#### December 2017



DESK AND DERRICK CLUBS

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#### PRESIDENT'S MESSAGE



The Holidays are upon us!! I am looking forward to shopping, parties, writing emails and Christmas cards, and the New Year. I am reflecting on the past year and wanted to thank all of those who "Rekindled the Flame of Desk and Derrick."

- First of all, the 2017 Board, who worked really hard this year and kept the flame burning every month at our Board Meetings.
- \* The 2017 Committee Chairpersons who did their jobs and made sure everything was taken care from our Membership Meetings to Field Trips, Bulletin, Bylaws, Scholarship, Program and all Committees that performed their jobs in a timely and professional manner. We could not function without the hard work from the Chairpersons.
- ★ Last but not least, our members who attended our meetings, field trips, and fund raisers. Your participation was not unnoticed and was appreciated. The Flame of Desk and Derrick will be eternal because of you, the member.

I'm also looking forward to our Christmas Brunch on December 2<sup>nd</sup> at Copeland's Restaurant; it is always a good time for socializing and relaxing.



It was a pleasure working with Claudia Prather, 2017 Region III Director, who did an excellent job despite her setbacks this year. I hope she is feeling much better now and healing.



I toast the 2018 Board and wish them a very productive year ahead; with Angie Duplessis as President, it will be a great year.

Please send in your Membership Renewals for 2018 and don't let the Desk and Derrick Flame be extinguished.

I wish you and yours a Blessed and Happy Holiday Season!

SUSAN



#### 2017 BOARD OF DIRECTORS

December

President: Susan Miller Vice President: Angie Duplessis Secretary: Gabriella Hunter Treasurer: Jo Ann Brown Immediate Past President: Gaylen Guillory Director: Theresa Adams Director: Bonnie Wall Parliamentarian: Alice Gros

#### 2017 COMMITTEE CHAIRMEN

Aimee: Dottie Ancona Bulletin: Judi Adams Bylaws: Gabriella Hunter Election: TBA Field Trip: Gabriella Hunter Finance: Dottie Ancona General Arrangements: Elaine Lesnak Membership/Orientation: Jo Ann Brown Nominating: Judy Guillot Program/IAN: Angie Duplessis/Theresa Adams Scholarship: Gaylen Guillory Social: Alice Gros Community Relations: Angie Duplessis

November Meeting 50/50 Winner Zelda Gillan

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<b>Board Meetings</b>	Membership Meetings	
January 18	January 25	December Birthdays:
February 15	February 22	Alian Oran
March 15	March 22	Alice Gros 6th
April 12	April 19	Angie Duplessis 9th Hilda Wood 13th
May 17	May 24	
June—No Meeting	June – No Meeting	
July 19	July 26	
August 16	August 23	
September 13	September 27	
October 18	October 25	
November 8	November 15	
November 29	December 12	

# DECEMBER 2017

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Flower: Na	Flower: Narcissus & Holly				1	2
Brunch 3	4	5	6	7	8	9
10	11	Member12	13	14	15	16
17	18	19	=0	Winter Solstice <b>21</b>	22	23
24	Christmas <b>25</b>	26	27	28	29	30
31			Birthstone: Turquoise & Blue Topaz			

## Speakers and Volunteer Assignments for Program Committee

Month	June	July	August	October	October	November	December	January
Date		07/26/17	08/23/17	09/27/17	10/26/17	11/16/17	12/14/17	01/24/18
Speaker		Chris Leopold, House of Representa- tives District 105	Charles Miller	Jo Ann Brown	Kathy Denley	Wayne Rau	2018 Region III Director Elect	Charles Miller, Waring & As- sociates
Торіс	No Meeting	Scholarship/ IAN	Using the OCS BBS Financial Assurance Module	Orienta- tion	Valero - Then and Now	Gretna Historical Society	Installation	Using the OCS BBS Financial Assurance Module
Invoca- tion	ĝ	Theresa Adams		Angie Du-	Theresa Adams	Susan Miller	Theresa Adams	
Intro- duction		Theresa Adams		Angie Du- plessis	Theresa Adams	Susan Miller	Theresa Adams	
Decora- tions		Cheryl & Cora	Debbie & Linda	Angie Du-	Judi Adams	Judy & Sylvia	Alice Gros	

