# MAY 2013

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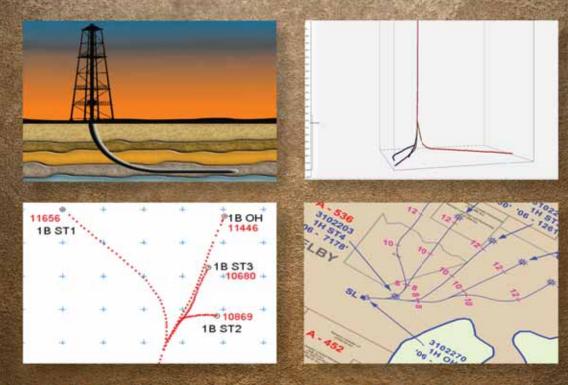
# MAY 6 - NOGS LUNCHEON

PLEANS GE

Presentation: Using High Resolution Chemostratigraphy to Determine Well-bore Pathways in Multilateral Drilling Campaigns: An Example from the Horn River Formation, British Columbia, Canada Guest Speaker: Milly Wright

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# IN THIS ISSUE

# on the cover:

Regular F	eatures:
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From the Editor	
From the President	
NOGS Officers / Contacts	
Upcoming Events & Activities	
NOGS Luncheon Presentation	
May & June Calendars	
Drill Bits	
Info-Tidbits	30
NOGS Memorial Foundation	33
FONO Fund	

ciai Features:	
NOGA News	13
2013 Science Fair Winners	15
NOGS Welcomes	15
SuperSaurus Science Day	17
SuperSaurus Photo Collage	18
NOGS Elections	26
April Luncheon Photos	29
Remembrances	29

Cover Photo Submitted by: Cyril Lobo Karst Landscape of Castle Hill Oligocene - South Island, New Zealand

Karst Landscape of Castle Hill Oligocene limestone on the South Island of New Zealand about 50 miles northwest of Christchurch. The name was given by early settlers reminded of old castle ruins in their former homeland. The limestones were deposited near the Oligocene subduction zone and are now not far from the major Indo-Australian and Pacific plate boundary which comes onshore on South Island. This site has been used to shoot movies and by rock climbers. Also note the glacial outwash valley seen below the cloud cover on the mountain in the background.

# From the Editor

Hello again NOGS members! This will in all likelihood be my final LOG as acting editor because as I write this note, my wife and I are anxiously awaiting the arrival of our third little girl. She promises me that girls tend to take good care of their dad whereas I am envisioning this as increasing the likelihood that one of my little girls will follow in my footsteps as a geologist. I know my path in life has been an extremely rewarding one in which I am excited to go to work every day and work on fascinating subsurface challenges. It has also led me here to serve as the editor of the NOGS LOG, which has been a great experience and through which I have been aided by some tremendous contributors that deserve my gratitude. So as I write my last Editor's Note, I want to thank Ed Picou, Sheri Richardson, Kristee Brown, Peggy Rogers, Arthur Christensen, Carlo Christina, Al Baker, Kevin Trosclair and Will Jorgensen for their monthly contributions to the LOG. It has been a pleasure working with all of you and I know our membership has enjoyed all the improvements we made to the LOG and that is a credit to your hard work and dedication. Please join me in welcoming Sheri Richardson as our next NOGS LOG editor. I know she will do a great job and carry to the torch forward for our Society.

> Thanks, Jordan Heltz - NOGS LOG Editor

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# From the President

"For thou, O Spring! canst renovate
All that high God did first create.
Be still his arm and architect,
Rebuild the ruin, mend defect;...
Not less renew the heart and brain,
Scatter the sloth, wash out the stain,
Make the aged eye sun-clear,
To parting soul bring grandeur near...
In city or in solitude,
Step by step, lifts bad to good,
Without halting, without rest,
Lifting Better up to Best;
Planting seeds of knowledge pure,
Through earth to ripen, through heaven endure."
Ralph Waldo Emerson

We are in the thick of spring, and It is time to cast your vote as to who will "renew the heart and brain" of the New Orleans Geological Society for 2013-2014. Within the confines of this periodical, please find and examine the bios of those fearless leaders willing to step forward and become the next NOGS board members. I have to admit the chairman of the Nominating Committee, Art Johnson, was not bestowed a simple task. However, through his charm, persuasive personality, and fortitude, we should be thankful and thrilled with the names on this ballot. Thank you to Art and our board candidates for the time donated and acceptance of your soon-to-be newfound positions of honor and admiration. Hats off to each of you, and if any questions arise, many of us who have been in your shoes will be more than willing to offer assistance.

I pray we, as Geoscientists, have chosen the path most appealing to our interests and curiosities. Only naturally should you be eager to share the knowledge and skills acquired over years of experience studying the process of molding and reforming the structure of Mother Earth. Last April, the Three Amigos conducted two Petroleum Geology for Non-Geologists courses, one held at Chevron and the other at Shell. Very well attended and applauded by each student I have spoken with, I express deep gratitude to Duncan Goldthwaite, Bob Branson, and Bruce Robertson for "planting seeds of (geological) knowledge pure" and representing NOGS most sensationally.

Time is a tricky subject. Older than the zircons of Jack Hills, Australia, and younger than the basalt of Kilauea, Hawaii, the science of Geology spans over 4 Billion years. How is it that the human race has existed only ~ 0.00003% of the geologic record? I am a religious man as well as a scientist, which creates endless Yin and Yang scenarios for me to ponder. Nevertheless, here I am, this is what I was brought to accomplish, and I am thankful for the individuals who helped pave the way and point me in the right direction. Please take a second to reflect on our friends and colleagues who, whether they know it or not, made a profound difference in our lives. Ed Picou prepared a Remembrance section within this LOG to pay respect to NOGS members recently departed. Take a moment to honor their lives by reading his section. My condolences go out to their family and friends.

From the words of Ralph Waldo Emerson, let us continue "Lifting Better up to Best" through the avenue of the New Orleans Geological Society!

