern Mississippi and Mississippi State University students at the Long Beach site.



Abstract Submission Through Dec 1

Sessions Include:

- *Gulf Coast Geology*
- *Lithium and Critical Minerals*
- *Haynesville, Eagle Ford & Other Shale Plays*
- *Deepwater GOM*
- *CCUS, Geothermal*
- ***Special Session: East Texas Basin***
- *ML, AI & Data Analysis*
- *And more*

**For more information visit www.geogulf2025.org
Or email Kurt.Ley@kingwoodexploration.com**



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

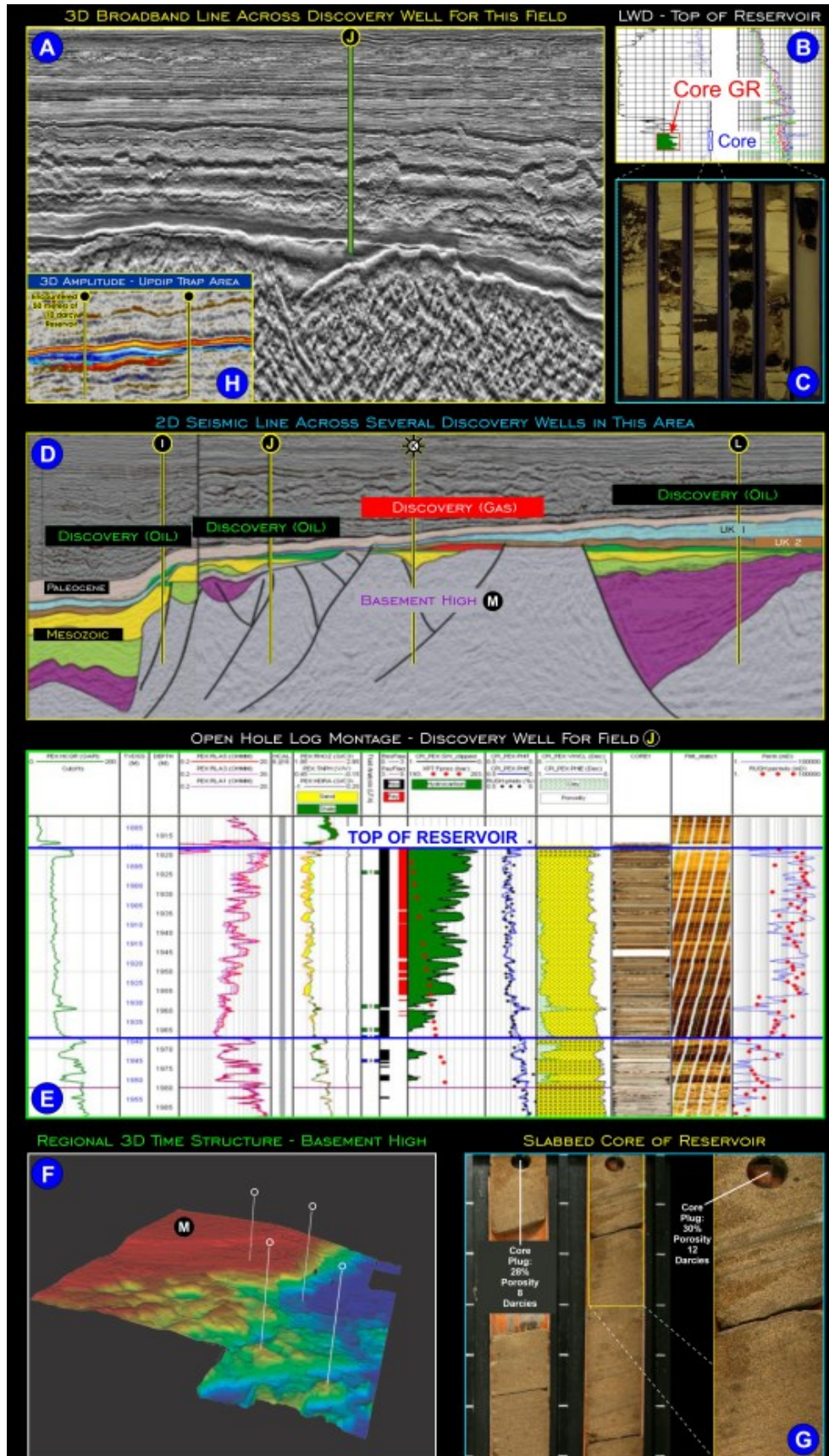
Thanks & Regards,

Matt Caton
Editor



MGS QUIZ

Steve Walkinshaw





MGS QUIZ

Steve Walkinshaw

Oil patch quiz time. Were it not for the coring of a key interval in its discovery well, a certain field ("J") would not have been discovered ~14 years ago. LWD and core gamma ray curves indicated a very shaley interval; instead, the core was essentially 100% sand and saturated with oil.

This discovery (and several others that followed) was made in a "mature" area. Where optimal, reservoir porosity and permeability is phenomenal: as high as 30% and 12 darcies. Production has exceeded 90,000 BOPD.

It appears oil migrated into these traps less than 1.6 Ma. Biodegradation has impacted oil above 6,430 feet.

Questions...

Part 1: What field ("J") am I referring to?

Part 2: In what country?

Part 3: What adjacent discoveries were (a) "I" (b) "K" and (c) "L"?

Part 4: What is the age of the field "J" reservoir?

Part 5: What's the lithology and age of its topseal as shown in "B" and "E"?

Part 6: The fields shown are atop or on the flank of the large basement uplift "M". What's its name?

Part 7: What is the source of the oil that charged field "J"?

Part 8: What caused the upward structural movement believed associated with the biodegradation of the oil in the area?

Bonus:

Part 9: What producing province did the discovery of "J" revitalize?

Part 10: What company generated prospect "J"?

ANSWERS AT END OF BULLETIN

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.magneet.fsu.edu/primer/java/scienceoptiscu/owersofl0/>