#### HISTORY OF AMERICAN CHRISTMAS TREES

- The first American Christmas tree can be credited to a Hessian soldier by the name of Henrick Roddmore, who was captured at the Battle of Bennington in 1776. He then went to work on the farm of Samuel Denslow in Windsor Locks, Connecticut, where for the next 14 years he put up and decorated Christmas trees in the Denslow family home.
- The first Christmas tree retail lot was established in 1851 by a Pennsylvanian named Mark Carr, who hauled tow ox sleds loaded with Christmas trees from the Catskill Mountains to the sidewalks of New York City.
- The first president to set up a Christmas tree in the White House was Franklin Pierce, and the first president to establish the National Christmas Tree Lighting Ceremony on the White House lawn was Calvin Coolidge.
- In 1882, the first tree lights were sold in New York City.

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Guest speaker Wayne Rau, Councilman at Large and Mayor Pro-Tem of Gretna, LA



Club President Susan Miller presents certificate of appreciation to guest speaker Wayne Rau, Mayor Pro-Tem of Gretna, LA





Page 7 December

Gretna Economic Development Association & the City of Gretna Invites you to the Gretna Christmas Tree Lighting

#### December 3, 2017 6:00 pm

2nd Street & Huey P. Long (By the Arch)

Bring the family to see our Christmas Parade & enjoy an evening filled with Santa and Christmas Carols

Cookies and Hot Chocolate will be served



#### **Delight Everyone with the Christmas Spirit**

in the "City of Gretna" by participating in the

#### "Home Decoration Contest"

Judging will be December 15<sup>th</sup> and 16<sup>th</sup>, 2017 "Just keep your outside lights on"

> For more information GEDA 504-361-7748



# **TOYS FOR TOTS**

Collecting NEW, Un-wrapped toys

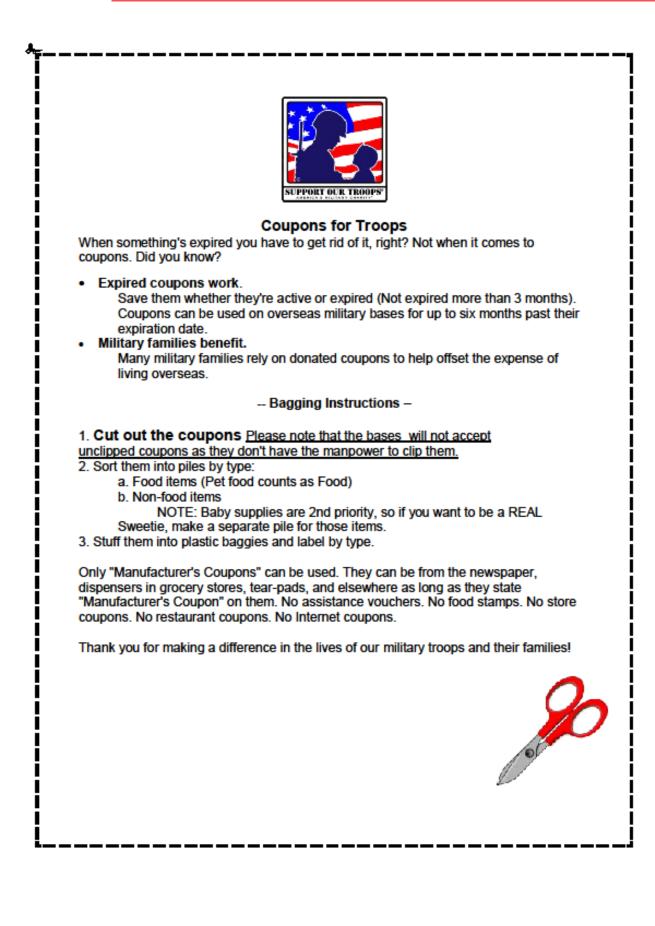
At the December Meeting

Tuesday, December 12, 2017

Or email Angie for pick-up aduptes1@p66.com







#### Desk and Derrick Club of the Westbank College Scholarship Guidelines

#### General Guidelines for All Applicants:

**1.** Must submit application through an active Westbank Desk and Derrick member. All active Westbank Club Members are encouraged to apply for the Scholarship, provided they meet the guidelines.

