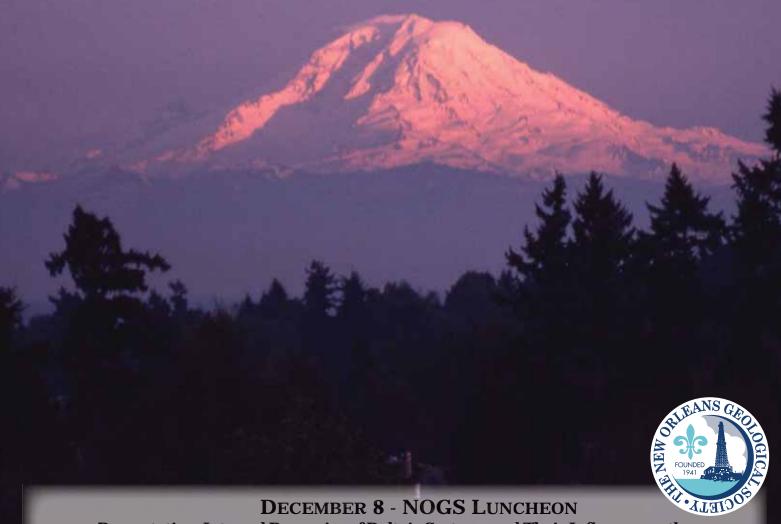
# DECEMBER 2014

Volume 55, Number 6



Presentation: Internal Dynamics of Deltaic Systems and Their Influence on the Resolution of the Stratigraphic Record: A Laboratory Perspective Guest Speaker: Dr. Kyle M. Straub

Tulane University • New Orleans, Louisiana

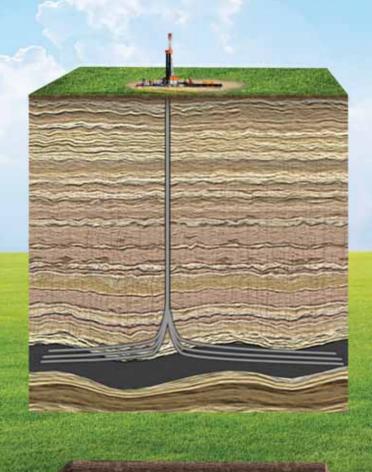
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*Interested in contributing to the NOGS LOG?* Please submit items by the 1st Friday of the month to nogseditor@gmail.com. Advertising requests should contact the NOGS office at info@nogs.org.

## IN THIS ISSUE

# **Regular Features:**

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## on the cover

### Cover Photo Submitted by Frank Rogers

### Mount Rainier at sunset — Mount Rainier National Park

In the spring of 1981, I participated with other Exxon personnel and representatives of Sohio (BP) and Mobil in re-mapping the Prudhoe Bay Field, Alaska, for the Final Equity Redistribution. Offices for the mapping project were located near the Seattle-Tacoma International Airport. I resided at a hotel within walking distance of the office. The hotel room balcony afforded spectacular views of Mount Rainier, about 45 miles south-southeast. The cover photo. scanned from a 35 mm Kodachrome slide, was made about April 28, 1981. According to USGS: Volcano Hazards Program – Cascades Volcano Observatory, 25 September 2013, Mount Rainier is the highest peak in the Cascade Range at 14,410 feet. It is an active andesite-dacite stratovolcano that last erupted pyroclastics about 1100 years ago and lava flows about 2200 years ago. Snowfall is heavy and 25 glaciers flow down its valleys. Many tens of thousands of people dwell atop Holocene lahars that originated on Mount Rainier.

On page 26 of this December's NOGS LOG, read the related book reveiw, Dangerous Neighbors: Volcanoes and Cities.

# From the Editor

As this December issue goes to print, we have just had our first cold front move through South Louisiana. The seasons change and we prepare our homes for colder days. In just the same way, we need to keep an eye on the price of oil, which, like the seasons is cyclic in nature. Many of our NOGS membership have seen highs and lows of the price of crude; "It's just the way of the industry," my mentors explain. In fact, it's been this way ever since "Colonel" Drake and his well at Titusville. Today's low prices are still so much higher than the "high prices" of 5 and 10 years ago. Others tell me about the lean and mean times when oil hovered just over \$10 per barrel, in the 80's and 90's. I ask for advice on weathering the storm. The



response is the same secret sauce to performing well in any job: work hard, do your best, be flexible and enjoy what you do. For many of us new to the industry, we are in unfamiliar territory. Use NOGS luncheons and activities to network and deepen your technical knowledge and keep your mind sharp. As the EIA graph of WTI shows, this is a pricing fluctuation; waiting for Wall Street to find a crisis, sending the price back to \$100 per barrel.

Happy Holidays!

Jana J. Pronhet-NOGS LOG Editor

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# From the President

Merry Christmas, Happy Hanukkah, Happy Kwanza, and all the other holidays recognized in December! The holiday season is already upon us and it makes me wonder, where did the year go? It seems like just yesterday NOGS was hosting its Christmas Holiday Party at the Holiday Inn, and here we are this year requesting your presence at the Metairie Country Club on Friday, December 12th for this year's NOGS Christmas Holiday Party. It will for sure be a festive time.