# T H H E

# **NOGS Office**

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# UPCOMING Events & Activities



# May 6 • NOGS Luncheon

# **Holiday Inn Downtown Superdome**

\$2.00 validated parking in hotel garage

## Presentation:

Using High Resolution Chemostratigraphy to Determine Well-bore Pathways in Multilateral Drilling Campaigns: An Example from the Horn River Formation, British Columbia, Canada

# **Guest Speaker:**

# Milly Wright

Chemostrat International Ltd. — Houston, Texas 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

# May 19-22

AAPG Annual Convention and Exhibition
David L. Lawrence Convention Center • Pittsburgh, PA
For more information, www.aapg.org

# June 3 NOGS Luncheon

Holiday Inn Downtown Superdome • New Orleans, LA For more information, www.nogs.org

### ADMISSION:

# May 24

Shreveport Geological Society 2013 "Hit & Run" Event Pierremont Oaks Tennis Club • Shreveport, LA 71106 For more information, www.nogs.org

# August 3 FETCH Energy Saturday

Louisiana Children's Museum • New Orleans, LA For more information, www.nogs.org

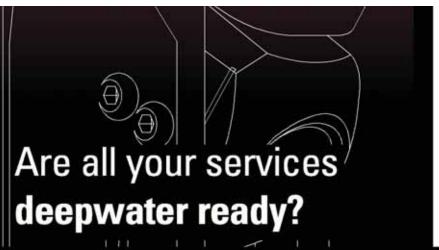
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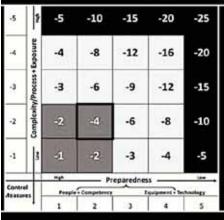
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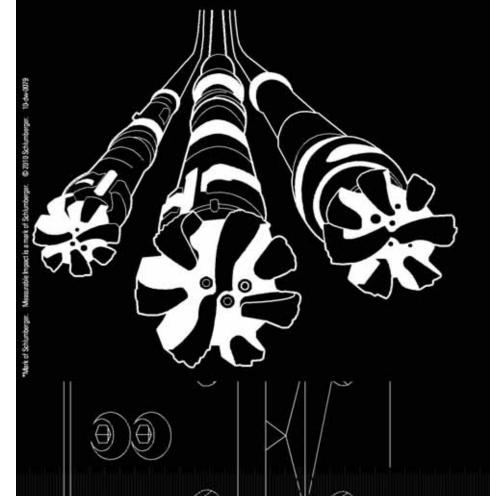


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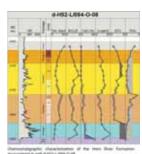
# May 6 NOGS Luncheon Presentation ☆ ☆ ☆ at the Holiday Inn Superdome ☆ ☆ ☆

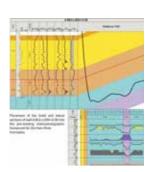
Using High Resolution Chemostratigraphy to Determine Well-bore Pathways in Multilateral Drilling Campaigns: An Example from the Horn River Formation, British Columbia, Canada



Presented by

Milly Wright
Chemostrat International Ltd.
New Orleans, Louisiana





### **ABSTRACT**

Shale resource plays have risen to the forefront of hydrocarbon exploration over the last decade. However, the fine-grained, macro-scale homogeneity of most shale plays negates some of the more traditional approaches to reservoir characterization and stratigraphic correlation. A common problem is that shale accumulation in restricted basins limits the use of biostratigraphy, and palynomorphs are often thermally degraded. Electric log correlations are also hampered by the variable controls on U, K and Th and the recognition of sedimentary facies is made especially difficult when only cuttings samples are available.

Furthermore, shale resource plays are often exploited using horizontal drilling, a technic that requires drilling to, and staying within, a targeted zone. A recent study conducted by Halliburton revealed "approximately 50% of wells geosteered using the conventional gamma ray geosteering methods within an area of the Haynesville were misplaced for more than 50% of their lateral length." (http://www.epmag.com/Production-Drilling/Geosteering-Unconventional-Shale-Reservoirs-Potential\_80771). The challenge, then, is to define a stratigraphic framework that will repeatedly allow accurate placement of the well-bore within the "sweet spot" in a multi-lateral drilling campaign. Inorganic whole rock geochemical data can be used to meet this challenge.

Using examples from the Horn River Formation, this talk will demonstrate how a high-resolution stratigraphic framework can be used to precisely locate lateral well-bores relative to a pilot hole. A robust chemostratigraphic zonation has been established for the Evie, Otter Park and Muskwa members of the Horn River Formation in northeastern British Columbia using variations in inorganic whole rock geochemical data. In this example, chemostratigraphy is used on two vertical wells to subdivide the Horn River Formation into 5 geochemical packages and 9 higher resolution geochemical units based on variations in key elements (U and CaO), element ratios (Si/Zr, Th/U), the enrichment factor of vanadium (EFV), and terrigenous input.

Chemostratigraphy can provide regional correlations of shale reservoirs to help in understanding broad, basinal stratigraphies and events. Additionally, changes in inorganic geochemical data can be used to determine well-bore pathways in multilateral drilling campaigns. Because these data can be acquired rapidly and at wellsite, this application has large potential in the Horn River Basin and beyond. Furthermore, the same dataset can be used to model mineralogy and rock properties, identify anoxic conditions, differentiate biogenic and detrital silica, and in some cases, can be used to understand how shale stratigraphy may be interpreted in a sequence stratigraphic context.

### **BIOGRAPHY**

Milly Wright graduated from the University of Leicester with an honors degree in geology in 2000. She then went on to complete an MS in geology at the University of Houston in 2010, with research focused on chemostrati¬graphic applications to mud rocks in fluvio-deltaic depositional environments in the Ferron Sandstone, Utah. Milly is a director of Chemostrat International Ltd, in charge of business development and operations for the Americas region. Milly also continues to publish research based around the applications of inorganic whole rock geochemical data to geosciences and to the oil industry.