2. Graduating High School Seniors must provide copies of both GPA and ACT scores. Proof of cumulative GPA with a minimum of 2.75 and ACT of 23 is needed to qualify. These scores must be on an official transcript with student name.

2a. All High School Seniors must provide a Letter of Acceptance from the College or University attending.

2b. Current college students must submit proof of cumulative GPA of 2.75 or higher on an official transcript with student name.

3. All applicants must submit completed application form, including all requested documentation to your Desk and Derrick Sponsor by March 1st .

4. No applicant will be granted more than four annual Scholarship Awards (need not be four consecutive years).

5. All applicants must provide at least one letter of recommendation in addition to your Desk and Derrick Sponsor or immediate family member.

6. All applicants must provide a letter or essay detailing intended field or study and educational goals.

Desk and Derrick Sponsor Responsibilities: The Desk and Derrick Sponsor must write and submit a letter to the committee detailing their personal knowledge of the applicant. This letter, the application, and all attachments, MUST be submitted to the Scholarship Chairman or be postmarked by March 15th and mailed to: Desk and Derrick Club of the Westbank Scholarship Chairman, P. O. Box 2875, Gretna, La. 70053-2875. Incomplete applications or those received after the deadline will be disgualified.

Scholarship awards will be issued from available funds no later than June 30th of each year. Scholarship checks will be issued jointly to the scholarship recipient and the appropriate College/ University. Scholarship checks must be cashed within the 180-day time period as per banking regulations, or the funds will be forfeited. Desk & Derrick Club of the Westbank College Scholarship Application

RETURN THIS APPLICATION TO YO		SION
Address City		Zip
Home Phone		
Email Address		
Cumulative GPA	ACT Score	
Status (#of credits/hours)	Full Time	Part time
Field of Study		
College Accepted to/Attending		
Personal Goals		
School or Club Activities		
Community Service Activities		
Personal Interests/Hobbies		
Are you employed? Yes No	_ Part TimeFull Time	Summer Only
Comments		
List any Scholarships, including TOPS, penses covered		

Desk and Derrick Sponsor Signature

All applications must be submitted with requested documentation (See Scholarship Guidelines) to your Desk and Derrick sponsor by March 1st in order to meet the Scholarship Committee Deadline of March 15th .

Region III Director's Newsletter



December

December 2017

Claudia Prather Region III Director

budcko@amail.com kandcbillina@amail.com

Lois Folse Baton Rouge

Rebecca Rainwater El Dorado

Sarah Hulin Lafayette

Rhonda Reynolds Laurel

Margaret Kreider Morgan City

Carol Schiavone New Orleans

Sheryl Cole Red River

Susan Miller Westbank



DESK AND DERRICK CLUBS Dear Region III Members:

Can you believe it? This is my very last letter as Region Director. It has been a very busy year and I hope everyone was able to take a break to enjoy the Thanksgiving Holiday. This year has been not just an educational year for me, but one of many wonderful experiences and memories. I want to say to Maggi, our ADDC President, and to the ADDC board how much I have enjoyed working with them. Maggi, I appreciate and admire your leadership, professionalism, and friendship this year. You have done a wonderful job and I want to say thank you for being willing to lead us this year. Congratulations to Carol Schiavone, 2018 Region Director, Keith Atkins, 2018 Vice President, the 2018 ADDC Board and all of the Region III Club Presidents. I know each of you will do an outstanding job of leading us next year.

