

**MISSISSIPPI GEOLOGICAL SOCIETY**  
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**February 2016**

**FEBRUARY SPEAKER**

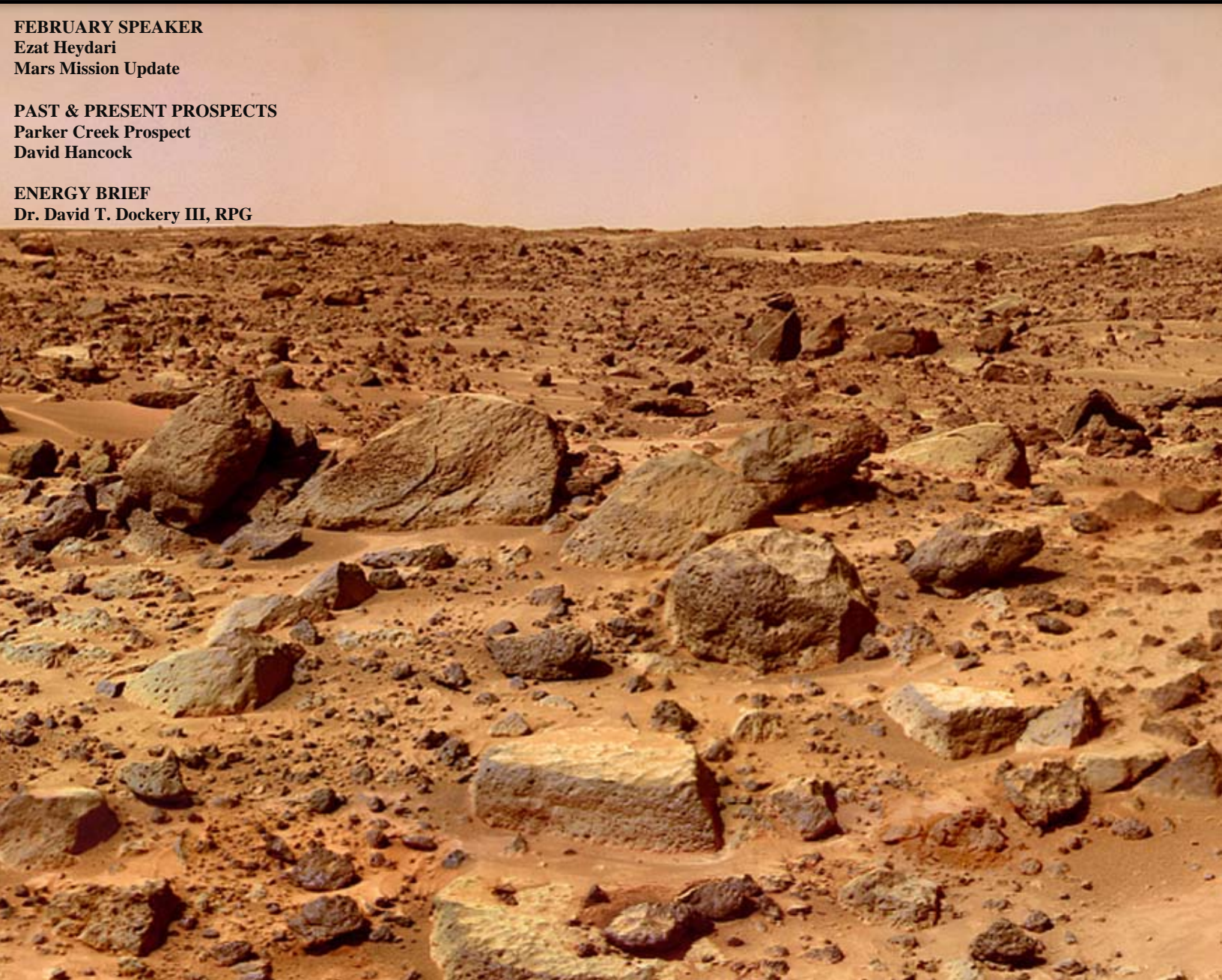
**Ezat Heydari**  
Mars Mission Update

**PAST & PRESENT PROSPECTS**

**Parker Creek Prospect**  
David Hancock

**ENERGY BRIEF**

**Dr. David T. Dockery III, RPG**



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# 2015-2016 MGS MEETING SCHEDULE

When	What/Who	Where
September 10, 2015	Fall BBQ	Jackson Yacht Club-5:30pm
October 8, 2015	Todd Keifer Energy & Power in MS	River Hills – 11:30am
November 12, 2015	Danny Harrelson Canals & River Cutoffs as a tactic during Vicksburg Campaign of American Civil War	River Hills – 11:30am
December 2015	MAPL Christmas Party—CANCELLED	
January 14, 2016	Lawrence R. Baria Relatively Large Mid-Ramp, Highstand, Microbialite Patch and Fringing Reefs, A New Exploration Play for South Alabama	River Hills – 11:30am
<b>February 11, 2016</b>	<b>Ezat Heydari - Mars Mission Update</b>	<b>River Hills – 11:30am</b>
March 10, 2016	Dr. John Mylroie Paleokarst Reservoirs: Deposition to Dissolution	River Hills – 11:30am
April 14, 2016	Boland Scholarship Awards	River Hills – 11:30am
May 12, 2016	Spring Fling	Jackson Yacht Club– 5:30pm

Price Summary				
	2014	2015	2016	2017
WTI Crude Oil <sup>a</sup> (dollars per barrel)	93.17	48.67	38.54	47.00
Brent Crude Oil (dollars per barrel)	98.89	52.32	40.15	50.00
Gasoline <sup>b</sup> (dollars per gallon)	3.36	2.43	2.03	2.21
Diesel <sup>c</sup> (dollars per gallon)	3.83	2.71	2.29	2.59
Heating Oil <sup>d</sup> (dollars per gallon)	3.72	2.65	2.16	2.43
Natural Gas <sup>d</sup> (dollars per thousand cubic feet)	10.94	10.37	9.85	10.23
Electricity <sup>d</sup> (cents per kilowatthour)	12.52	12.65	12.65	13.02
<sup>a</sup> West Texas Intermediate.				
<sup>b</sup> Average regular pump price.				
<sup>c</sup> On-highway retail.				
<sup>d</sup> U.S. Residential average.				

## OFFICERS MEETINGS

September 8, 2015
October 6, 2015
November 10, 2015
January 5, 2016
<b>February 8, 2016</b>
March 8, 2016
April 5, 2016
May 10, 2016



# PRESIDENT'S LETTER

*Jack Moody*



Do you remember after the price collapse in 1986 that bumper stickers were seen asking for another oil boom and promised not to screw it up? Well we had it on such a scale due to private sector innovation and citizen owned mineral rights that a major paradigm shift has occurred. Our world view has switched from one of diminishing resource abundance to that of plenty of oil for some time to come. The US actually gets blamed in the press for causing this current flood of oil production as if we were the rogue nation who had the audacity and ability to discover and to produce our own natural resources. Not long ago the US was not allowed to sell to the world market so our production increases were a matter of our own internal affairs. I believe I've read that basic economies are built on two forms of wealth building, development of natural resources and creating goods that people are willing to buy. We can all remember not long ago that the leadership in America said we had to get rid of manufacturing and pursue a cleaner economy which was supposed to be the Promised Land. Our policies opened our doors to labor markets so much cheaper than ours that there was no way we could compete. And Donald Trump has made famous what poor trade terms we ended up with. The point being we surrendered to a large degree our ability to make products to sell that people would be willing to buy. So there goes one of the two fundamental abilities to create wealth. It was that one, strong manufacturing, which helped build the strong middle class so famous in the US and so shrinking these days. The second fundamental economy builder as said is the development of natural resources. Keep in mind that the US is unique in the world with its citizenship owning the minerals under their surface property. With industry innovation coupled with the possibility of mineral owning citizens sharing in the wealth should exploration be successful, the stage was set for the paradigm shifting horizontal drilling multi stage fracking oil shale bonanza. This resurgence in a fundamental economy builder meant that the US could produce basic wealth for its citizens and the national economy. Remember at that time the US was not a world marketer of oil, we're only producing our own and consuming it internally. So the Saudis took the lead role in attacking US internal affairs by collapsing the price of oil. They saved up enough money to allow them to weather a US company killing price collapse storm. I've read that their economy was built on the need for about \$90 oil to fund the kingdom. This sounds like dumping a commodity into a market in order to enhance its own market share. When Honda tried that with motor cycles the US dragged them into world trade court and won the case. So how is this different with oil? True the Saudis can physically discover and lift the oil very cheaply but they can't run their kingdom based on that narrow definition of their cost to produce. They are dumping for a purpose and one part of that is to kill the US successful shale development. The Saudis declared economic war on the US oil business, they will not allow the US to wean itself from the need for as much imported oil as the Saudis see fit. The US oil industry could probably live well, and all its workers, mineral owners, and secondary economic benefiterers, with a real world price of oil if such could be determined but as long as the Saudis dump OPEC oil on the market, significant parts of the US economy will suffer.