# THE LUNCHEON RESERVATION DEADLINE IS MARCH 29 - CONTACT THE NOGS OFFICE

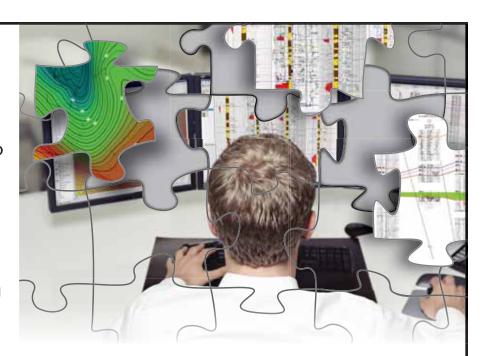
# "And Looking Ahead . . . "

The next luncheon will be held on June 3rd. Our guest speaker, Barry Katz of Chevron Energy Technology Company in Houston, will present "Hydrocarbon Migration: What We Know, What We Don't Know and Why It Is Important." 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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			May			
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6 NOGS Luncheon Holiday Inn @ 11:30 A.M.	7	8 NOGA Luncheon @ Zea Rotisserie Grill	9	10	11
12	13	14	NOGS Board Meeting	16	17	18
19 AAPG National Convention Pittsburgh, PA	20 AAPG National Convention Pittsburgh, PA	21 AAPG National Convention Pittsburgh, PA	22 AAPG National Convention Pittsburgh, PA	23	24	25
27	27 Memorial Day	28	29	30	31	

	June						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
						1	
2	3 NOGS Luncheon Holiday Inn @ 11:30 A.M.	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	NOGS Board Meeting	20	21	22	
23	24	25	26	27	28	29	
30							

# New Orleans Geological Auxiliary News

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

It was a "Spring Social" indeed at the home of Trez and Jim Zotkiewicz when 50 members, spouses, and friends gathered to enjoy a beautiful evening, great food, a lovely house and gardens and lots of fellowship. For the first time several members of the NOGS Board also joined NOGA for this event. We enjoyed visiting with President Will Jorgensen, Treasurer and Nominee for President- elect Kelli Hardesty, current President- elect Chuck Holman, Directors Ed Picou and Mike Fein. I tried to tell Mike he was there because he was Debra's husband but he insisted that he was there as a NOGS Director. Art Johnson, the chairman of the upcoming 2013 GCAGS convention, and his wife Alice also were present. Mary Ellis Hasseltine and Debra Fein were the NOGA committee members who planned the party. The delicious food was provided by "Highlights Catering". Trez and Jim were hosts extraordinaire. Birthday wishes in lusty singing went out to Carol Andrews and Kelli Hardesty. April can be iffy but even the weatherman provided us with the perfect summer evening to be outdoors. It will be hard to top this evening but we will be looking forward to the Spring Social next year.



President Mary Walther presents birthday cake to Carol Andrews



Louis Lemarie, Debra Fein, Judy Lemarie



Mary Ellis Hasseltine, George Hasseltine, Trez Zotkiewicz, Jim Zotkiewicz, Debra Fein, Mike Fein



Robert Bussey, Ruth Bussey, Joanne Severson, Dolores Murphy



Ann Gilbert, Louis Gilbert, Bob Douglass, Charles Corona, Kacy Wainwright, Scott Wainwright



Bill Furlong, Frank Rogers, Charles Holman, Art Johnson

On May 8th Judy Sabaté and Pat Williamson will chair the Installation Luncheon at Zea Rotisserie and Grill on St. Charles Avenue, winding up a wonderful year and installing new officers for next year.

Peggy Rogers, NOGS LOG

# **Countdown:** We are 159 days from the convention!

We are putting together the announcement brochure for the convention and registration will open in another month. We have a special "Emeritus" registration rate for those over 65. In addition to the great technical program, the short course and field trips cover a range of Gulf Coast topics and will be a big draw. We are still lining up volunteers for on-site registration and other functions, so if you can help (even for half a day), let Bill Whiting know at Bootscon@aol.com.

### **Art Johnson**

General Chairman Artjohnson51@hotmail.com 504-464-6208



GCAGS 2013 - New Orleans

October 6-8, 2013

# **NOGS FINDS WINNERS AT 2013 SCIENCE FAIR**

On February 27th, NOGS members judged Junior and Senior Earth Science exhibits at the Region 9 Greater New Orleans Science and Engineering Fair. Judges for the Awards Committee were George Hasseltine (retired), Art Johnson (Hydrate Energy), Tom Klekamp (retired), Bill Whiting (Consultant) and I (W&T). Thank you to my judges, who gave up their time, work, and clients.

2013 appears to be a culmination of the Junior level rise to excellence in the post-Katrina era, in that the students of that vintage have moved up and through the Senior Division. Otherwise, overall the Junior Division was geologically weak, while the Senior Division was relatively strong. Our winners were three boys and three girls, two from public schools, four from parochial schools.

We gave only a second and third award to the Junior Division winners, **Max Farrell of John Curtis** Christian School ("Will the Shoreline Be There After the Next Storm Surge") and Sarah Bernoudy of JQ Adams Middle School ("What Material Absorbs Oil Spills Best?"), respectively.

We still gave six total awards. With the strength of the Senior Division, and no first place Junior Division project, we were able to give two first-place Senior Division awards.

The second place and third place Senior Division awardees were **Kiara Horton of Patrick F. Taylor Science and Technology Academy** ("What is the Effect of Temperature on the Atmosphere Index of Refraction?"), and **Michel Randall of Archbishop Shaw High School** ("How Flood Structures Affect Surrounding Areas"), respectively.

The two Senior Division first place winners both had spectacular projects. **Michael Miller of John Curtis Christian School** did a detailed microscopic and pH study on "Effects of Anthropogenic Ocean Acidification on Calcium Carbonate." His teacher is Cathy Boucvalt. The other Senior Division winner was **Lauren Barre of Ursuline Academy**, who built a closed well bore drilling system and studies "Annular Velocity Vs. Slip Velocity." Her teacher was Elizabeth Harney.