Be sure to check out our Region III Website. Any information, pictures, activities, and important dates that you want to share with other members, then be sure to send it to Wayne so he can put it on the website. Also, I want to encourage members to submit entries to the Contest Committee Chairman, Casi Nichols. Her address is 263655 E County Road 45, Ringwood, OK, 73768. The deadline to submit entries is December 15, 2017. For more details and specific information, then you can find it on the ADDC Website.

Carol is needing a few more volunteers to serve as Region III reps, so I want to encourage each of you to step out of your comfort zone and volunteer to serve in this capacity. It is a truly rewarding and educational experience.

Thank you again to the members of Region III for allowing me the privilege of serving as your Director this year! You have made my year as Director one of the best experiences of my life and it truly has been an honor for me to have served in this position.

This Christmas Season I hope everyone remembers that Jesus is the Real reason for the Season and to be sure to keep Christ in Christmas!

> Have a Very Blessed and Merry Christmas!! As well as a Happy and Prosperous New Year!!

2017 Region III Motto: Open Hands: Receive by Giving

Claudia Prather

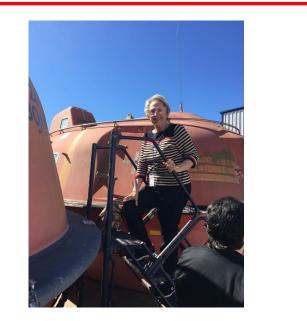
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#### WHAT'S HAPPENING IN REGION III



Wine and Cheese Mentorship Social—Lafayette Club Members, November 12, 2017





2018 Region III Director Carol Schiavone, New Orleans Club, at Survival Systems International Field Trip—November 10, 2017



#### Board of Directors

PRESIDENT Maggi Franks K & E Computer Services

PRESIDENT ELECT Christina Forth AOG International

VICE PRESIDENT Terry Ligon L Chem Tech Co., Inc.

SECRETARY Keith Atkins Murphy USA

TREASURER Tanuny Watkins CTKW Petroleum Land Service, LLC.

IMMEDIATE PAST PRESIDENT Connie Harrison Valero Energy Corp.

EXECUTIVE ASSISTANT Linda Rodgers Process liquipment & Service Co.

PARLIAMENTARIAN Sheryl Minear, RP Silver Oil & Gas, Inc.

REGION I DIRECTOR Bev Roberts American Refining Group

REGION II DIRECTOR Jan Bell Advanced Energy LLC

REGION III DIRECTOR Claudia Prather

REGION IV DIRECTOR Evelyn Green

REGION V DIRECTOR Joan Carturight Bark Royalty Co. LTD

REGION VI DIRECTOR Wendy Sparks Carl E. Gungoll Exploration Inc.

REGION VII DIRECTOR Marilyn Carter December 2017,

Dear friends and fellow members,

What a ride! This year has been a rollercoaster of highs and lows in the Association. I will say that my fellow members have definitely kept me on my toes. We have made strides in keeping ADDC viable and relevant to future generations. We have done our best to keep the best of our history while embracing the promise of tomorrow.

I have learned so much about our members this year. Many of you have opened my eyes to a plethora of ideas. It has been a remarkable journey, but I am not done yet. I will continue giving my all to members, and make myself available to all. I plan on being part of ADDC as long as I still have breath.

2017 wasn't about me though, this has been a journey about us. I stated last year, that my ideas for the year would be "Our past goals reimagined." The 2017 Board did a lot of reimagining this year. Some members welcomed the reimagining with open arms, others, well, everyone has their own opinions. Like many these days, we have been faced with a downsizing in our numbers, resulting in lower income. Though we have and are continuing to cut expenses, we must investigate additional revenue sources. I have faith that Christina and the 2018 board will thoroughly investigate that avenue. In order for our great organization to survive we must continue to reimagine. What worked for Inez decades ago, will not necessarily work today. Just as we have found that unleaded fuel is better for our vehicles, we must get the lead out of our thinking of how our organization works.