The above rant is not the official position of MGS and only reflects the frustrated opinion of the author.

Jack Moody



## FEBRUARY SPEAKER

### *Ezat Heydari*



Dr. Ezat Heydari completed his undergraduate education in Geology at the University of Tehran, Iran in 1974. He received a M.S. degree in Geology from the Penn State University in 1981. His thesis was on structural geology of the Resting Spring Range around the town of Shoshone in southern California. Heydari completed his Ph.D. degree at Louisiana State University in 1990. His dissertation revolved around burial diagenesis of the Smackover Formation in southeastern Mississippi.

He has worked as a research professor at LSU and as a researcher at the Mississippi Office of Geology. He is currently a Professor of Geoscience at Jackson State University.

He is specialized in sedimentology, petrography, low temperature geochemistry, and environmental geology. One of his active research projects include the study of Jurassic strata of the U.S. Gulf Coast in general and the Smackover Formation in particular. He studies reservoir quality, diagenesis, and depositional environments of these strata. Heydari also investigates Permian and Triassic strata in order to determine the cause of this devastating mass extinction about 251 million years ago. He has the honor of being a science team member of the NASA's Mars Science Laboratory (MSL) mission to the planet Mars.

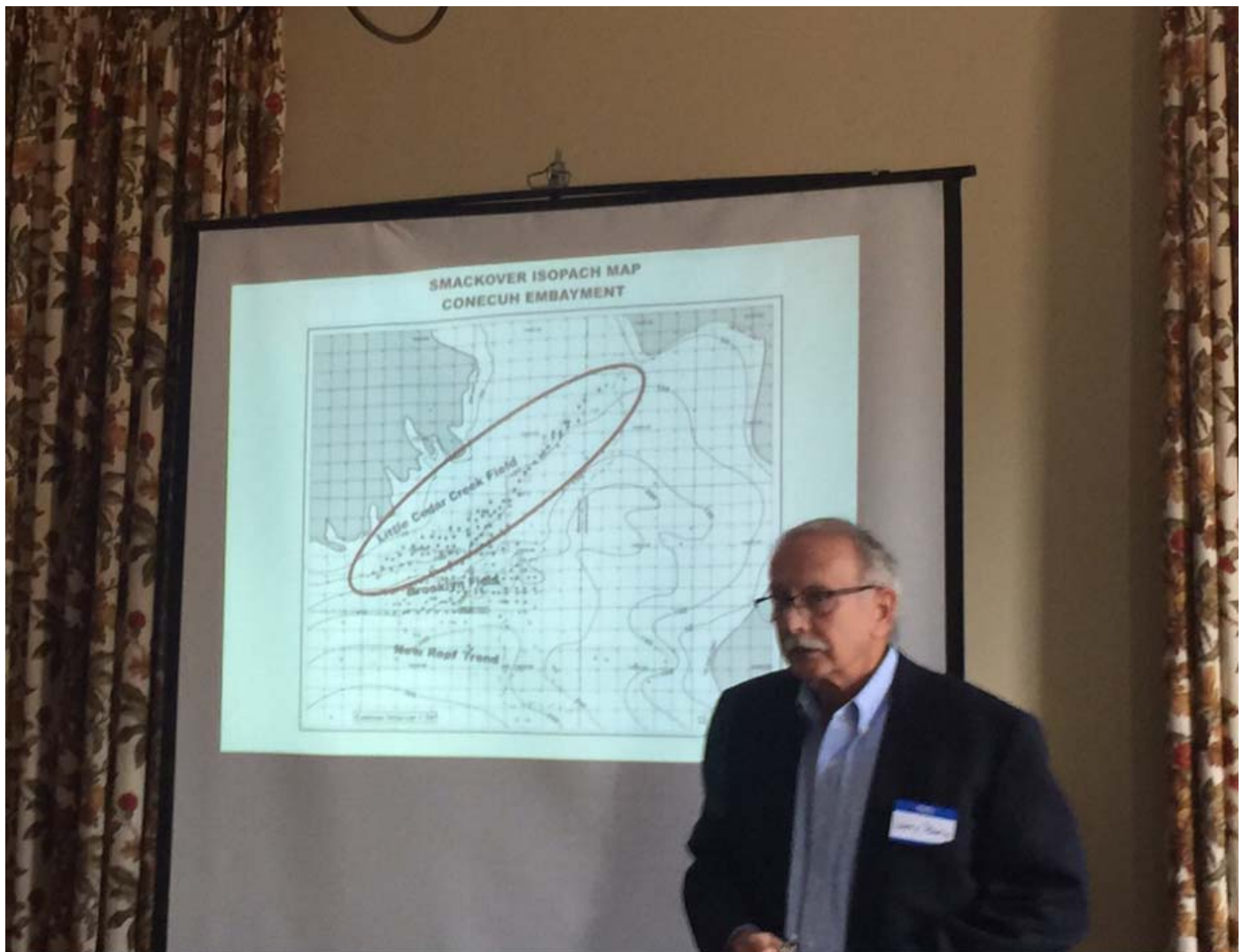
He is the author of about 50 published research papers and over 60 conference presentations. He was Associated Editor of the Journal of Sedimentary Research (1997 – 2004), Guest Co-Editor of Special volume of Tectonophysics (2008), Guest Co-Editor of a Special Issue in Global and Planetary Change (2010), and the reviewer of several texts books including the first edition of the Environmental Geology Today (2013), the third edition of Blue Planet (2011), and the eight edition of Physical Science (2009).



# JANUARY SPEAKER

*Lawrence R. Baria*

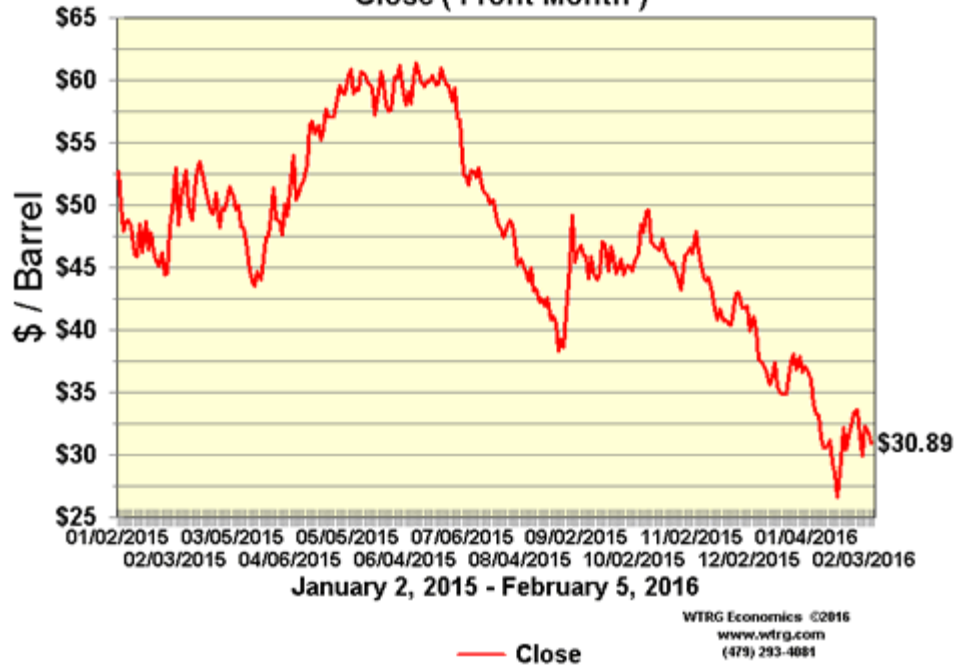
**A special thanks to our friend Larry Baria for a great talk last month on the Smackover in S. Alabama. Cheers!**