Come out early to the May and June luncheons and see some of the finest geological science going on in our local schools. Perhaps we are really having some effect. Ms. Barre of Ursuline will be showing in May, and Mr. Miller of Curtis will be showing in June.

Michael N. Fein Chairman. Awards Committee



**Cindy M. Colón** is a PhD student in structural geology and a research assistant at Louisiana State University. She is using remote sensing techniques to study surface salt exposures in northwest China.

In 2011 Cindy received her BS in Environmental Science with honors from Rutgers University in Newark, New Jersey. In her junior year at Rutgers, she revived the geology club and brought back alumni of the Earth and Environmental Sciences Department to advise undergraduate students. In 2010 Cindy interned with NASA at the John Hopkins Applied Physics Lab as a planetary geologist in which she analyzed high-resolution satellite images of dunes on Mars and identified areas of active erosion and restoration. She also has had an educational internship with a geoscience program for high school students.

Cindy is a student member of AAPG, AIPG and GSA. As a new NOGS member, she is interested in the AAPG Student Chapter, Employment Counseling, Field Trip, New Geoscientists, Photography and Program/Luncheon Committees.

Cindy loves kickboxing, music and cooking. Since moving to Southeast Louisiana she has developed an appreciation for both our local music and cuisine.



# SUPERSAURUS SCIENCE DAY

# March 23, 2013 Louisiana Children's Museum

The 11th annual SuperSaurus Saturday hosted by NOGS and the Southeastern Geophysical Society was a great success. The event was a fun-filled time for 700 children and their families. The exhibits were run by an excellent and enthusiastic crew of volunteers from NOGS, SGS, Desk and Derrick, Southeastern University, Tulane and our large number of UNO geology students. Yes -science is fun!

As usual, Kraig Derstler of UNO, let us borrow his life- size T-Rex skull cast which Jeremy Henley gratefully transported. Art Waterman and Richard George did a great job carrying forward the wonderful paleo microfossils station run by Ed Picou from our initial event in 2000. Dave Cope gave out fossils found in river bed deposits, and the children did a scavenger hunt going to the stations and learning about the various dinosaurs. Lisa Kennedy of SGS coordinated the ever-popular seismograph/earthquake station. Bernie Regel and Art Johnson were instrumental in hands on training for the event. Diane Badeaux checked everyone in and gave out the stylish and coveted SuperSaurus Volunteer green dino T-shirts.

We had such a great group of dedicated volunteers. All of them were quick learners and very dynamic interacting with the kids. I can't be more proud or thank each of you enough.

Things kicked off in splendid fashion with the morning volunteer crew at 11 a.m. to 1 p.m. Megan Sanders, Dylan Cruz, Andrew Thorne, Bill Whiting, Brook Weiss, Kelli Hardesty, Natanya Porto, Beth Strickland, Nicole Klibert, Amanda Garrison, Chuck Holman, Richard George, Drew Atkins and Amanda Bergeon did an admirable job running the exhibits.

The afternoon crew efficiently came in with a handoff that a 4X400 relay race would strive to emulate. Second shift (1 p.m. to 3 p.m.) volunteers Duncan Goldthwaite, Rebecca Murphey, Sasha Kreinick, Robert Clark, Myles Felch, Karen Marchal, Matthew Smith, Robing Broussard, Jade Haug, Jan Catalano, Larissa Cupp, Art Waterman, Kate Scalan and Jeremy Henley finished things off in excellent style.

Full-day warriors included Diane Badeaux, Lisa Kennedy, Dave Cope, Angela Denniston, Tracy Canavan, Jon Guidry, Rachel Carter, Emily Harper, Bernie Regel, Art Johnson and Patrick Bergeon. Bravo!

This year we had new arrivals to our fossil collection that complimented our existing materials and displayed very well. These high impact items included casts, dino skulls, arms, feet and teeth. I would like to thank the NOGS Board for funding the expansion of our School Outreach program. These fossils, casts, minerals and many more learning materials are available to check out and documented for you to give talks to your local school.

For those who missed out on the fun, NOGS is involved with 12 other local Oil Industry societies and will co-host the Fetch Energy Day Saturday

August 3 at the Louisiana Children's Museum. The event deals with all aspects of oil. The ever popular oil finder game will challenge children and us prospectors alike.

Thank you all for a wonderful fun filled learning event.
Tom Bergeon







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

LAFAYETTE DISTRICT, ONSHORE AREA By Carlo C. Christina

# MMCFD + BOPD = \$\$,\$\$,\$\$

Today, April 4, 2013, the price of gas is \$3.94/MCFD and the price of oil is \$106/barrel.

Hilcorp Energy has completed its #1 SL 20946 as a gas well in **Lake Barre Field**, flowing **18,800 MCFD** + **1448 BOPD** through perforations 15,048 to 15,183, overall. (XX)

Based on the current price of gas and oil, the Hilcorp well will generate \$74,072 per day, or \$27,036,280 per year from its gas production, and \$153,488 per day, or \$56,023,120 per year from the oil production.

Assuming the well will continue to produce at the current rates, and the price of gas and oil remain approximately the same for the next year, the well will generate a total of \$83,059,400 for 1 year.

That's another good reason to drill in South Louisiana.

During the month of March, the Office of Conservation, Lafayette District, Onshore Area issued 38 permits to drill for oil and gas. In addition to these permits the office also issued 10 permits for aquifer remediation in St. Tammany Parish and 10 permits for leak control at Avery Island.