I know the 2018 Board of Directors will face many challenges during the coming year. I also know that we will be able to face it head on as we did in 2017. I must make one personal request. There will be issues we all won't agree on, there will be changes we must make. No matter your thoughts or reactions, please remember we are professionals. Keep it professional. React to the issue, not to those presenting it. Be passionate, but be polite. Listen to understand, not just to react. Remember that if you point a finger at someone that there are three fingers pointing back at you. We must always lift each other up, so that we all may keep moving forward.

I want to thank the 2017 Board for their hard work and dedication. We have worked together as a team, and I am proud of that. I must thank Sheryl Minear whose advice, guidance, and occasional "Now Maggi's," kept us on track this year. I want to thank Mark Loch, Wayne Ammons and Linda Rodgers for the many hours they gave to the Association, even at the wee hours of the morning, working around my crazy schedules. I must thank Evelyn Green and the 2017 GAC for providing us with an outstanding convention, and for their endless hours of hard work. I must thank all those great ladies who have come before me, and laid out the path I was to follow. I want to encourage

Maggi Franks President

5448 Longview Dr Cross Lanes, WV 25313 (304) 206-7377 M <u>maggsmf@aol.com</u> mfranks@apprailcar.com those who will come after me to follow their gut feeling, but always have an open mind to what others are saying. Lastly, thank you, my fellow members for changing my life, for inspiring me time and time again, and for helping me become the woman I am today. I would have never envisioned myself as a leader of so many great men and women. I have each and every one of you to thank for that.

In closing, at this most joyous time of year, I wish you and your families the Merriest of Christmases and wish you all the promise the New Year has to bring. I will leave you with a quote that has inspired my life.

"I will honor Christmas in my heart, and try to keep it all the year. I will live in the Past, the Present and the Future. The Spirit of all Three shall strive within me. I will not shut out the lessons that they teach" – Ebenezer Scrooge - Charles Dickens

Franks But

The following items are available on the ADDC website (ADDC.org) in the Members Section, 30th Mailing:

- 1. 3rd Quarter Treasurer's Report Letter
- 2. 3rd Quarter Treasurer's Report (can NOT be printed in bulletin)
- 3. Pre-Convention 2017 Board Meeting Minutes
- 4. 2017 Convention Minutes
- 5. Post-Convention 2017 Board Meeting Minutes
- 6. 2018 Convention Sponsorship Letter
- 7. 2018 Convention Sponsorship Form

If you have any problems logging in to the website, please contact the ADO Manager (contact info is on the Members log-in page).



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REGION V DIRECTOR Joan Cartwright Bark Royalty Co. LTD

REGION VI DIRECTOR Wendy Sparks Carl E. Gungoll Exploration Inc.

REGION VII DIRECTOR Marilyn Carter Mark Loch Association Distribution Office Manager (ADO)

Association of Desk and Derrick Clubs P.O. Box 847 Bethany, OK 73008

(405) 543-3464 O

Email: ado@addc.org Website: www.addc.org

Greetings; ADDC Board and Members;

I trust this letter finds everyone healthy and having had a wonderful Thanksgiving and preparing for a very merry Christmas and Happy New Year.

ADO has been busy assuring that 2018 Renewal forms have been distributed to all clubs and that all data has been updated and prepared for the 2018 year. Club Presidents, please encourage your members to renew as soon as possible for 2018, let's have a great renewal period for ADDC and strive to increase our membership in 2018. I challenge each and every member to recruit one new member, if we all do that we will be able to double our membership in 2018! That would be great!!!

Presidents, please Email your 2018 ADO-31 New officers forms to ADO as soon as possible. All of the clubs should have had their elections for their 2018 Board. ADO needs this information in order to update our database and prepare the letterhead for your respective Regional Director.

As 2017 draws to a close I want to take this opportunity to once again thank all of the members of the ADDC board, clubs and membership for the privilege of serving as the ADO Manager in 2017. It has been a great honor and a fantastic learning experience, you have all been wonderful to work with. I encourage all members as well as club Presidents to step up and become a committee chairperson or Regional Director and Club Presidents and Regional Directors consider running for an ADDC Board of Directors position, you will learn a great deal and make very special friends and memories that will last a lifetime.