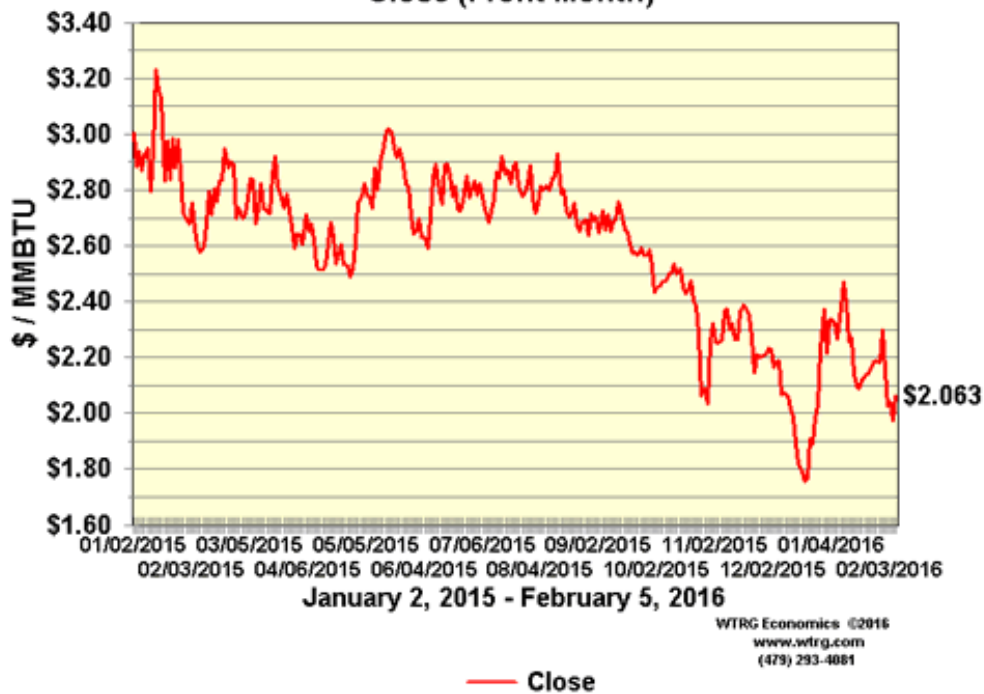


# CURRENT PRICES

**NYMEX Crude Oil Futures  
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**NYMEX Natural Gas Futures  
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# IMPERIAL BARREL AWARD

## *Open Registration*

# ATTENTION!

Dear GCAGS Society Presidents,

Please pass the below information on to your society's members via your website, bulletin, newsletter, e-mail blast or whatever method is best for your society.

Registration for the **2016 Imperial Barrel Award** is now open. Encourage the graduate schools in your area to participate. Please visit the **new website at <http://iba.aapg.org/program>** to find out more about this prestigious competition for geoscience graduate departments.

If you would like to **sponsor the competition** please visit <http://iba.aapg.org/sponsorship> (be sure to **designate your contribution to the Gulf Coast Section**) or contact Tom Bulling or Janice Gregory-Sloan for more information ([bullintp@bp.com](mailto:bullintp@bp.com) or [jgregorysloan@gmail.com](mailto:jgregorysloan@gmail.com))

Regards,

Kate Kipper  
[512-925-1200](tel:512-925-1200)





# PAST & PRESENT PROSPECTS

## *Parker Creek Prospect*

### PARKER CREEK FIELD

Parker Creek Field was discovered in 1997 with the drilling of the Roundtree & Associates #1 Gladys Knight, Section 32 – T7N – R13W, Jones County, Mississippi. The Field has produced in excess of 7,000,000 BO to date. Although the primary producing horizon is the Upper Hosston, pay is logged in the Sligo, Rodessa, Mooringsport, Paluxy and Lower Tuscaloosa.

#### Geology

The Parker Creek structure was originally mapped utilizing existing well control and later refined with 2-D seismic data. An elongate, concave salt ridge culminating in a shallow piercement salt dome, is mapped. The prospect was set up by down dip shows logged in the Strago #1 Bradley but due to insufficient permeability in most of the pre-Ferry Lake sediments, the well was plugged and abandoned. The primary Parker Creek producing sand, dubbed the "Big Sand", was wet. It was hoped that by moving up dip to the #1 Bradley, permeable and productive sands would be encountered.

#### Drilling

The prospect was initially mapped and drilled using available 2-D seismic data, primarily 1960's and 1970's vintage. Adequately imaging the salt was extremely difficult and was considered a primary risk of the project. Indeed, the #1 Gladys Knight unexpectedly encountered salt from 4530'-5200', which was drilled through, and again at 10,500', which was kicked around. Either event could have caused the termination of drilling activity but fortunately the decision was made to continue forward.

In April, 1997, the #1 Gladys Knight reached total depth at 16,091'. Net pay was calculated as follows:

Hosston .....	182'
Sligo .....	26'
Rodessa .....	12'
Paluxy/Wash-Fred .....	44'
Lower Tuscaloosa .....	56'

An additional 200' of calculated pay beneath the shallow overhang was encountered but tests of this interval were mostly unsuccessful as the low gravity crude would only produce in small quantities. It is still unknown what this section is but could possibly be some sort of thrust Wilcox interval.

In 1999 a 3-D seismic image of the Moselle Ridge was acquired. This has greatly enhanced our ability to image the sediment-salt interface. Two successful Hosston wells however, were drilled utilizing only the 2-D data set. The other wells were drilled post 3-D.

#### Back Story

Parker Creek Field (Moselle Dome Prospect) was discovered by Roundtree & Associates but the prospect had been mapped, leased and approved for drilling by a former employer (a large oil and gas concern). After our Jackson office was transferred, our VP of exploration retired. The new VP, after being shown the prospect, killed it, stating the Strago #1 Bradley had tested the feature. Four years after leaving this company, the prospect was re-leased and drilled. I want to take this opportunity to thank my former VP.

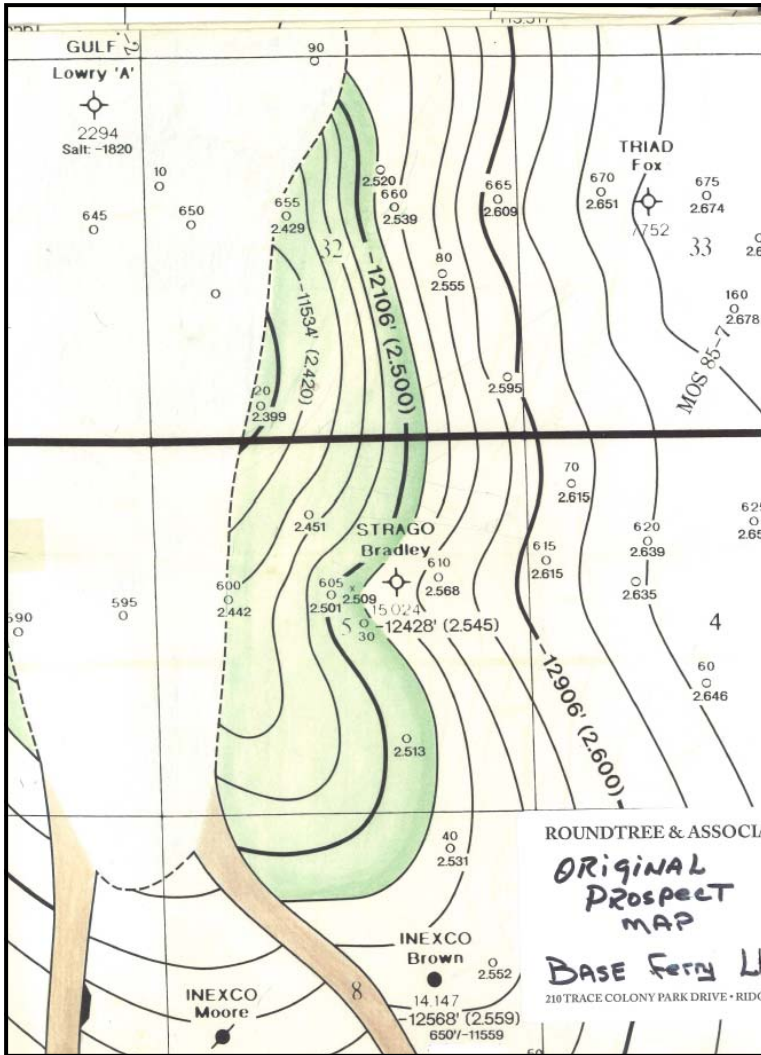
David Hancock  
Roundtree & Associates, Inc.