# **NEW LOCATIONS**

In Beauregard Parish C.T.R. Oil has permitted **2 wildcats** seeking Cockfield production. The #1-A Rice-Land, (A), will be drilled in Sec. 30, 4S-10W to a depth of 7150 feet. Nearest production is 1 mile to the north, with excellent production from 3 Cockfield completions in North Singer Field. These wells have produced more than 752,000 barrels of oil. (246167)

C.T.R. will drill the #1-B Rice-Land (B), in Sec. 24, 4S-11W to a depth of 7050 feet. This well is located 2 miles west of the Cockfield production in North Singer Field, as discussed above. (246168)

Also in Beauregard Parish, Midstates Petroleum has permitted the #1 Olympia Minerals 16 H, a horizontal Upper Wilcox well in Sec. 16, 7S-11W, in the prolific **Cowards Gully Field**, (C). This well is the fourth in a series of 20 projected horizontal wells in the field and will be drilled to 18,000 feet in a horizontal lateral of 5279 feet. (246184)

Clayton Williams Energy will drill the #1 Stringer Heirs in **South Chauvin Field**, (D), Terrebonne Parish, located in Sec. 27, 18S-18E. The well is located 1 mile northeast of production in the Cib.car. Sand and will be drilled to a projected depth of 11,885 feet. (246061)

In Vermilion Parish Walter Oil & Gas has permitted the #2 SL 21021 in **Lac Blanc Field,** (E), as a replacement well for the #1 SL 21021 which was lost at a depth of 10,901 feet. The #2 is permitted to 15,000 feet and is drilling below 12,300 feet. (246104)

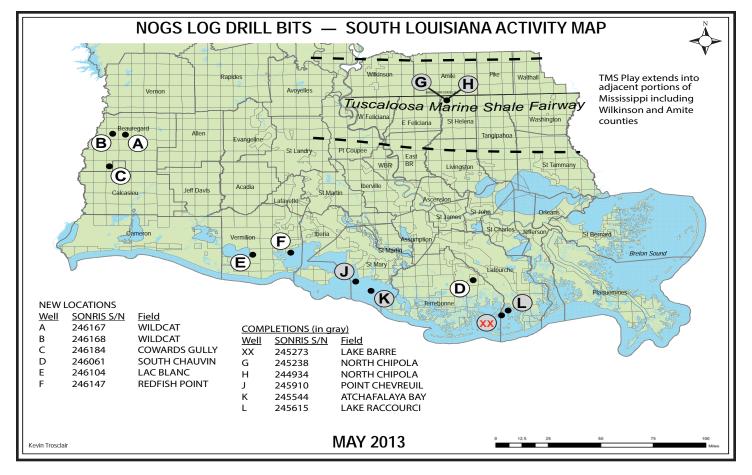
Walter Oil & Gas will drill a deep test on the north flank of **Redfish Point Field**, (F), in Vermilion Parish, 3 miles north of production. The #1 SL 21015 is permitted to 21,000 feet. (246147)

### **COMPLETIONS**

The Hilcorp Energy #1 SL 20946 in Lake Barre Field, (XX), as discussed in the opening paragraph of my report, was drilled 1 mile north of production on the north flank of the field. It was drilled to a depth of 16,140 feet and completed flowing **18,800 MCFD** + **1448 BOPD** through perforations 15,048 to 15,183, overall. (245273)

Encana Oil & Gas has completed 2 Tuscaloosa Marine Shale horizontal wells in **North Chipola Field,** St. Helena Parish. The #1 Weyerhaeuser 60 H, (G), was drilled to a depth of 20,556 feet and flowed 552 BOPD and 294 MCFD through perforations 12,550 to 20,408 in a lateral leg of 7900 feet. (245238)





The Encana #2 Weyerhaeuser 60 H, (H), was drilled to 17,897 feet and was completed flowing 288 BOPD and 85 MCFD through perforations 12,615 to 17,584 in a lateral leg of 5000 feet. (244934)

In St. Mary Parish, Cathexis Oil & Gas has restored production to **Point Chevreuil Field**, (J), with the completion of its #1 SL 20878 as an oil well. The well was drilled to a total depth of 12,025 feet and completed flowing 456 BOPD and 145 MCFD through perforations 11,520 to 11,530 feet, in the Lower 31' Sand. A second well will be drilled soon. Point Chevreuil Field had been off production since 1994. (245910)

Castex Energy has completed the #2 SL 20369 in **Atchafalaya Bay Field**, (K), flowing 24,966 MCFD through perforations 18,272 to 18,334, overall. This completion is the sixth well completed in the field since production was restored in 2010. The current daily production is 155 million cubic feet of gas per day, which ranks Atchafalaya Bay Field number one in gas production in South Louisiana, Lafayette District, Onshore. (245544)

In Lafourche Parish, **Lake Raccourci Field**, (L), Hilcorp Energy has completed an excellent gas well flowing 14,788 MCFD and 1115 BCPD through perforations 14,933 to 14,968. The #1 SL 20892 was the first well drilled in the field in the past 10 years, and was drilled to a total depth of 15,375 feet. (245615)

# OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES

by Al Baker

During March 2013, the BOEM approved **88** drilling permits. Of these, **44** were for Gulf of Mexico shelf wells, and **44** were for Gulf of Mexico deepwater wells. There were **6** shelf (1 exploratory and 5 development) and **4** deepwater (2 exploratory and 2 development) new well permits granted.

On the shelf, **Apache** received new well drilling permits for their **#JA-5** development well on **Eugene Island 136** and their **#F-8** development well on **West Delta 90. Arena Offshore** obtained an exploratory new well permit for their **High Island A-547 #6** well and a development new well permit for their **Eugene Island 338 #K-6** well. **Dynamic Offshore** was awarded a development new well permit for their **Ship Shoal 301 #A-5** well, and **EPL Oil & Gas** was granted a new well permit for their **West Delta 27 #B-5** development well.

In deepwater, **Shell** received two permits: one to drill their #1 exploration well on **Desoto Canyon 843**, and one for their #GB-5 exploratory well on **Alaminos Canyon 900**. An exploratory new well permit was issued to **Apache Deepwater** for their #1 well on **Green Canyon 230**, and a development new well permit was awarded to **Dynamic Offshore** for their **Green Canyon 108** #A-21 well.