Once again, I hope everyone has a very merry Christmas and a Happy New Year. Remember keep the true reason for the season in your hearts and minds and set aside some time to spend with Family and friends during this holiday season as family and friends and fellowship are what make us who we are.

God Bless and Merry Christmas

Sincerely;

Mark Loch ADO Manager ADDC Page 17



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REGION VI DIRECTOR Wendy Sparks Carl E. Gungoll Exploration Inc.

REGION VII DIRECTOR Marilyn Carter Judi Adams Rules Committee 322 Bienville Dr Gretna LA 70056

504-407-7443 (M) Email: dandd.judi@gmail.com Website:www.addc.org

December 1, 2017

TO: All Club Presidents FROM: 2017 Rules Committee SUBJECT: Proposed Amendments to Bylaws and/or Standing Rules

In accordance with Article XXVI-Amendments, Section 1 (a) "...the proposed amendments are submitted in writing to the Chairman of the Rules Committee by an Association Officer, the Board of Directors, the Rules Committee, or a club prior to a deadline date set by the Board of Directors, such date not to be less than ninety (90) days prior to convention, and..."

The deadline to submit proposed amendments to the ADDC Bylaws and/or Standing Rules to the Rules Committee for presentation to the delegates at the 2017 ADDC Convention is <u>Thursday. February 1. 2018</u>.

If your club wishes to propose a change, please use the <u>Rules 1</u> form (posted with this letter and in the Forms section of the ADDC website). If you or your club wishes to discuss the proposals before they are submitted, please feel free to call or email me.

It is very important to include all information on the form, especially the Article number or Standing Rule number as it now reads, and then state the wording you are proposing.

Please send the <u>Rules 1</u> form with any and all proposed amendments to the ADDC Bylaws and/or Standing Rules to me at the above address or email address by the March 1 deadline. It must be postmarked or e-mailed by that date to be considered.

NOTE: Be sure to follow up after sending the proposed amendment(s) with either an email or phone call to be sure I have received them.

Judi

Judi Adams 2017 Rules Committee Chair

Copy: Maggi Franks, ADDC President Christina Forth, ADDC President Elect ADO Manager

## **Fuel Pump Facts**

If I pump gasoline or diesel from a fuel pump bearing the brand of a well-known refiner, does that mean I'm getting fuel produced by that specific refiner?

Not necessarily.

"Generally, gasoline and diesel that are produced by a specific refiner that has downstream retail assets may not end up at that refiner's retail stations," Suzanne Danforth, downstream market development director with Genscape, told Rigzone. "This is due to a number of reasons that link back to the nature of contractual and spot markets for transportation fuels and geographic location/transportation."

Occasionally refiners need to curb operations at a refinery to, for instance, perform planned or unplanned maintenance, Danforth said. Also, a fuel station in a refiner's downstream network may be far away from a refinery. In such cases, the refiner nevertheless needs to provide fuels to its contractual buyers and any retail outlets that it may own. Danforth pointed out the spot market – where fuels produced by various refiners are available for immediate delivery – helps refiners to cover any supply gaps.

"In those instances, the refiner purchases gasoline and/or diesel on the spot market to meet these obligations," continued Danforth. "That means that the transportation fuel you as a customer would buy at a refiner's retail station may not necessarily be produced by that refiner."

Although there is a decent chance that the "Brand XYZ" fuel you're pumping into your car actually came from a "Brand ABC" refinery, note that both refiners manufacturing transportation fuels for a given geographic region will do so following the same specifications.

"Base gasoline is nearly the same, it's the additives (such as proprietary detergents) that vary and that you often hear about in gasoline marketing," explained Patrick DeHaan, head of petroleum analysis with GasBuddy.com. "Some of the refiners will have agreements to supply a competitor in an area, and in another area it may be vice versa. But quite often, branded stations do have fuel from that respective oil company."

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Occasionally I'll see different prices for fuel at two convenience stores located very close to one another. There may be a difference of, say, several cents a gallon between fuel retailers just across the street from one another. Why the disparity?