# PAST & PRESENT PROSPECTS

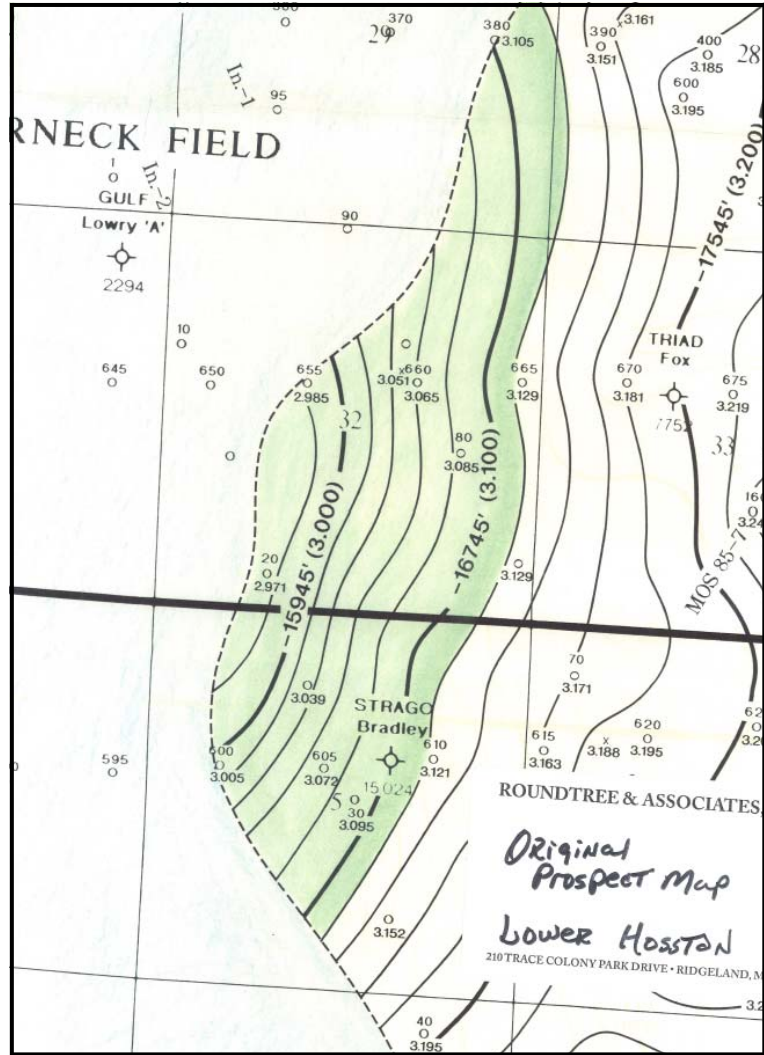
## *Parker Creek Prospect*

### ORIGINAL PROSPECT MAPS



**ORIGINAL PROSPECT  
STRUCTURE MAP**

**BASE of FERRY LAKE**



**ORIGINAL PROSPECT  
STRUCTURE MAP**

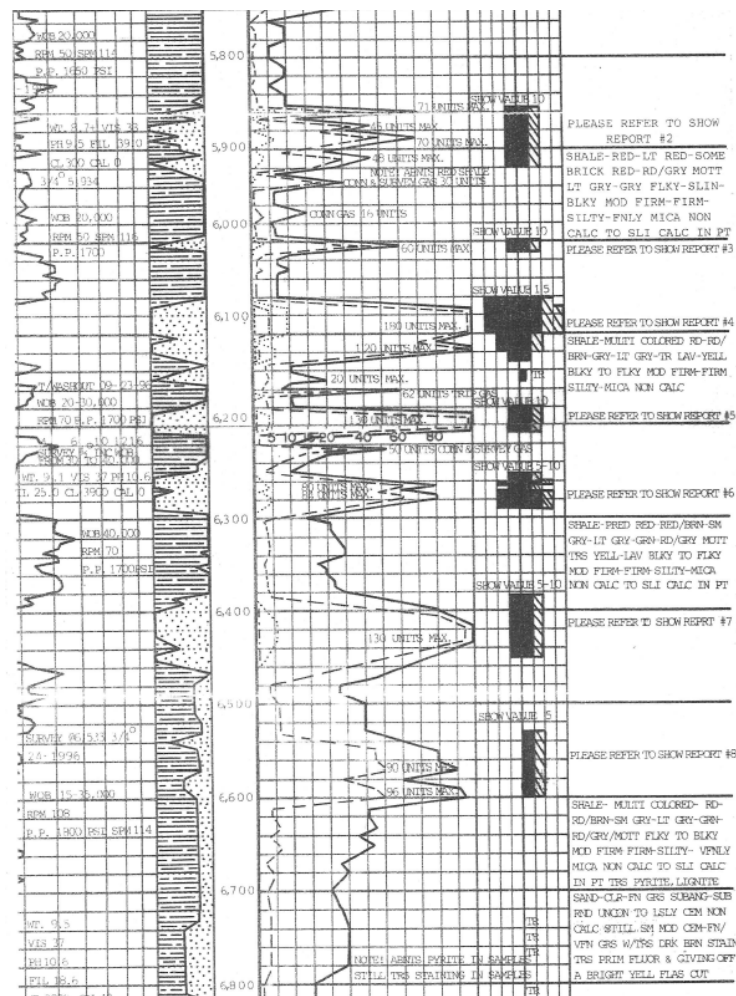
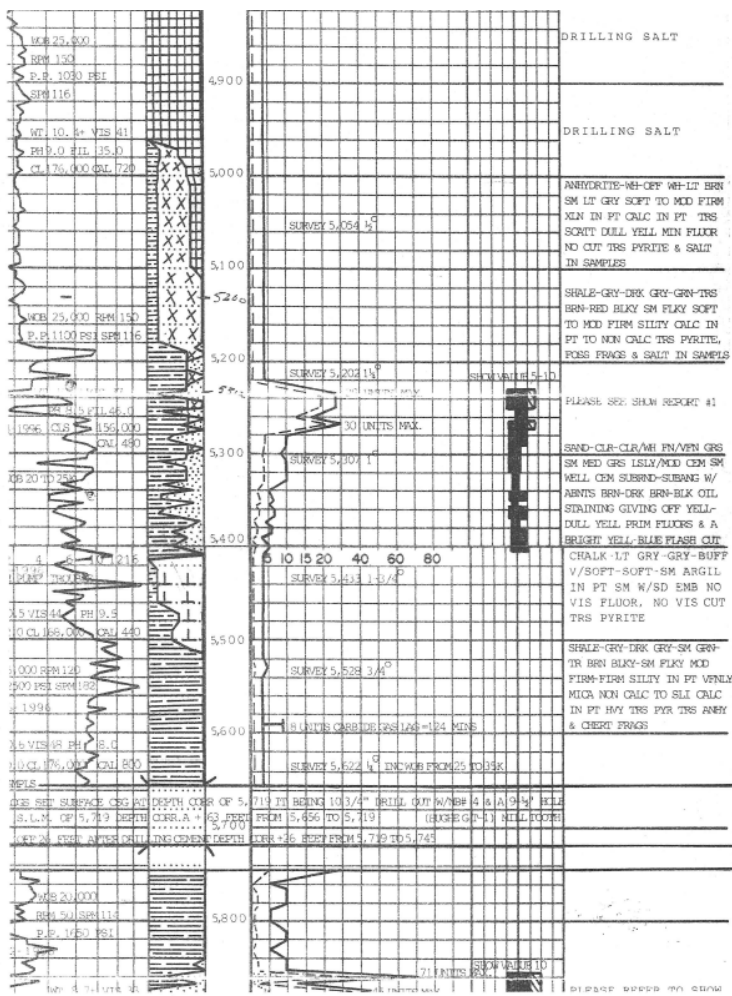
**LOWER HOSSTON**