On March 28th, IHS-Petrodata reported that the Gulf of Mexico mobile offshore rig supply totaled **110**, and the contracted rig count stood at **77**. The contracted rig count is 1 more than reported last month causing the fleet utilization rate to increase to **70%**. This compares to 72 out of the 113 rigs available during the same period in 2012 for a 63.7% utilization rate.

In addition, there were **28** platform rigs under contract out of the **53** total in the rig fleet for a fleet utilization rate of **52.8%**. The current number of platform rigs under contract in the Gulf is 1 greater than reported last month.

On March 29th, the BakerHughes Rig Counts indicated that there were **45** active mobile offshore rigs in the Gulf, which represents **58.4%** of the total rigs under contract. This is a decrease of **7** rigs when compared to last month. The current active rig count compares to 46 active rigs during the same period last year. This 1-rig decline number represents a **2.2%** decrease in the active mobile offshore rig fleet on a year-to-year basis. Additionally, of the 28 platform rigs that are under contract, **23** (or **82.1%**) are currently working. This is **1** more than the total number of working platform rigs as reported last month.

On March 7th, **EPL Oil & Gas Inc.** announced that it has agreed to sell certain non-core assets in the shallow water Gulf to an undisclosed buyer for \$62.3 million. The buyer will take over EPL's non-operated interest in **Bay Marchand (Block 2) Field,** which includes onshore wells in Lafourche Parish plus offshore wells in both state and federal waters. EPL said that the divested assets currently produce about 400 boepd. Proven reserves are approximately 1.6 mmboe. Under the terms of the deal, EPL will retain the deep rights to the divested properties.

On March 19th, **Anadarko Petroleum** reported that its **Shenandoah #2** well in the deepwater Gulf of Mexico encountered more than 1,000 net feet of oil pay in multiple, high quality, Lower Tertiary-aged reservoirs. The well is located in 5,800 feet of water on **Walker Ridge Block 51** and was drilled to a total depth of 31,405 feet. The #2 well was positioned more than one mile southwest of and roughly 1,700 feet downdip to the #1 discovery well on Walker Ridge Block 52. Like the discovery well, log and pressure data from the #2 well indicate excellent quality reservoir and fluid properties. The #2 well was designed to test the down dip extent of the oil accumulations, and the targeted sands were found full-to-base. Anadarko is the operator of the discovery with a 30 percent working interest, **Cobalt International Energy, L.P.** with a 20 percent working interest, **Venari Resources, LLC** with a 10 per cent working interest and **Marathon Oil Company** with a 10 percent working interest.

On March 20th, **Energy XXI** announced that it had entered into a joint venture agreement with **Apache Corp.** to explore for oil and gas associated with salt dome structures in the Central Gulf of Mexico. The area of mutual interest (AMI) includes several salt domes within a 135-block area. In addition, Energy XXI has acquired a 25 percent working interest in 21 non-producing, primary term leases with Apache. A new wide azimuth seismic survey is presently underway that will enable the definition of the potential within the AMI area, which encompasses approximately 633,000 acres. Energy XXI is currently drilling their **Pendragon** exploration well on **Vermilion Block 178**, which is a salt dome exploration analog for the Apache deal. The Pendragon well is currently drilling below 14,000 feet MD/12,400 feet TVD towards a proposed total depth of 20,400 feet MD/16,300 feet TVD. The well is targeting multiple sands on the southern flank of the salt dome.

On March 20th, the **BOEM** held **OCS Sale 227** covering the Central Gulf of Mexico. A total of **52 companies** participated in the sale. The sum of all **407 bids** submitted totaled **\$1,595,397,466**. The **apparent high bids** totaled **\$1,214,675,536** for **320 blocks**. The majority of the bidding was in deepwater with 237 blocks bid; 131 of these blocks were in the ultra-deepwater in water depths exceeding 1,600 meters (5,250 feet). The central shelf region garnered only 85 bids on 83 blocks. **ExxonMobil** was the highest bidder in the lease sale submitting **7** high bids totaling **\$220,254,445**. **Shell** was the second high bidder placing **\$139,825,720** on **38** blocks, the most blocks bid by a single company. However, once again, the overall company participation was much lower (**32.5%**) than that since the March 2010 (pre-Macondo BP blowout) sale in which 77 companies participated. Interestingly, BP did not participate in OCS Sale 227 due to an ongoing lawsuit with the Environmental Protection Agency.

On March 25th, **Chevron Corp.** reported a deepwater Lower Tertiary oil discovery on its **Coronado Prospect** located in 6,127 feet of water on **Walker Ridge Block 98**, which it operates with a 40 percent working interest. Their #1 well was spudded on June 2, 2012 and was drilled to a total depth of 31,866 feet logging more than 400 net feet of oil pay. The Coronado Prospect is located just 10 miles southeast of Anadarko Petroleum's above-mentioned, Shenandoah oil discovery, and it is situated within the same Lower Tertiary mini-basin. **Anadarko** has a 15 percent working interest in the Coronado Prospect along with two additional partners: **ConocoPhillips** with 35 percent working interest and **Venari Offshore** with 10 percent working interest. The Coronado Prospect is comprised of a four-block unit that includes Walker Ridge Blocks 98, 99, 142 and 143.

This Changes Everything. **SAVE THE DATE:** 12-14 AUGUST 2013







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# NGS ELECTIONS



# For President Elect: Kelli Hardesty

**Ms.** Hardesty has been a staff geologist for Environmental Resources Management based in Metairie, Louisiana since 2008. She received her BS from Southwest Missouri State University in geology in 2005. She then received her MS from Auburn University in geology in 2008. Ms. Hardesty is a Registered Professional Geologist in Mississippi, and is currently a member of the Louisiana Board of Professional Geoscientists. Her work experience includes multi-media remediation development for CERCLA, RCRA, RECAP, state Superfund and other sites. She has managed the development and implementation of the remedial investigation and feasibility study work plans, and has provided oversight to implementation of remedial investigation activities and decontamination/demolition

activities. Her clients include oil and gas, petrochemical, and manufacturing organizations. She manages small to large projects, including task delegation, budget management, field activity preparations, and client and state agency correspondence. Ms. Hardesty currently serves as the New Orleans Geological Society's Treasurer.