This past month I was fortunate to attend the Joint Energy Industry Association luncheon with guest speaker John Young. Mr. Young highlighted the positive impact our O&G community has on our economy locally and within our great state and country. The emphasis of our country being energy independent was a focal point of Mr. Young's discussion, as I'm sure it is for many of us in the industry. In addition to being an energy independent country, it is also important for us to keep the sustainability aspect of our energy as a component of independence.

I would also like to point out that Mr. Young requested all veterans in the room to stand and be recognized in honor of Veterans Day. To my surprise and delight, most all those who were NOGS members stood up. It is humbling to see and know those individuals who were willing to serve and make sacrifices for us and our country. We really can't thank you and your families enough for your selflessness.

The holiday season usually means eating to our heart's content, traveling, and visiting with loved ones. For some, it will be work as usual as we try to get things done before the end of the year. My wish to each of you is to be safe, whether traveling or working, and to find time for recharging your battery.

If you are purchasing holiday gifts for children, please consider a fun and age-appropriate scientific, educational item. In the past few years, my niece has been a recipient of a geode kit (including safety glasses), a human body building model, and a science encyclopedia set. When she looks at me with the "this isn't quite what I asked for" face, I kindly remind her that's what she gets for having a geologist Auntie. Any guesses to what she'll get this year? Merry Christmas!!

Kell Harder )

# T H E

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DOADD OF DIDEOT	CODS			
				E-mail
	· ·			kellihardesty@erm.com
	· ·			jennifer.connolly@shell.com
	•			jbbanks@terracon.com
				artjohnson51@hotmail.com
		** *		reiterde@stoneenergy.com
				tavia.prouhet@chevron.com
	- C			bootscon@aol.com jimzot38@zotoil.com
				3
Director 2017	J. David Cope	Rising Natural Resources LLC	304-214-0734	greatmre@aol.com
COMMITTEE	Chairperson			
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AAPG Student Chapter	Derek Goff	LSU		Dgoff3@lsu.edu
_	Alex Breaux	· · · · · · · · · · · · · · · · · · ·	337-519-0978	abreaux1@tulane.edu
	Rachel Carter	UNO	917-710-8021	r_carter@me.com
	Kimberly Maginnis		985-801-4761	kimberlym@llog.com
		_		charleswholman@bellsouth.net
				mikef@wtoffshore.com
				artjohnson51@hotmail.com
•	· ·			bay.salmeron@chevron.com
				reiterde@stoneenergy.com
		_ ,		daisy.pate@gmail.com
				mike.a.fogarty@gmail.com
		•		artjohnson51@hotmail.com
				epicou@bellsouth.net
				reiterde@stoneenergy.com
	The state of the s			Jeremy.Prouhet@chevron.com
				mikef@wtoffshore.com
				DGldthwt@aol.com charleswholman@bellsouth.net
•				
				epicou@bellsouth.net Tom.bergeon@centuryx.com
	_	Century Exploration	304-632-3772	Tom.bergeon@centuryx.com
Special Flojects	IDD			
NOGS LOG STAFF				
Editor	Tavia Prouhet	Chevron	985-773-6737	tavia.prouhet@chevron.com
	Tom Klekamp	Amber Resources LLC		ekle1959@gmail.com
	Peggy Rogers	NOGA	504-392-6323	lrogers79@cox.net
			504-836-2710	ABaker1006@aol.com
				drillbits81@yahoo.com
			504-202-7997	kevintrosclair@gmail.com
				arthur_shalimar@yahoo.com
				kpbrown@bellsouth.net
Webmaster	Fran Wiseman	Retired (BOEM)	504-615-5170	snowde.fran@gmail.com
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Phone

504-392-9332

504-885-7657

504-392-6323

504-393-8659

504-737-2678

504-738-8091

Mary Walther

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Alma Dunlap

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Mary Ellis Hasseltine

Directors

Trudy Corona

Debra Fein

Susan Baker

Judy Sabaté

Phone

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504-861-3179

Year

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2013-15

2014-16

2014-16



# UPGOMING Events & Activities



# **December 8 • NOGS Luncheon**

### **Holiday Inn Downtown Superdome**

\$3.00 validated parking in hotel garage

### Presentation:

Internal Dynamics of Deltaic Systems and Their Influences on the Resolution of the Stratigraphic Record: A Laboratory Perspective

### Guest Speaker:

### Dr. Kyle M. Straub

Tulane University • New Orleans, Louisiana
See page 9 for Abstract and Biography

### HOLIDAY INN DOWNTOWN SUPERDOME

Check with concierge or front desk for location.
Lunch served at 11:30 am

### ADMISSION:

December 12
NOGS Christmas Holiday Party
Metairie Country Club • Metairie, LA
For more information, www.nogs.org