# PAST & PRESENT PROSPECTS

## Parker Creek Prospect

### DISCOVERY WELL Roundtree & Associates Gladys Knight #1 Mudlog

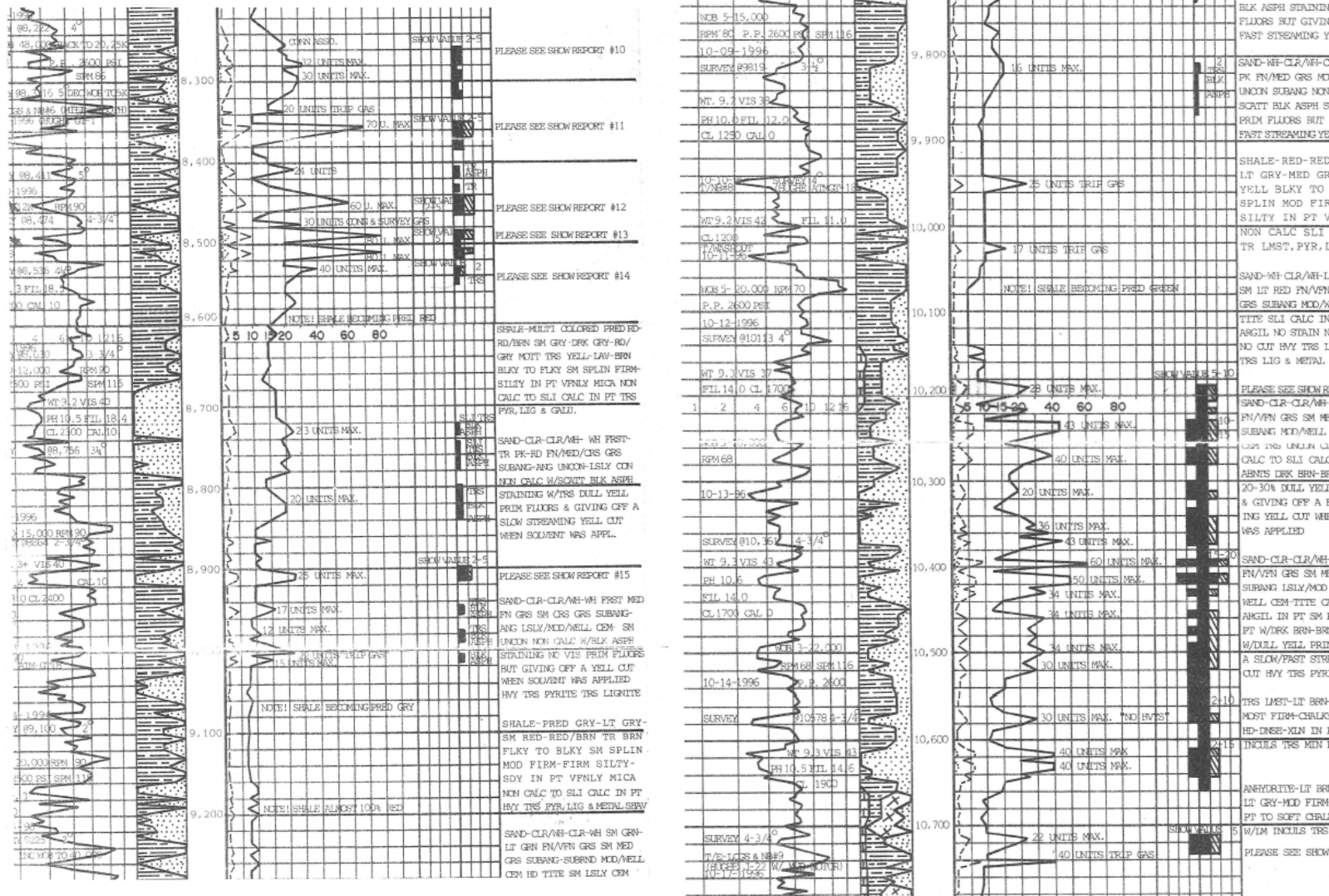




# PAST & PRESENT PROSPECTS

## Parker Creek Prospect

### DISCOVERY WELL Roundtree & Associates Gladys Knight #1 Mudlog

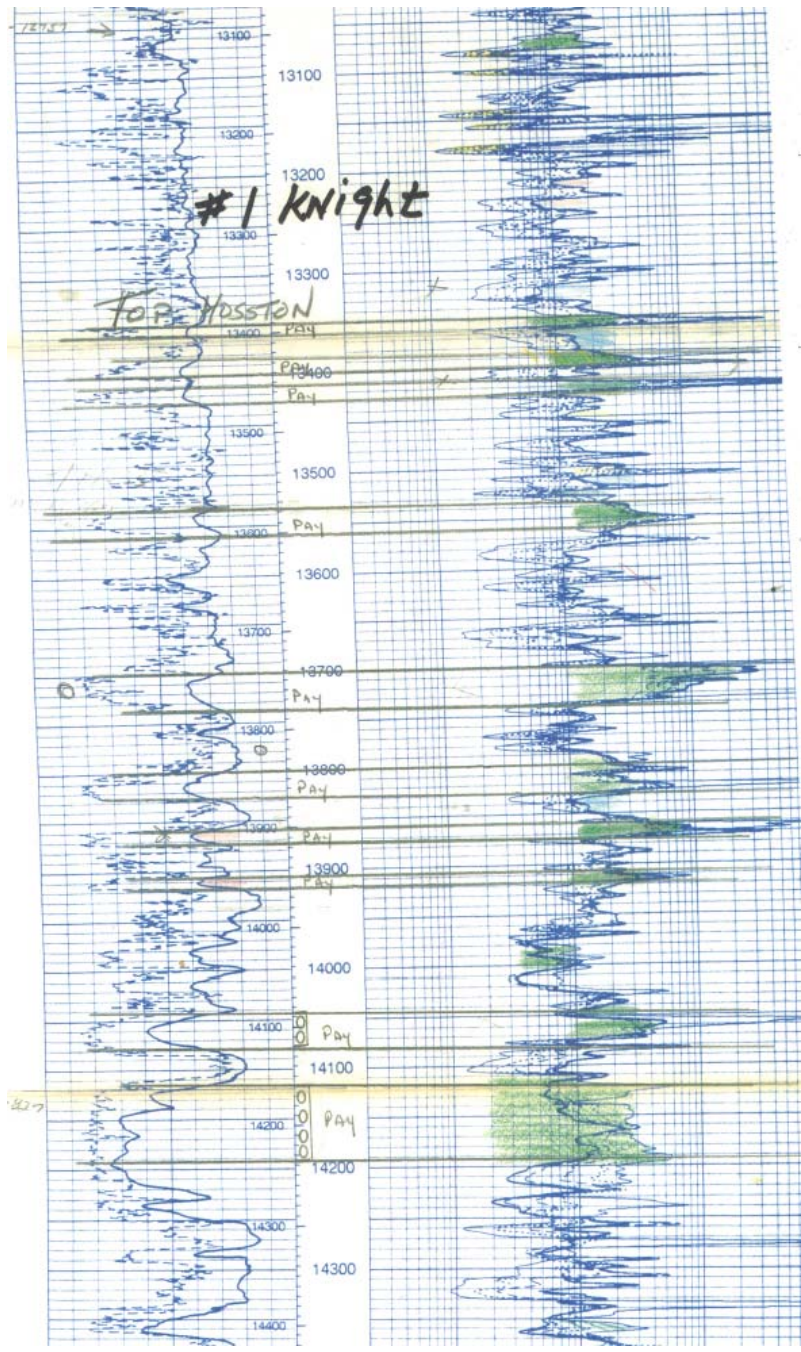
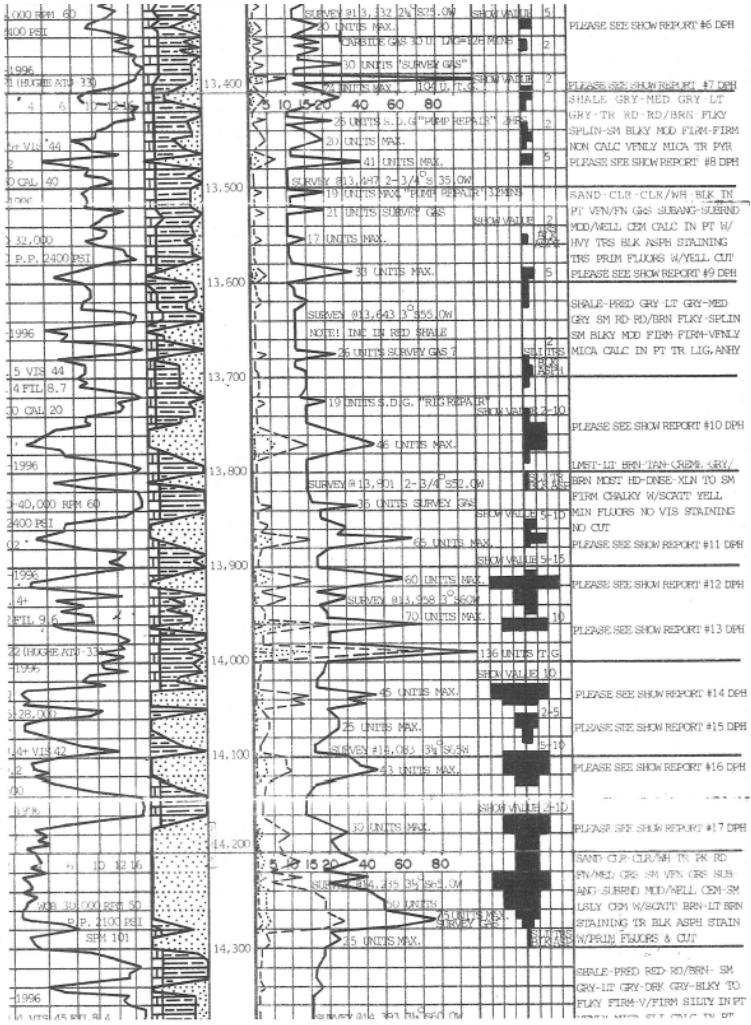