<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://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/gpnmf/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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September 2024 – May 2025

I. Bulletin Advertisements:

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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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1979-1980	Philip R. Reeves	2020-2023	David Snodgrass
		2023-Present	Jonathan Leard



MGS QUIZ

Steve Walkinshaw

Answers:

Part 1: What field ("J") am I referring to? Edvard Grieg

Part 2: In what country? Norway

Part 3: What adjacent discoveries were (a) "I" (b) "K" and (c) "L"? (a) Apollo, (b) Ragnarrock, and (c) Johan Sverdrup

Part 4: What is the age of the field "J" reservoir? (main reservoir) Triassic

Part 5: What's the lithology and age of its topseal as shown in "B" and "E"? Upper Cretaceous chalk

Part 6: The fields shown are atop or on the flank of the large basement uplift "M". What's its name? the Utsira High

Part 7: What is the source of the oil that charged field "J"? the Draupne Formation

Part 8: What caused the upward structural movement believed associated with the biodegradation of the oil in the area? isostatic rebound following the end of Plio-Pleistocene glaciation in the region

Part 9: What producing province did the discovery of "J" revitalize? the Norwegian Continental Shelf

Part 10: What company generated prospect "J"? Lundin Norway

Here are the credits for / sources of the images shown in the montage.

Images "A", "B", "C", "D", "E", "G" and "H": "Unfolding by Holistic Thinking, Giant and Significant Oil Discoveries in a Mature Area: Discovery of Edvard Grieg, Johan Sverdrup and Luno II in the Norwegian North Sea" (Hans Rønnevik and Arild Jørstad), Search and Discovery Article #110173 (2014)

Image "F": "Structural evolution of minibasins on the Utsira High, northern North Sea; implications for Jurassic sediment dispersal and reservoir distribution" (Christopher A-L. Jackson, Karla E. Kane and Eirik Larsen), Petroleum Geoscience, Vol. 16, 2010, pp. 105-120