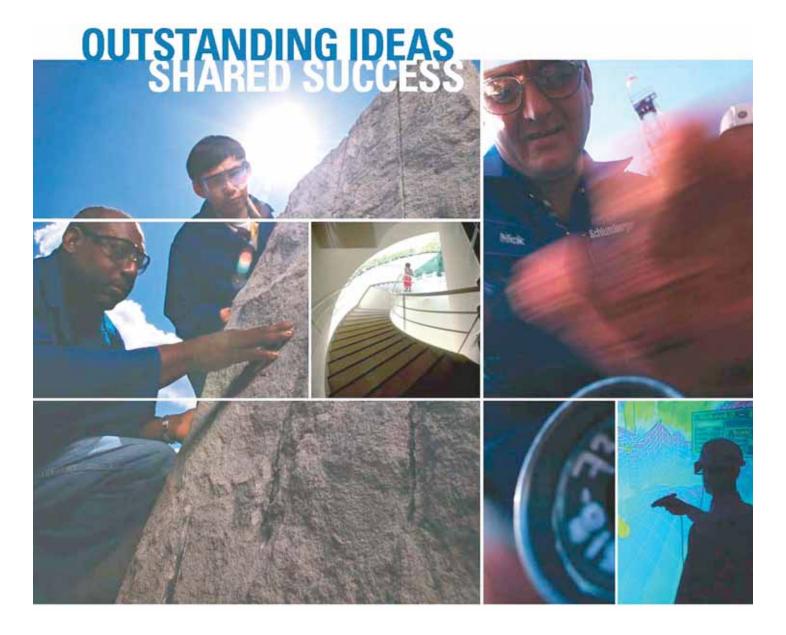
The Staff at NOGS LOG wishes everyone

A Safe and Happy Holiday Season!

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Continued from previous page

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AAPG DELEGATES					
Term Ends					
2015	Susan A. Waters	Shell		504-728-0229	susan.waters@shell.com
2015	William M. Whiting	Consultant		504-947-8495	bootscon@aol.com
2015(a)	David E. Balcer	Chevron		985-773-6725	dbalcer@chevron.com
2015(a)	Earl W. Cumming	Reservoir Frameworks LL	C	985-630-6898	earlcumming@bellsouth.net
2017	Elizabeth McDade	McMoRan Exploration Co	ompany	504-582-4510	elizabeth_mcdade@fmi.com
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NEW MEMBERS					
David A. Brassieur	Graduate Student	UNO			dbrassie@uno.edu
Blake T. DeBrock	Student	LSU		985-373-8240	debrock7@gmail.com
Miles M. Felch	Graduate Student	UNO		207-820-8991	myles.felch@maine.edu
Joshua R. Flathers	Student	UNO		504-952-6437	jrflathe@uno.edu
Rachel C. Gaspard	Student	UNO			rcgaspar@uno.edu
Jeremy M. Gillespie	Earth Scientist	Chevron		801-361-3806	gillespiejer@hotmail.com
Jesse M. King	Student	UNO		985-373-6515	jmking3@uno.edu
"Trey" John N. Kramer III	Graduate Student	UNO		504-484-7420	jnkrame1@uno.edu
Elizabeth Anna Levy	Student	UNO		504-994-3678	elevy@uno.edu
Keith McVey	Geologist	BOEM		936-925-7090	keith_mcvey@baylor.edu
Prabmat C. Neupane	Graduate Student	UNO		205-996-1569	pcneupan@uno.edu
Gerald S. Raymond, Jr.	Student	UNO		504-495-0661	grayma1@uno.edu
Vann E. Smith	Graduate Student	Tulane		985-727-2744	vsmith8@tulane.edu
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# Dec. 8 NOGS Luncheon Presentation



☆ ☆ ☆ at the Holiday Inn Superdome ☆ ☆ ☆

# Internal Dynamics of Deltaic Systems and Their Influence on the Resolution of the Stratigraphic Record: A Laboratory Perspective

Presented by

### Dr. Kyle M. Straub

Earth and Ecological Sciences Department
Tulane University
New Orleans, Louisiana



### **ABSTRACT**

Alluvial basins provide important records of climate and tectonic changes on Earth, as well as information about how land surfaces evolve under different boundary conditions. These deposits also contain important energy and water reserves and will serve as hosts for carbon capture and storage. Consequently our ability to reliably interpret and predict stratigraphic patterns is fundamentally important both scientifically and in its bearing on broader society. While stratigraphy is our best record of paleo Earth-surface dynamics, the record also contains significant gaps over a range of time and space scales. These gaps result from stasis on geomorphic surfaces and erosional events that remove previously deposited sediment. Building on earlier statistical studies, we examine the fidelity of the stratigraphic record in laboratory experiments where the topography of aggrading deltas was monitored at high temporal and spatial scales. In these experiments, we also quantify the depositional architecture that controls the 3D structure of the strata. This architecture is influenced by both stochastic (autogenic) and deterministic (allogenic) processes. Specifically, we investigate the temporal and spatial scales necessary for boundary condition changes (here focusing on sea level) to be stored in the stratigraphic record. This work helps improve efforts at recovering meaningful data about autogenic processes from stratigraphic datasets, isolating signals of changing boundary conditions in ancient basins, and modeling and predicting stratigraphy in alluvial basins.