# PAST & PRESENT PROSPECTS

## Parker Creek Prospect

### DISCOVERY WELL Roundtree & Associates Gladys Knight #1 Induction Log



Many Thanks to  
David Hancock  
of  
Roundtree & Associates

# The Geology of Mississippi

David T. Dockery III and David E. Thompson  
Foreword by Governor Phil Bryant

*The Geology of Mississippi* is an encyclopedic work by authors with extensive experience in Mississippi's surface geology mapping program. It brings together published work, unpublished work from agency files, and the authors' experience, both in personal field work and in collaboration with experts from around the world.

With over a thousand images, the voluminous text relates ways in which Mississippi's geology has contributed to the understanding of global events, such as the extinction of the dinosaurs and the first occurrence of tiny primates. Fossil illustrations include Devonian trilobites, Mississippian scale trees, Pennsylvanian brachiopods, Cretaceous dinosaur bones, Paleocene lignite and petrified wood, Eocene seashells and the excavation of fossil whales, Oligocene marine fossils and rare land mammal finds, Miocene plants and animals, Paleozoic marine fossils, and the bones of giant ice-age mammals. The text is arranged by geologic age.

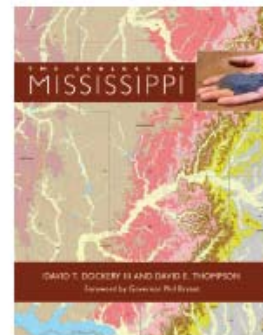
Economic minerals cited in the book include oil and gas (both methane and carbon dioxide), lignite, dimension stone, crushed stone, sand and gravel, various clay deposits, limestone, and potential economic deposits of bauxite, heavy minerals, and iron ore. Groundwater is Mississippi's most valuable natural resource and supplies over 90 percent of the state's public and industrial water supply and most of the state's irrigation supply for agriculture and catfish ponds. Mississippi's surface geology causes the state's fertile and not-so-fertile soil types responsible for foundation and infrastructure substrates that range from stable to failure-prone due to expansive clays. Finally, *The Geology of Mississippi*, coupled with site-specific surface geologic maps, provides information for the wise use of land and the environmental protection of the state's resources.

**David T. Dockery III**, Clinton, Mississippi, is a registered professional geologist and the Surface Geology Division Director for the Mississippi Department of Environmental Quality. His work has appeared in *Mississippi Geology*, *Palaios: Nature, Paläontologie*, and *Compass*, among others. **David E. Thompson**, Jackson, Mississippi, is a registered professional geologist and supervising geologist in the Surface Geology Division at the Mississippi Department of Environmental Quality. His work has appeared in *Geological Society of America*, *Journal of the Mississippi Academy of Sciences*, and *Mississippi Geology*, among others.

**FEBRUARY**, 692 pages (approx.), 8½ x 11 inches, 1099 b&w/color illustrations, introduction, foreword, bibliography, index  
Printed casebinding **\$80.005** 978-1-4968-0313-9

Ebook available

**Copublished with the Mississippi Department of Environmental Quality**



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# MONTHLY POST

## *Dr. David T. Dockery III RPG*

### **ENERGY BRIEF 2016**

David T. Dockery III, RPG

The Energy Brief 2016, presented by the Mississippi Energy Institute, was held in the Jackson Convention Complex on January 19, 2016, from 8:00 a.m. to 11:30 a.m., with over 400 in attendance. Speakers included Lieutenant Governor Tate Reeves, President and Founder of the Center for Industrial Progress Alex Epstein, Speaker of the House Philip Gunn, President and CEO of the American Association of Blacks in Energy Paula R. Jackson, and former Governor Haley Barbour. Former Governor Barbour (Figure 1) explained his role in creating the Mississippi Energy Institute in 2008 to give the energy industry a voice to counter growing opposition to fossil fuels. Barbour also talked about the importance of the minerals industry to the economy of the state, including the new lignite-fueled Kemper County Power Plant. According to Barbour, “Abundant, affordable, American energy is critical to our way of life.”



Figure 1. Former Mississippi Governor Haley Barbour.



## MONTHLY POST

### *Dr. David T. Dockery III RPG*

Alex Epstein (Figure 2) of the Center for Industrial Progress gave the Special Address. Epstein is the author of the New York Times bestseller *The Moral Case for Fossil Fuels*. He said that he majored in Philosophy at Duke University, but was interested in philosophic ideas that made a difference in the real world. Thus, he applied his skills in examining the positive and negative roles of fossil fuels in today's society. His conclusion was that: "Fossil fuel use translates to increase in life expectancy and GDP. Without fossil fuels, quality of life continuously suffers."



Figure 2. Alex Epstein of the Center for Industrial Progress.





# MONTHLY POST

*Dr. David T. Dockery III RPG*

Figure 3 is a slide showing the increase in energy use between 1980 and 2012, with non-fossil fuels continuing to play a minor role in energy production.