Differences in wholesale costs often contribute to fuel price disparities between neighboring retailers, Jeff Lenard, vice president for strategic initiatives with the National Association of Convenience Stores (NACS), told Rigzone.

"Wholesale costs for retailers in a given market may vary by 10 or even 20 cents per gallon," Lenard explained. "Retailers don't necessarily pay the same wholesale prices for a variety of factors, but four main factors are: volume, brand, competition and real estate."

In addition, a particular retail location's business strategy influences the posted fuel price.

"In most cases, this business strategy takes into account in-store traffic and traffic throughout the year," Lenard said. "For instance, a store near an airport will likely enjoy strong gas sales but weak in-store sales."

Source: www.rigzone.com/news

### **Oil's Biggest Rigs Headed to Junkyard as Daily Losses Mount**

Transocean Ltd. is finally sending Pathfinder to its grave, after two years in a Caribbean purgatory that cost about \$15,000 a day.

The move by the world's biggest offshore-rig operator signals just how bleak the future looks for deepwater drilling. Pathfinder is the most famous of six floating rigs the company is scrapping in burials that will add up to a bruising \$1.4 billion write-off. Competitors are going the same route, jettisoning more rigs in the third quarter than have ever been trashed in a 90-day stretch, according to Heikkinen Energy Advisors analyst David Smith.

That's how bad it is, with predictions crude prices won't go much higher than \$60 a barrel in the next year compared with around \$50 recently. "Deepwater is going to be playing a much-reduced role on the global oil-supply stage relative to what the industry expected as recently as three years ago," said Thomas Curran, an analyst at FBR Capital Markets in New York.

## Secretary of Energy Rick Perry Congratulates 2017 Clean Energy Education & Empowerment (C3E) Awardees

**CAMBRIDGE, MA –** On November 15-16, 2017, the **U.S. Department of Energy** (DOE) co-hosted the sixth annual Clean Energy Education & Empowerment (C3E) Women in Clean Energy Symposium in partnership with the MIT Energy Initiative and Stanford University's Precourt Institute for Energy. At the Symposium, ten accomplished women from across many disciplines were recognized for their achievements and leadership in clean energy, including U.S. Senators Lisa Murkowski (R-AK) and Maria Cantwell (D-WA). U.S. Secretary of Energy Rick Perry expressed his congratulations and gratitude via video message during the event.

"To this year's award winners, congratulations. Your work is as impressive as your successes are inspiring. And to C3E, congratulations on the 6th anniversary of this important initiative," said **Secretary Perry**. "Regardless of whether you're a U.S. Senator, an entrepreneur, an engineer, an instructor, or an employee of one of our amazing National Labs - your work is vital to our future and will inspire the next generation of women leaders in STEM. Thank you for doing your part, each and every day, to lead by example."

C3E is an initiative under the auspices of the Clean Energy Ministerial, a forum of 25 major-economy governments, which strives to close the **gender** gap and increase women's participation and leadership in clean energy fields.

Senators Murkowski and Cantwell were this year's co-recipients of the C3E Lifetime Achievement award. Murkowski, Chairman of the Energy and Natural Resources Committee, and Cantwell, the Committee's ranking member, jointly introduced the Energy and Natural Resources Act of 2017. The bipartisan bill featured provisions to save energy, expand supply, modernize and secure the electric grid, and bolster the energy workforce. The eight other women were recognized and received awards in the following categories:

- Advocacy Anna Bautista, vice president of construction and workforce development for GRID Alternatives, the nation's largest non-profit solar installer, which implements rooftop and community solar projects for households in low-income communities.
- **Business Leslie Marshall**, the corporate energy engineering lead for General Mills. She leads the development and execution of the company's global strategy for reducing the energy usage and greenhouse gas emissions at its food processing plants.
- Education Nicole Lautze, an associate faculty member at the University of Hawaii Manoa, where she founded the Hawaii Groundwater and Geothermal Resources Center. She leads a team of senior scientists in the development of an updated geothermal resource assessment for the state of Hawaii.
- Entrepreneurship Emily Kirsch, the founder and CEO of Powerhouse, the world's first and only incubator and accelerator dedicated to intelligent energy. Powerhouse backs seed-stage founders that are building solutions enabled by software for distributed energy, storage, and grid modernization.
- Government Chris LaFleur, program lead for Hydrogen Safety, Codes, and Standards at Sandia National Laboratories. She is responsible for fire risk program activities. Her main research involves evaluating fire risks for emerging energy technologies, with her recent work focused on characterizing the risks from traffic incidents involving hydrogen fuel cell vehicles.
- International Allison Archambault, president of EarthSpark International, has led the creation of a town-sized, solar-powered smart grid in rural Haiti and is currently laying the groundwork for an investable plan for the next 20 microgrids.
- Law and Finance Sarah Valdovinos, co-founder of Walden Green Energy, a company focused on developing utility-scale renewable energy projects.
- Research Inês M.L. Azevedo, principal investigator and co-director for the Climate and Energy Decision Making Center at Carnegie Mellon University. She researches how to transition to a sustainable, low-carbon, affordable, and equitable energy system.

DOE supports STEM-related programming and outreach across the agency's enterprise. Our national platform, STEM Rising, showcases how DOE inspires students, teachers, and the nation's workforce for energy-related education and careers.

# Joules of wisdom (source: energy.gov)

# Top 10 Things You Didn't Know About Critical Materials

1. What are critical materials? Many clean energy technologies -- from wind turbines and energy-efficient lighting to electric vehicles and thin-film solar cells -- use materials with magnetic, catalytic and luminescent properties. These materials -- classified as critical by the Energy Department -- are essential to the clean energy economy (they have high demand and limited substitutes) and are at risk for supply disruptions.

2. Basic availability is not the only factor affecting a critical material's overall supply risk. Other factors include political or regulatory risks in countries that are major producers of critical materials; lack of diversity in producers; and a competing technology demand -many consumer electronics like mobile phones, computers and TVs use materials essential to clean energy technologies.

3. Critical materials include five rare earth elements -- dysprosium, terbium, europium, neodymium and yttrium. Other elements -- lithium and tellurium -- are projected by the Department to be "near critical" in the next 15 years.

4. In 1787, a Swedish chemist discovered a black mineral he named ytterbite after Ytterby, a village in Sweden. In 1794, a Finnish chemist isolated the first rare earth element -- yttrium -- from ytterbite.

5. Did you know rare earths are not really rare? More abundant than gold, rare earth elements can be found in mineral deposits widely distributed across the earth, including the United States, Canada and Australia. This map shows rare earth deposits around the world.

6. In total, there are 17 rare earth elements, which are highly dispersed in the earth's geology. Their chemical similarities make them very difficult to economically recover and separate from each other. 7. Magnets that use the critical material neodymium are the most powerful known permanent magnets. These magnets are about 10 times more powerful than your average refrigerator magnet, and are used in some wind turbine generators and electric vehicle motors.

8. Dysprosium is used in permanent magnets -- adding a small percentage of dysprosium to a magnet made using the rare earth element neodymium can increase the magnet's ability to withstand high temperatures and helps reduce demagnetization.

9. The critical materials europium, terbium, and yttrium are used in fluorescent lights as well as flat screen TVs and computer screens. Those elements are responsible for the red, blue and green colors.

10. Recycling, reuse and more efficient use of critical materials could significantly lower world demand for newly extracted materials. Currently, only 1 percent of critical materials are recycled at the end of a product's life.



Europium, a rare earth element that has the same relative hardness of lead, is used to create fluorescent light bulbs.





#### **ADDC Mission**

Our mission is to enhance and foster a positive image to the global community by promoting the contribution of the petroleum, energy, and allied industries through education by using all resources available.

*Westbank Oil Patch* is published by the Desk and Derrick Club of the Westbank to provide information to its members regarding the ADDC (at all levels—Association, Region, and Club) and energy and allied industries .

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