### **BIOGRAPHY**

**Kyle Straub** received a BS degree from the Pennsylvania State University in 2002, and a PhD from the Massachusetts Institute of Technology in 2007. After a post-doc at the Saint Anthony Falls Laboratory, University of Minnesota, he moved to an academic position at Tulane University where he is the Ken and Ruth Arnold Professor in Earth and Ecological Sciences. research focuses on the transport of sediment from land through the ocean and into the stratigraphic record. Scales of interest range from the interaction of turbidity currents with channel bends over minutes to the construction and preservation of deltas over millions of years. He examines the morphodynamics of these systems using a combination of remote sensing of subsurface sedimentary deposits (visualization and interpretation of seismic data), carefully designed laboratory experiments, field studies of modern and ancient sediment transport systems, and targeted numerical analysis and modeling. He is the 2013 James Lee Wilson awardee for excellence is sedimentary geology by a young scientist and a member of AAPG, SEPM, AGU, and the Geological Society of America.

### THE LUNCHEON RESERVATION DEADLINE IS DEC. 5 - CONTACT THE NOGS OFFICE

### "And Looking Ahead . . . "

The next luncheon will be held on January 8. Our guest speaker, John R. Dribus, Schlumberger Oil Field Services, will present "A Tour of Abrupt Margin Prospectivity Around the African Margin and Major Challenges of the Abrupt Margin Play." Contact the NOGS office at 561-8980 or use the PayPal link on the NOGS website (www.nogs.org) to make your reservation.

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### December

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
7	8 Luncheon	9	Board Mtg	11	NOGS Christmas Party	13
14	15	16 Hanukkah Begins	17	18	19	20
21	22	23	24	25 Christmas	26	27
28	29	30	31			

December 8 NOGS Luncheon Holiday Inn Superdome 330 Loyola Ave. @11:30 am

Guest Speaker: Dr. Kyle Straub, Tulane University

Will Present: "Internal Dynamics of Deltaic Systems and Their Influence on the Resolution of the

Stratigraphic Record: A Laboratory Perspective"

## January

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				New Year's Day	2	3
4	5	6	7	Joint Luncheon	9	10
11	12	13	14	15	16	17
18	Martin Luther King, Jr. Day	20	21 Board Mtg	22	23	24
25	26	27	28	29	30	31

January 8 NOGS Luncheon – Le Pavillon, 833 Poydras. @11:30 am (Note Day & Venue Change) Guest Speaker: John R. Dribus, Schlumberger Oil Field Services

Will Present: "A Tour of Abrupt Margin Prospectivity Around the African Margin and Major Challenges of the Abrupt Margin Play"

# Petroleum Systems in "Rift" Basins

34th Annual GCSSEPM Foundation Bob F. Perkins Research Conference Houston, Texas December 6-9 2015

- Rifts & Overlying/Related Sag basins
  - ➤ Disproportionately
    - "Rich"
      - ~30% of the "giant" fields are in rifts & overlying/related sag basins
    - "Frustrating"
      - Each rift basin or segment is a UNIQUE geological entity, yet all are variations on a common theme.
- Submit Abstracts by December 1, 2014
  - @ http://www.gcssepm.org/conference/2015\_conference.htm

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Welcome to the following undergraduates at UNO: Joshua Flathers, Rachel Gaspard, Jesse King, Elizabeth Levy, Gerald Raymond, Jr., and Christina Varuso.

Graduate student, **David Brassieur** joins us from UNO's Dep't of Earth and Environmental Science. He earned a BS in petroleum geology in 2013 from UNO. David and his physician wife, **Emilie**, reside in River Ridge.

**Blake DeBrock** is a student at LSU in Baton Rouge. He lives in Mandeville. Welcome Blake!

**Vann Smith** is a graduate student at Tulane; he earned his BS in geology from LSU in 2011. Vann and his wife **Stephanie** live in Covington.

**Miles Felch**, a new member, is a teaching and research assistant at UNO. He holds a BA in geology (2012) from the University of Maine at Farmington. Miles lives in Mid City of New Orleans.

**John "Trey" Kramer III**, joins NOGS as a graduate student at UNO. He holds a BS in environmental science from the University of West Florida (2013).

**Prabmat Neupane**, holds an MSc in geology (2004) from the University of Nepal, and an MS in geology from UNO (2011). He is a PhD candidate at UNO. Welcome to NOGS.

We welcome **Jeremy Gillespie**, an earth scientist with Chevron's Northpark Campus in Covington. Jeremy and his wife **Stefanie** reside in Mandeville. He holds an MS in geology from Brigham Young University (2008).



# New Orleans Geological Auxiliary News

"The objective of the Auxiliary is to promote fellowship among the wives of the members of the New Orleans Geological Society and to render assistance to NOGS upon request."

# Celebrating of 60 Sears!

The 60 Year Celebration lived up to its promise. What a great event in the beautiful Ralph's On The Park restaurant! Fifty-six members, spouses, daughters and special guests enjoyed a wonderful meal, good music from a live band, and most of all, a chance to meet old and new friends. **Betty Youngblood Lewis,** longtime member and past president, drove from Alabama to attend. New member, **Diane Miller,** was introduced to the group for the first time.

Alma Dunlap, Pat Williamson and Judy Sabaté planned the day, ably assisted by President Mary Walther. Many wonderful memories were displayed on the PowerPoint presentation. Helping to compile the extensive collection of photos and furnishing the laptop was the good friend of NOGA, Ed Picou. We topped off our delicious dessert of crème brûlée with a champagne toast, wishing for many more years to come for the Auxiliary.