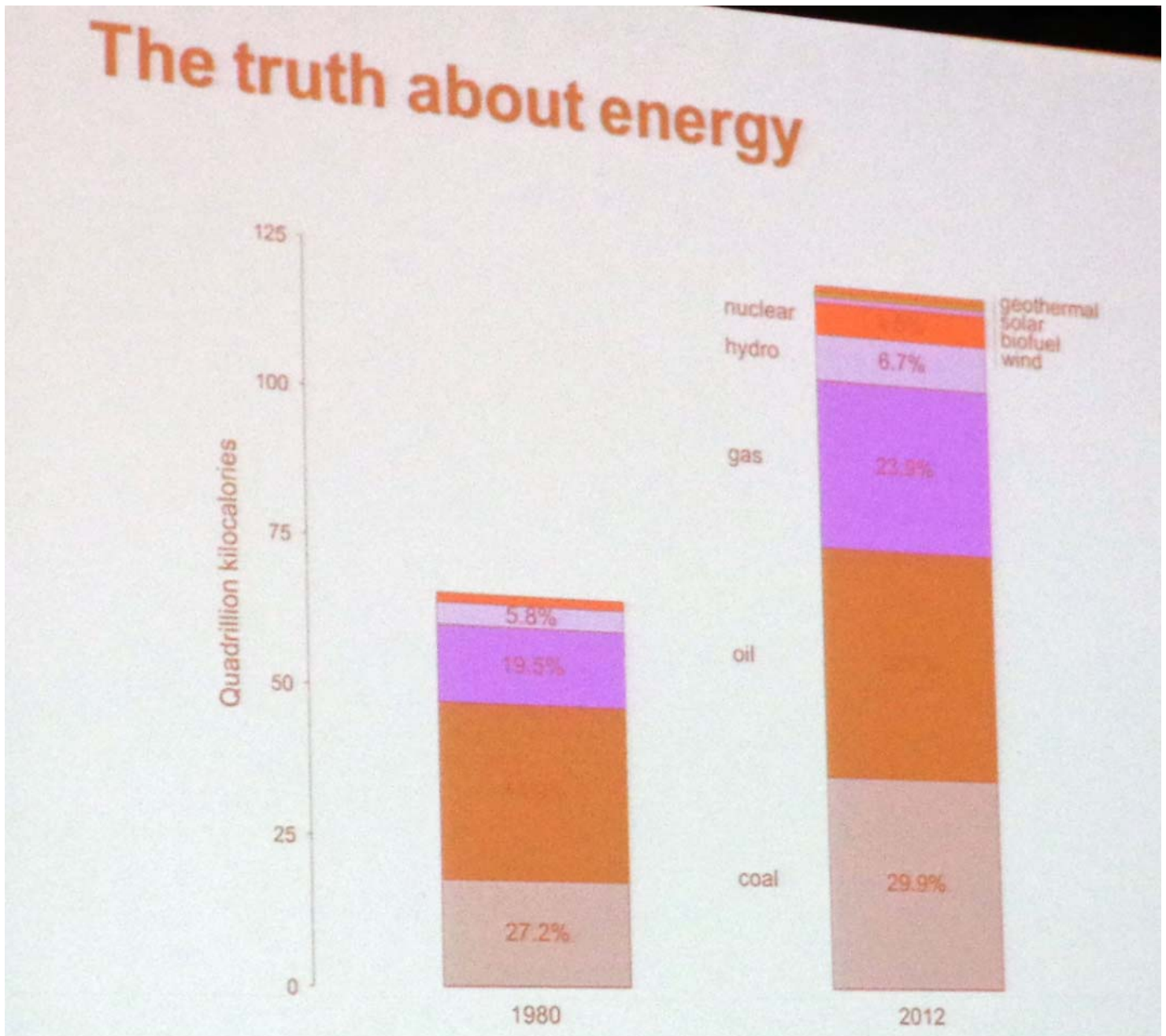


Figure 3. Alex Epstein's presentation: Energy use in 1980 and 2012.



## MONTHLY POST

### *Dr. David T. Dockery III RPG*

Figure 4 shows the dire prediction that carbon-induced climate change will kill as many as a billion people in the next four years. To the contrary, if fossil fuels were abandoned, a billion people might starve to death as our agricultural production and transportation network depend on these fuels.

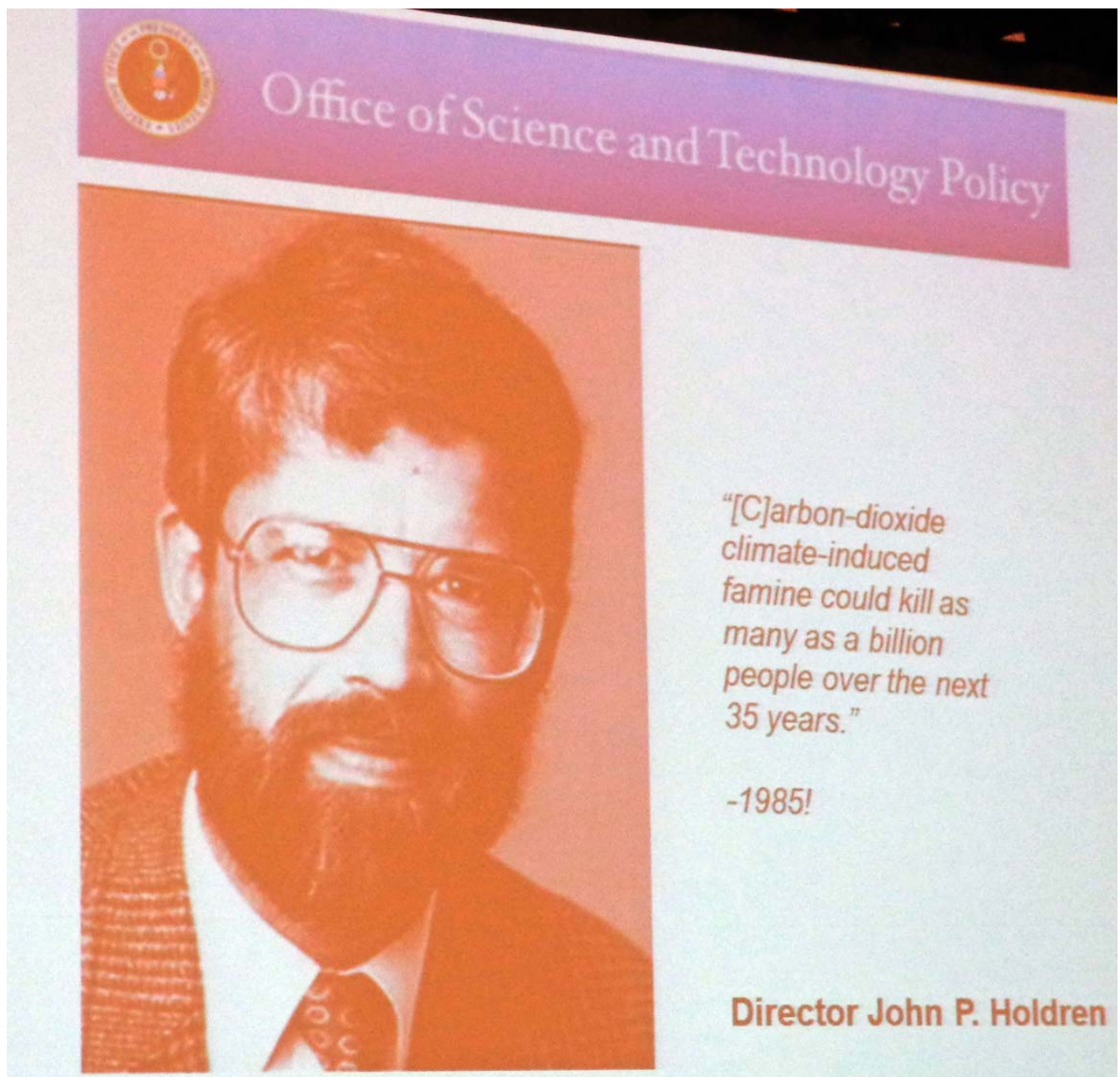


Figure 4. Alex Epstein's presentation: Dire prediction of up to a billion deaths by 2020 (just 4 years away) due to carbon-induced climate change.