## For Vice President: Fran Wiseman

Frances Wiseman is a New Orleans native currently living in Metairie. She worked for BOEM/MMS/USGS for 37 years concentrating on deep water regulations and geologic studies in the Gulf of Mexico. She is now happily retired doing volunteer work with the Jefferson SPCA. She also is working on refurbishing her house in Pensacola. Fran graduated from Cabrini High School in New Orleans. She received a BS degree in geology from the University of New Orleans, and studied geology and petroleum engineering at LSU and Tulane. She has been a member of NOGS for 38 years and is also a member of AAPG and SPWLA. Fran has served as NOGS Secretary, NOGS Log Editor, and Vice President.





# For Secretary: Margaret McKinney

Margaret McKinney has been a geologist with TGS since 1999. For the past 9 years she has served as Project Manager overseeing operations for TGS' Gulf of Mexico OCS new drill well log management agreement with BSEE. Prior to signing on with TGS she worked as a log analyst with Chevron for 16 years. She received her BS in Geology from Virginia Tech in 1979 and was a member of the Geophysics Department research team studying heat flow and heat generation in the Piedmont and Atlantic coastal plain. She has been a resident of the New Orleans area since 1983 and a NOGS member since 2007.

### For Treasurer: Robert Clark

Robert Clark is a teaching assistant at the University of New Orleans where he received his BS in Geology and will soon complete his MS in Geology. He is currently studying historical changes in the planform morphology of the South Pass distributary branch of the Mississippi River. Robert has presented his research at different venues, including an oral presentation to the Association for the Sciences of Limnology and Oceanography (ASLO) conference in February where he received an award for "Outstanding Student Presentation", the American Association of Petroleum Geologists (AAPG) Spring Break Student Expo where he received 2nd place in the geology section of the poster



competition, and will be a guest speaker at the Schlumberger Fluvial-Deltaic Field Course in Arkansas this coming April. Robert also volunteers some of his time every month to produce slide shows for the monthly NOGS luncheon and provides IT support.



### For Editor-Elect: Tavia Prouhet

**Tavia L. Prouhet,** a native of League City, Texas and fifth generation Texan, now lives in Covington, Louisiana. For the past 5 years Tavia has worked at Chevron in Covington. During this time she has held various roles in Geologic and Geophysical Technical Computing. These roles have ranged from application support to leading application deployment initiatives across multiple business units. She has served as a subject matter expert Geologic and Geophysical application issue resolution. Tavia is now working as a Development Geologist on the Louisiana Shelf. Prior to joining Chevron, Tavia worked as a geology consultant for Landmark, and taught middle school earth science. She earned both her BS (2002) in Ocean and Coastal Resources, focusing on Coastal Geology, and

her Masters of Geoscience (2007) from Texas A&M University. Tavia is a member of AAPG and NOGS.

# For Director: William Whiting and Jim Zotkiewicz

Bill Whiting is a consulting Geologist with more than 35 years of experience in the Gulf Coast Area. Born and raised in Albion Michigan along the Albion-Scipio Trend he had an early exposure to the Oil and Gas Industry. While in college, schooling for his MS degree, he worked weekends for a Consulting Geologist in Ohio on the "Trempealeau Trend." He obtained his BS Degree with honors in 1963 and his MS Degree in 1965, both in Geology from Michigan State University. In 1963, Bill began a 27-year career with Chevron Oil Corporation starting as a development geologist in Jackson, MS with assignments in the Mississippi and North Louisiana Interior Salt Basins. In 1969 he was transferred to the New Orleans Office and held several positions in the Exploration and Production Divisions both onshore and offshore. He was a District Development Supervisor and Operations Geologist.



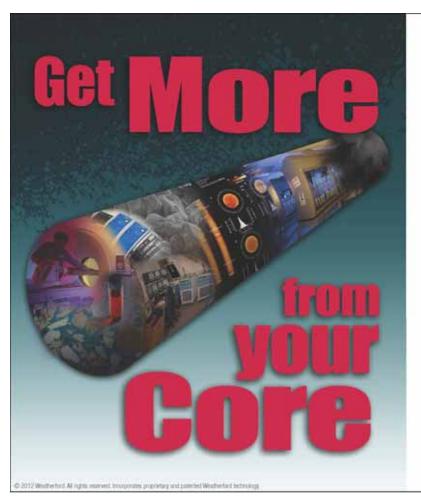
He has been a member of NOGS since 1970, AAPG since 1969, GSA, SEG associate and is a Registered Professional Geologist #435 in the State of Mississippi. Bill has devoted many years of service to NOGS in a variety of positions. He has been on the Awards and Field Trip Committees, the latter of which he was chairman in 2000-01, and a By-laws ad-hoc committee. Bill served as Treasurer 2000-01, Memorial Foundation Trustee 2001-02 and 03-05, Vice-President 2002-03, Director 2004-07, President-Elect 2007-08, President 2008-09 and Memorial Foundation Chairman 2009-10. He is currently an AAPG Delegate through 2015 and a Trustee of the Memorial Foundation. Bill has received several NOGS Awards including an Outstanding Service Award 2001-2002, Honorary Life Membership 2004 and several President's Awards.



Jim Zotkiewicz, a native of Memphis, Tennessee received his Bachelor and Master of Science degrees in Geology at the University of Memphis. Jim has 31 years of experience working with independent companies generating prospects, screening prospects for investment purposes, and evaluating producing properties for acquisition, exploitation, and divestiture. In 1982, Jim began his career as a development geologist with Aminoil USA in the Offshore Development Division in Lafayette, Louisiana. He later joined Taylor Energy Company in New Orleans, Louisiana as a senior geologist and was responsible for the acquisition of new properties and the exploitation of in-house fields. In 1991, he formed Zot Oil & Gas, Inc. and worked exclusively with LLOG Exploration Company acquiring, developing and divesting properties. In 2001, Jim opened an office in Metairie, Louisiana, began developing drilling prospects, and

participating as a joint venture working interest partner in oil and gas projects. Since 2009, he has continued his Zot Oil & Gas ventures and consults with Cox Operating, LLC.