It will be hard to top the wonderful day we all enjoyed at Ralph's On The Park, but we can look forward to the NOGS Christmas Holiday Party just around the corner on December 12th. Camille Yeldell will be our NOGA representative on the NOGS party committee. Don't miss out on another good time coming up.

Peggy Rogers, NOGS LOG





NOGS LOG

# NOGS

# Christmas Holiday Party

# Metairie Country Club

580 Woodvine Avenue • Metairie, Louisiana

Friday, December 12, 2014 • 7:00 p.m.

Send a check to the NOGS Office or pay online at www.nogs.org/payment-center and use the Special Events category

Members: \$60 per person Students: \$25 per person

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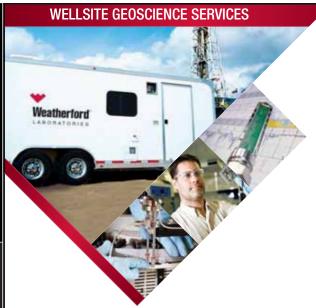
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The New Orleans Geological Society was organized in 1941 to foster scientific research and advance the science of geology. Particular emphasis is laid on the exploration for and production of petroleum and natural gas. Related objectives include encouraging the adoption of improved methods of exploration, disseminating pertinent geological and technological data, and maintaining a high standard of professional conduct among its members.

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### South Louisiana and Offshore Gulf of Mexico Exploration and Production Activities

LAFAYETTE DISTRICT, ONSHORE AREA By Carlo C. Christina

The Office of Conservation, Lafayette District, Onshore Area, issued 39 permits to drill during the month of October 2014. Following are the most significant locations:

### **NEW LOCATIONS**

Three permits to drill have been issued for **Skinner Lakes Field**, (A), in Beauregard Parish. Will-Drill Production Co. will drill the #1 Columbia Ld & T, SUI in Sec. 4, 6S-13W to a projected depth of 10,600 feet to test the Upper Wilcox sands. (248546)

Also in **Skinner Lakes Field,** (B), Will-Drill Production Co. will drill the SUH in Sec. 4, 6S-13W to a projected depth of 10,600 feet for the Upper Wilcox sands. (248547)

The third well to be drilled in **Skinner Lakes Field**, (C), is the Will-Drill Production Co. #1 Snider, located in Sec. 4, 6S-13W, also seeking Upper Wilcox sands at 10,600 feet. (248483)

In Livingston Parish, Yuma E & P will drill in **North Livingston Field**, (D), the #1 Blackwell in Sec. 39, 6S-5E, to a projected depth of 10,560 feet. It is located ½ mile southeast of good oil production at 9500 feet. (248614)

Century Exploration will drill a **wildcat**, (E), in Plaquemines Parish 4 miles west of production in Quarantine Bay Field. The #1 SL 21380 is located in Sec. 26, 18S-16E and is permitted to 14,000 feet. (248561)

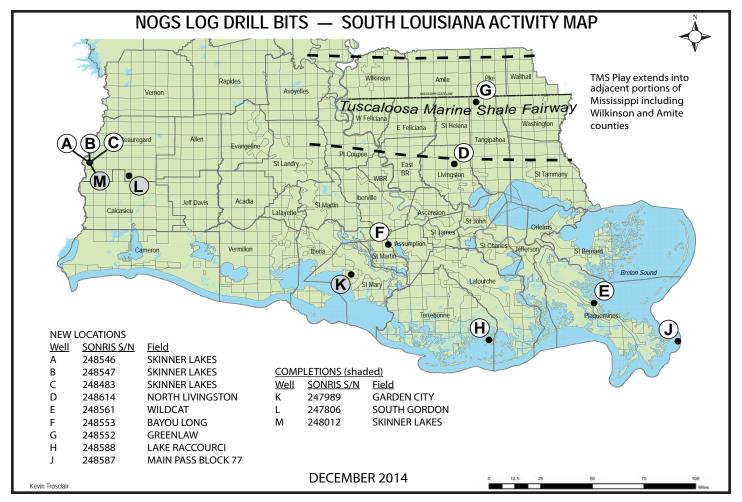
McMoRan has permitted its #1 SL 20925 in **Bayou Long Field**, (F), St. Martin Parish, to be drilled as a **subsalt well** to a **proposed depth of 32,000 feet**. It will be drilled in Sec. 6, 13S-12E to test the Tuscaloosa Sands which are currently undergoing tests in the McMoRan #1 Jeanerette, which is located 2 miles to the southwest. The Jeanerette well has been drilled to a depth of 29,390 feet and **is testing perforations 28,480 to 29,150 feet**, overall. (248553)

In Tangipahoa Parish, **Greenlaw Field**, (G), Halcon Operating will drill the #1 Franklin as a horizontal **Tuscaloosa Marine Shale** well in Sec. 53, 1S-7E. It will be drilled to 17,987 feet in a lateral leg of 6500 feet. It is located 3½ miles north of the nearest Tuscaloosa Marine Shale well which has produced more than 89,000 barrels of oil in 24 months. (248552)

Greenlaw Field was discovered in 1981 with the completion in traditional vertical hole in a Tuscaloosa sand through perforations 11,584 to 11,644. It had produced more than 3,467 barrels of oil over a 10 year period.