## MONTHLY POST

### *Dr. David T. Dockery III RPG*

Paula Jackson (Figure 5) of the American Association of Blacks in Energy discussed diversity in the workplace and the next generation in the energy sector workforce. Some thirty years ago business sought to hire minorities because it was the right thing to do. Then business hired minorities so that their staff looked like the people they served. Now among the millennial generation, the minorities are the majority due to a large influx of Asians and Hispanics in the workplace. According to Jackson, “The average job life span of today’s 25 year old is two years. We need to figure out how to impassion these millennials to stay. Today’s graduates don’t want to work for Google; they want to create the NEXT Google – our industry needs to tap into that innovative mindset.” So, if you have millennials, communicate the purpose and meaningfulness of their work in a way they can buy into—and hopefully they will stay with the job.



Figure 5. Paula Jackson of the American Association of Blacks in Energy discussing millennials in the energy sector workforce.



# MSU GRADUATE STUDENTS

## *Research Projects: MS & PhD*



Student		Advisor	Project
Tyler Berry	MS	Schmitz	Depositional Systems Analysis of the Kosciusko Formation in Central Mississippi
Curt Burbach	MS	Clary	Ichnofossils (trackways) and informal education interpretation
Victoria Cheek	MS	Dash	Effects of Land Use and Land Cover on the Water Quality of Ross Barnett Reservoir
Young Woo Cho	PhD	Clary	Three dimensional visualization and geo-tourism
Brandon Crabtree	MS	Schmitz	Water Resources in Oktibbeha District
Maelhur Derkota	MS	Dash	Satellite data assisted visualization of ocean acidification
Julia Domenech	PhD	Clary	Water quality in Ventura City, California
Jeremy Foote	MS	Schmitz	Changes in water Red Hills Ecoplex
Brittany Garner	PhD	Gabitov	Proxies for oceanic O2 content (experimental)
Patrick Jordan	MS	Kirkland	A Subsurface Study Of The Texas Panhandle Granite Wash, Anadarko Basin
Danielle Merrit	NS	Skarke	Analysis of suspended particulate matter in the Mississippi Sound using MODIS imagery
Jonney Mitchell	MS	Gabitov	Trace elements in carbonate minerals
Joseph Mitchell	PhD	Kirkland	Diagenetic alteration of mussel shells at archeological sites
Asa Mullenex	MS	Skarke	Role of antecedent geology on coastal morphology in the Grand Bay area
Glenn Myrich	MS	Clary	Pre-Sandy and post-Sandy survey of dollos in an area on the eastern seaboard
Aleksandra Novak	MS	Gabitov	Geochemical response of <i>Pocillopora damicornis</i> coral to changes in temperature, salinity, and oxygen isotopic composition of modern seawater
Lauren Parker	MS	Schmitz	Hydrogeology - undetermined
Mark Powers	PhD	Clary	Inquiry-based field methods
Caitlin Roby	MS	Skarke	Classification and geospatial indexing of Deep sea video data
Claire Rose	MS	Clary	Mississippi River Valley Alluvial Aquifer. Claire, employed by the USGS, has sampled sediment and water for Arsenic and Phosphorus, and is comparing these numbers (spatial distribution) to the earlier 1999 Geochemical Survey of Mississippi.
Sannan Sabidhaman	PhD	Dash	Ocean Biogeochemistry of Ocean acidification
Natalie Samai	MS	Kirkland	A Petrographic Analysis of the Microbial Thrombolite Buildup in the Oxfordian Smackover Formation, Little Cedar Creek Field, Alabama.
Saurar Sidural	PhD	Dash	Remote Sensing of Harmful Algal Blooms
Shatrugan Singh	PhD	Dash	Biogeochemistry of Mississippi Coastal and lacustrine Estuary waters
Taryn Smith	MS	Schmitz	Surface mapping Vicksburg Military Park Quadrangle
Keith Tischler	PhD	Kirkland	The Influence of Microbial Processes and Organic Matter in the Genesis of Complex Carbonate Facies and Lithologies, in the Sacramento Mountains, New Mexico
Jeremy Weremeichik	PhD	Gabitov	Magnesium in carbonate minerals related to paleoclimate (Geochemical response of aragonite under the influence of subaqueous pressures, The effect of growth rate on uranium partitioning between calcite and fluid, Mg/Ca ratios in synthetic low-magnesium calcite: an experimental investigation)



# BOLAND SCHOLARSHIP WATCH

Faculty & Students,

April is coming fast 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 2015-2016 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

**Rotary Rig Count**  
2/5/2016



Location	Week	+/-	Week Ago	+/-	Year Ago
Land	543	-47	590	-854	1397
Inland Waters	2	1	1	-7	9
Offshore	26	-2	28	-24	50
<b>United States Total</b>	<b>571</b>	<b>-48</b>	<b>619</b>	<b>-885</b>	<b>1456</b>
Gulf Of Mexico	26	-2	28	-22	48
Canada	242	11	231	-139	381
North America	813	-37	850	-1024	1837
<b>U.S. Breakout Information</b>	<b>This Week</b>	<b>+/-</b>	<b>Last Week</b>	<b>+/-</b>	<b>Year Ago</b>
Oil	467	-31	498	-673	1140
Gas	104	-17	121	-210	314
Miscellaneous	0	0	0	-2	2
Directional	53	-5	58	-82	135
Horizontal	458	-29	487	-630	1088
Vertical	60	-14	74	-173	233
<b>Canada Breakout Information</b>	<b>This Week</b>	<b>+/-</b>	<b>Last Week</b>	<b>+/-</b>	<b>Year Ago</b>
Oil	131	5	126	-53	184
Gas	111	6	105	-86	197
Miscellaneous	0	0	0	0	0
<b>Major State Variances</b>	<b>This Week</b>	<b>+/-</b>	<b>Last Week</b>	<b>+/-</b>	<b>Year Ago</b>
Alaska	13	0	13	3	10
Arkansas	0	0	0	-12	12
California	7	0	7	-9	16
Colorado	22	0	22	-33	55
Kansas	9	0	9	-9	18
Louisiana	46	-5	51	-61	107
New Mexico	26	0	26	-52	78
North Dakota	42	-2	44	-90	132
Ohio	13	-1	14	-26	39
Oklahoma	80	-8	88	-96	176
Pennsylvania	19	-3	22	-35	54
Texas	262	-19	281	-392	654
Utah	1	-2	3	-11	12
West Virginia	12	0	12	-7	19
Wyoming	13	-2	15	-29	42
<b>Major Basin Variances</b>	<b>This Week</b>	<b>+/-</b>	<b>Last Week</b>	<b>+/-</b>	<b>Year Ago</b>
Ardmore Woodford	3	0	3	-3	6
Arkoma Woodford	5	-2	7	-2	7
Barnett	4	1	3	-15	19
Cananda Woodford	37	-2	39	-6	43
DJ-Niobrara	21	0	21	-27	48
Eagle Ford	60	-4	64	-108	168
Fayetteville	0	0	0	-9	9
Granite Wash	8	-5	13	-31	39
Haynesville	15	-3	18	-28	43
Marcellus	31	-3	34	-40	71
Mississippian	10	-1	11	-43	53
Permian	180	-2	182	-237	417
Utica	13	-1	14	-28	41
Williston	42	-2	44	-95	137



# **BOLAND SCHOLARSHIP CONTRIBUTIONS**

Thank you for your generous  
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# GEOLOGY POST

## ARTICLES, PAPERS or NEWS?

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

I am adding a dedicated section that includes 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:

[mcaton@tellusoperating.com](mailto:mcaton@tellusoperating.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](http://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](http://www.ermapper.com) They have a great free downloadable viewer for TIFF and other graphic files called ER Viewer.

[www.drillinginfo.com](http://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.



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\*This list is updated monthly. Please contact Bill Bagnall if you have questions.

## MGS ADVERTISING ORDER FORM

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### I. Bulletin Advertisements:

<u>Size</u>	<u>Rate/Year</u>	<u>Amt. Remitted</u>
Full Page Ad (6" x 8")	\$500	\$ _____
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](http://www.missgeo.com)):

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(Note: Please contact Steve Walkinshaw at (601) 607-3227 or [mail@visionexploration.com](mailto:mail@visionexploration.com) for details concerning placing your ad on the MGS web site.)

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