Jim is a member of NOGS, SIPES, AAPG, and HGS. He is a DPA Certified Petroleum Geologist and has served on numerous committees and board positions. Jim has been NOGS Treasurer, an AAPG delegate, a member of the NOGS Memorial Board, and has served on the NOGS School Outreach and Entertainment Committees. Jim has been the 2005 GCAGS Annual Meeting Chairman, Chairman for the Prospect and Property Marketplace (predecessor to APPEX) at the 2000 New Orleans AAPG Convention, and was the Arrangements Chairman for the 1997 GCAGS convention. He has also served as entertainment chairman on other geologic conventions. Jim received the 2006 GCAGS Distinguished Service Award, the 2005-2006 NOGS Outstanding Service Award, and developed a model for the planning of future GCAGS conventions. As a SIPES member, Jim has served as Chairman, Advisor to the Board, Vice Chairman, Treasurer (twice), Secretary, National Director, and was field trip chairman for the 2008 SIPES Annual Meeting. He lives in Metairie, Louisiana with his wife Trez and two daughters, Meredith and Claire.



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# Remembrances 68

NOGS recently lost three long-time members and we send our condolences to their families.

Clarence F. Conrad died on March 5th at the age of 87 years. He began his 37-year career with Shell Oil Company in the early 1950s in Casper, WY. After a posting in Denver, he and his family moved to New Orleans where he was promoted to Chief Geologist of Exploration for Shell's Offshore Division, a position he held for many years. In retirement, Clarence and his wife Roberta moved to Covington. They enjoyed cruises and trips back to Oregon for family visits. Clarence was an avid golfer and bird-watcher.

**James Hoyt Bonnette** passed away on April 2nd at the age of 78. Hoyt was born in Marksville, LA and was a resident of Gretna for the past 48 years. He was an LSU geology graduate and in his long career was employed by Exxon, Chevron and CNG. Hoyt was an excellent golfer and a staunch supporter of LSU football and the New Orleans Saints.

**Lester David "Dave" Collier** died on Sunday, April 7th at 86 years. Dave was a native of Oakwood, TX and a resident of Covington for the past 20 years. He was a geology graduate of Texas A&M University. Dave's career in the industry as a petroleum geologist spanned some 60 years with assignments in Tyler, TX, Shreveport, LA and in New Orleans. Of special note, he was one of the original planners of Tchefuncta Estates and Country Club. Dave loved the outdoors and enjoyed hunting, fishing and golf.



Info Tidbits: Submitted by Jordan Heltz

# **Energy Global – Gordon Cope**

"The Energy Industry in the US is Bouncing Back" April 11th, 2013

http://www.energyglobal.com/news/pipelines/articles/The\_energy\_industry\_in\_the\_US\_is\_bouncing\_back.aspx

The Gulf of Mexico is one of the world's most bountiful and prolific basins, with 11.5 trillion cubic feet of proven gas reserves and 4.1 billion bbls of proven crude reserves. In 2011, production amounted to 4.6 billion cubic feet per day and 1.4 million bopd. New fields are coming into production, and new discoveries are being made. Land sales have resumed, and more are planned.

But the industry also faces strong currents, including a far stricter regulatory environment, extreme weather events and uncertainty over the very significant risks involved in exploring and producing in one of the most challenging environments. How it prospers in the coming years depends very much on a number of emerging factors

New discoveries continue to emerge in deepwater plays. There are two major targets for deepwater drilling; structures in the Miocene and structures in the Lower Tertiary. Miocene targets are essentially extensions of fields found in shallower waters near the shores of Texas and Louisiana. The Lower Tertiary play is a series of large, anticlinal structures with four-way closure. The trend, which sits beneath a thick wedge of salt, runs from the middle to the western side of the Gulf of Mexico and is approximately 50-70 miles wide and 200 miles long. Estimates issued by the Bureau of Ocean Energy Management (BOEM) indicate that the trend may contain approximately 31 billion bbls of oil and 134 trillion cubic feet of gas that are currently undiscovered and technically recoverable.

# Rigzone – Robin Dupre

"Unconventional Oil, Natural Gas is the 'Sweet Spot' for US" February 13th, 2013

http://www.rigzone.com/news/oil\_gas/a/124289/Unconventional\_Oil\_Natural\_Gas\_is\_the\_Sweet\_Spot\_for\_US

Unconventional oil and gas activity is already revolutionizing America's energy future and bringing enormous benefits to its economy, Director of Consulting Energy and Natural Resources at IHS Jerry Eumont said. Net petroleum imports have fallen from 60 percent of total consumption in 2005 to 42 percent in October 2012.

The recent surge in unconventional oil and gas and its effect in the United States was the topic of discussion at the American Petroleum Institute's (API) Houston Chapter luncheon Tuesday.U.S. oil production, which has risen 25 percent since 2008, reached about 8.5 million barrels per day in 2012, Eumont said.

Tight oil is contributing the most to this increase due to recent advances in energy development. Unconventional natural gas is also contributing to the transformation in the natural gas market. A dozen years ago, shale gas production was only 2 percent of the nation's total natural gas production but represents 37 percent today.

This "renaissance" in the nation's unconventional market means an increase in employment – about 1.7 million jobs were created in 2012, Eumont noted. This number is projected to increase to 2.9 million jobs by the end of the decade and 3.4 million in 2035.

"Job creation in the shale plays is occurring in the oil company and service side, but is also occurring throughout the regions that have active plays," said Eumont. "Hotel, restaurants, construction, etc. are all benefiting from this activity. The impact as it trickles down is tremendous."

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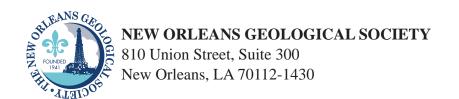
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