Hilcorp Energy will drill the #1 SL 20896 in **Lake Raccourci Field**, (H), in Terrebonne Parish, located in Sec. 27, 21S-20E. It will be drilled to a projected depth of 18,323 feet, or 3,000 feet deeper than the #1 SL 20892, which is located 1 mile to the northeast. This prolific producer was completed flowing **14,788 MCFD and 1115 BCPD.** Although on production less than 20 months, this well has produced more than 212,000 barrels of condensate and more than 6.1 billion cubic feet of gas. (248588)

GCER Onshore will drill a **rank wildcat** in **Main Pass Block 77 Field**, (J) to a projected depth of 13,867 feet. Block 77 Field was discovered in 1994. However, only one additional well was drilled, a dry hole in 2009. The discovery well produced more than 320,000 barrels of oil from perforations at 9176 to 9214 feet. (248587)



### **COMPLETIONS**

Hilcorp Energy has completed its #1 Shinn in **Garden City Field**, (K), St. Mary Parish, located in Sec. 24, 15S-9E. The well was completed in the MA1E Sand and flowed 4002 MCFD and 68 BCPD through perforations 15,832 to 15,850 feet, or 14,417 to 14,435 feet, true vertical depth. (247989)

In Beauregard Parish, **South Gordon Field**, (L), Warhorse Oil & Gas has completed the #1 Forestar 27 as an oil well flowing 240 BOPD through perforations 9602 to 9615

in the Yegua sand. The well was drilled to a total depth of 9749 feet in Sec. 27, 7S-10W, 3 miles southwest of nearest production. (247806)

Tri-C Resources has completed the #1 Cooper in **Skinner Lakes Field**, (M), Beauregard Parish. The well was drilled 2 miles northeast of production in Sec. 2, 6S-13W, and completed flowing 120 BOPD through perforations 9766 to 9990, overall. This completion has potentially extended production 2 miles to the southwest, where a hearing will be held to approve an additional 26 drilling and production units. (248012)

# OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES

by Al Baker

During October 2014, the BOEM approved **66** Gulf of Mexico drilling permits. Of these, **17** were for shelf wells, and **49** were for deepwater wells. Of the total number of permits, there were **4 new well permits** issued: 2 development wells situated on the shelf and 2 exploratory wells situated in deepwater.

The 2 shelf development new well permits were granted to **Arena Offshore** for their **Vermilion 341 # A-4** well and to **Energy XXI GOM** for their **Main Pass 61 #B-10** well.

The 2 deepwater exploratory new well permits were awarded to **Freeport-McMoRan Oil & Gas** for their **Viosca Knoll 915 #SS-6** well and to **Noble Energy** for their **Mississippi Canyon 479 #1** well.

On October 31st, IHS-Petrodata reported that the Gulf of Mexico mobile offshore rig supply stood at 117, which is 1 greater than last month. The marketed rig supply consisted of 90 rigs, of which 72 were under contract. The contracted versus total rig supply utilization rate is 61.5%, while the marketed contracted versus marketed supply utilization rate stands at 80%. The marketed rig supply number reflects a decrease of 2 rigs in comparison to the number reported last month, while the contracted rig supply number decreased by 5 rigs during the same time period. In contrast, the October 2013 fleet utilization rate stood at 72% with 77 out of the 107 rigs under contract.

On October 31st, BakerHughes indicated that there were **53** active mobile offshore rigs in the Gulf, which is **73.6%** of the rigs under contract mentioned above. This active rigs number is **9** less than reported last month. The current active rigs count compares to 59 active rigs during the same period last year, representing a **6.8%** decrease in yearly rig activity. Based upon the BakerHughes and HIS-Petrodata statistics, it is apparent that offshore operators have cut back on their drilling budgets and offshore activities at the beginning of the 4th quarter of 2014 most likely in tandem with the softening of oil and gas prices.

As of October 30th, the BOEM reported that bids on **51** tracts were thus far deemed acceptable under the **Phase II** lease evaluation period for the **August 20, 2014 Western Gulf of Mexico OCS Sale 238.** This brings the current total of accepted bids for the sale to **62**, with **19** tracts still being evaluated. The total evaluation time period following an offshore lease sale typically lasts for 90 days.

On October 27th, Spanish oil and gas company **Repsol S.A.** announced that it had discovered oil approximately 219 miles off the Louisiana coast. The ultra-deep water well named **León** is located in **Keathley Canyon Block 642.** The discovery well, which was drilled in **6,120 feet of water**, reached **a total depth of 31,774 feet.** The well found more that **450 feet of high quality oil.** Repsol owns a 60% working interest with its Columbian partner, Ecopetrol, who owns the remaining 40% working interest.

On October 23rd, a pair of deepwater discoveries were announced, one by **Chevron** and the other by **LLOG**. The **Chevron** discovery occurred at its **Guadalupe** prospect, which is situated in **Keathley Canyon Block 10**. Their #1 well is located approximately 180 miles off the Louisiana coast in 3,992 feet of water and was drilled to a **total depth of 30,173**. The well encountered significant oil pay in the **Lower Tertiary Wilcox sands**. Chevron has a 42.5% working interest in the prospect and is the operator. Co-owners include BP Exploration & Production (42.5%) and Venari Resources (15%).

The **LLOG** find named **Otis** is located in **Mississippi Canyon Block 79.** The initial exploratory well encountered more that **70 feet of net hydrocarbons**, and the subsequent sidetrack appraisal confirmed the discovery. The **Miocene** target is apparently a **high-yield condensate/gas reservoir.** LLOG owns a 70% working interest in the prospect with its partner, Ridgewood Energy, who owns the remaining 30% working interest. LLOG is currently studying subsea development options for the discovery including tying it back to the recently installed Delta House Floating Production System (FPS). The Delta House FPS is located in Mississippi Canyon Block 254, 130 miles southeast of New Orleans in 4,500 feet of water.

On October 10th, **Samson Energy Company** announced its plan to sell all of its offshore Gulf of Mexico assets that they anticipate could fetch more that **\$1 billion**. The assets include a portfolio a federal leases as well as interests in wells operated by third parties. The wells include projects named **Buckskin** and **Moccasin**, which are both operated by Chevron and **Gunflint**, which is operated by Noble Energy.

Another offshore independent company has announced its planned divestiture of certain non-core, federal offshore Gulf of Mexico assets. **Energy XXI GOM** has opened a data room in Houston with the expectation of a purchase and sale agreement in place by the end of December 2014. The targeted closing date for the properties sale is June 30, 2015. The portfolio of leases is geographically diverse spanning from the western Galveston and High Island areas to the eastern Main Pass and Viosca Knoll areas of the Gulf.

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Note: The E & R Select Committee will convene a regular, open meeting so a quorum of the Commissioner members may be present to hear the technical program about naturally sourced electromagnetic analysis methods. Please call SLFPA-W at (504) 340-0318 or visit the website at SLFPA-W.org for official postings and committee meeting agendas.

Submitted by Tom Klekamp

### Presents for the Kids...or Yourself!

The Christmas holidays are a time of gift giving for the budding scientist in your family. Here are a few suggestions, focusing on my own hobby, amateur astronomy. In spite of light pollution, it is possible to see objects from a dark area in your backyard. Keep away from street- and yard-lights. (In 1972, I 'bagged' Comet Kohoutek from the Audubon Park batture, looking over the river towards the obscuring lights of the Avondale shipyard.) Try either the New Orleans or Mandeville lakefronts for a vast view of the sky.



A planisphere is an absolutely essential tool for the beginning sky watcher. These have been around for generations, and are a great way to locate stars and constellations. Just dial in your date and time. I recommend Edmund Scientific's "Famous Star and Planet Locator;" great price, about \$4 from Edmund (#3009227).

All kids want a telescope. You don't want to spend a fortune or get something that's going to take 45 minutes to set up and adjust; they'll leave it in the closet. I like Celestron's FirstScope 76 Telescope. It sets up in seconds on any tabletop. With a 3-inch mirror, it will easily show you the moons of Jupiter, Saturn's rings, lunar craters, galaxies and nebula. You can't beat the price: \$60, from Edmund or Celestron.



A red flashlight is necessary for looking at your planisphere and then away at the dark sky. You can make your own with a flashlight and red cellophane, I prefer one that flips between red and white light, like Orion's Dual Beam LED Astronomy Flashlight. It features 2-white and 2-red LEDs. You can dial the brightness you need. \$30 from Amazon.

The other 'goodie' I would like under the tree would be a decent pair of binoculars—a great way to sweep the night sky. They are handy—no set up; 10x40s are a good start. Prices vary on the quality of the optics, and avoid those small pocket-sized binoculars.

Lastly, if you have an oil well in your portfolio, get the Porter Garden Telescope. Created by Russell Porter, who designed the 200-inch Hale Telescope; 50 were originally crafted–20 survive. I've seen one in Cincinnati and rumors persist of one in New Orleans. Ten years ago Fred Schleipman and his son Russ decided to retro-engineer the Garden Telescope. Cast in bronze and machined by hand, each one is a beautiful work of art as well as being a functioning telescope. Priced about \$65,000.

# THE BOOKMARK

### **BOOK REVIEWS:**

Dangerous Neighbors: Volcanoes and Cities by Grant Heiken.

Excerpted in part from Geoscientist, review by Amy Ellis.

In keeping with Frank Roger's beautiful photograph of Mount Rainier on our December cover, the Log editors thought this book review most appropriate.

The first thing that one may notice about Dangerous Neighbors is how short the text is. Comprising only 183 pages, the book could quite easily be absorbed in a day. However this has no bearing upon quality and serves only to enhance readability.

The book is arranged into several case studies of the close association of active volcanoes and population centers, rather than focusing upon individual hazards. There are good sections on the Philippines and Mexico, and examples from outside of the Ring

of Fire are also given. Each chapter looks at an eruption event in terms of the different elements of the eruption (lahar, lava flow, ash plume, etc.), their individual and combined impact and the immediate response to the event.

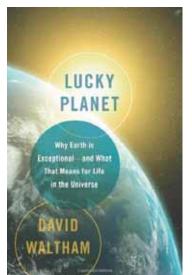
Heiken then goes on to examine how each city or region developed mitigation strategies and comments upon whether these were successful in reducing the impact of future events. The case studies are given in social, economic, political and geographic context to enable to reader to better understand the nature and extent of the responses and future implications. It has to be said that chapter seven on the Pacific Northwest feels a little short in comparison to the others and pays little regard to Mt. St. Helens.

Examples are clearly explained, with minimal jargon and key points highlighted or expanded upon in separate boxed sections. There are also additional notes based upon Heiken's own experience, which either add a more personal dimension to the facts and figures - or are completely irrelevant. A selection of excellent diagrams illuminates the text, illustrating eruptive characteristics and locations. However, the book would have benefited from the inclusion of colour photographs where possible as the small page size coupled with inconsistent image sizes results in an unfortunate loss of detail with some of the greyscale pictures.

The book's case study format and the extended reading list provided at the back makes it a good entry-level text for students on natural hazards courses, but is pitched at such a level as to be accessible to students, experts and anyone interested in the impact of volcanic hazards.

### Lucky Planet by David Waltham.

Excerpted in part from Geoscientist. Reviewed by Daniel LeHeron, of the Geol. Soc. London



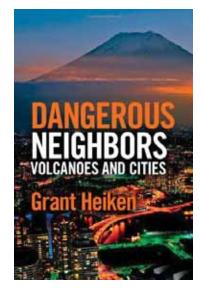
What circumstances conspire to give rise to a functioning biosphere, a comparatively stable surface temperature (OK, there were a few major ice house and hot-house Earth events in between), and intelligent life?

What is our best guess at the number of habitable worlds in the known universe? How has the greenhouse effect been moderated throughout much of Earth's history, and what are the relative roles of continental weathering capturing atmospheric CO2 versus the rise of eukaryotes and complex life?

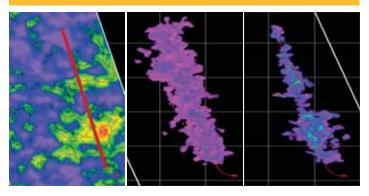
The prologue lays the thesis bare to see: consider Earth, a habitable haven of life, and its ill-fated imaginary twin, Nemesis. After an auspicious start, when dinosaurs ruled the Earth and dragons breathed fire on Nemesis, their parallel paths diverged. For a number of reasons, which we learn much later in the book, her moon being much too large predicated the death of the biosphere on Nemesis. Our moon is just right, so the book argues, and this 'Goldilocks' view lies simmering beneath the surface throughout almost all of its chapters, emerging more fully in the last.

For a number of very sober reasons, the author distances himself from the Gaia view, while remaining very respectful to all who try to address the serious question of why we

are here. Waltham points out that a number of key ingredients to life on Earth - notably a comparatively stable Earth-Moon pairing- are simply out of the influence of Earth-borne and Earth-inhabiting life. The book is never so technical as to be unintelligible to those who are not astrobiologists, but may be a little hard to grasp for those not very conversant with the Earth sciences, astronomy or physics.



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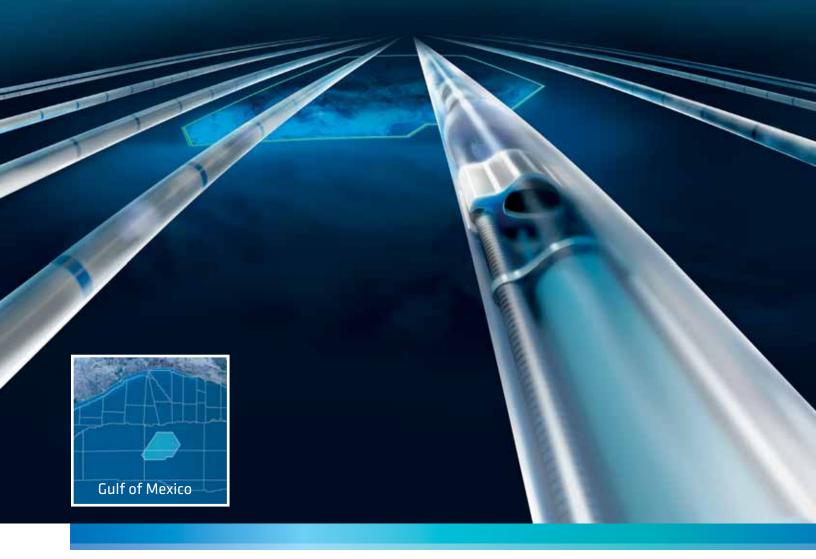


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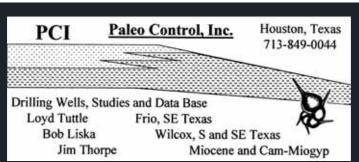
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Proudly designing and printing the NOGS LOG since 2012! Specializing in design and printing for the oil and gas industry and their affiliates.

I have been interested in art and design since high school and after graduating in 1979, I honed my skills with different graphic and printing companies over the next 30+ years, becoming proficient in multiple printing methods and media. In the early 90's, graphic design and printing rapidly evolved with faster computers, graphic design software and digital presses. Graphic design programs continue to evolve, becoming more sophisticated and allowing unlimited possibilities for designers who stay current with the new technology. My digital presses, networked directly to my design software, allow for sharper prints, vibrant colors and almost unlimited printing capabilities.