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Dear SPE Denver Section Community,

Welcome Back!! Over the last 18 months, we have seen many highs and lows through the pandemic. This pandemic has changed everyone's life in so many ways. As I look at our Denver SPE section, I realize more than ever how lucky we are to do the jobs that we do in the place that we live. Denver has one of the most robust talent pools globally and is surrounded by so many prolific oil and gas plays. Denver SPE, Colorado, and the Rocky Mountains have strategic roles in leading the industry in producing some of the best plays but doing it in the most environmentally friendly and technology-driven ways possible. There is no other place (in my mind) that has the talent, the opportunities, and the environmental wherewithal to show how oil and gas development should be done. I am confident that oil and gas will have a significant and long-term role in the energy industry for many years to come.

We have learned a lot about being flexible, safe, and considerate of others during these unprecedented times of a resilient pandemic. The Denver SPE Board has worked hard to keep those things in mind as we move forward. We are excited about our 2021-2022 season! The Denver SPE Board has spent time this summer setting up our coming season. We will have three distinguished lectures, local industry experts, and a tremendous variety of topics to engage our entire chapter. Furthermore, we have worked with the DAC to hold events in person in a COVID-19 safe and welcoming fashion. Please join us on September 15th for our first general meeting.

All of us have missed the social aspects of SPE, so the following evening, September 16th, we have our Summer Social. We will be passing out awards to people who helped during our 2020-2021 season at this event. Our Regional Activities Manager, Blaine Horner, will join us to help celebrate. One of the Denver Chapter achievements that will be recognized is the "Section of Excellence" award. A tremendous honor and only given to the top sections in the world!

Lastly, our outreach program is continuing its mission to help people in the area. Our members have donated their time and sweat equity to Denver Rescue Mission and the Special Olympics, among others. Additionally, our board has been able to donate \$20,000 to university students throughout the Rocky Mountain region and continue to donate money to the local science/engineering fairs and our energy4me program. It is truly a wonderful time to be part of our industry.

Going forward, I challenge you in four ways:

- Renew—your membership and tell a colleague to do the same.
- Learn—something new about our industry. Sign up for our first general meeting or participate in our technical programming.

- Give Back—volunteer with SPE. We have openings on our board, and our outreach committee could always use volunteers. Check out the web page for more details.
- **Be social**—The strength in our industry comes from the friends and colleagues that we know and can call on to help us be successful. Join us for our first social event of the season, this year's Summer Social at Recess Beer Garden, on September 16th at 5:00 PM.

Thank you to the Denver SPE community. I am very excited for 2021-2022!

Warmest Regards, Eric J. Lyche P.E. SPE Chairperson 2021-2022

September 7, 2021

GENERAL MEETING

Solving Gas Interference Issues with Sucker Rod Pumps

Anthony Allison, Senior Artificial Lift Advisor at Occidental Oil & Gas and 2020/2021 SPE Distinguished Lecturer.

Denver Athletic Club | 1325 Glenarm PI, Denver, CO 80204

Wednesday, September 15th, 2021, 11:30 PM – 1:00 PM

Early-bird registration deadline: September 10 at 5:00 PM | Click

"Register Now" for more details.

Tickets:

Members\$35Students\$15Non-Members\$45MiTs\$15Walk-Ins\$45

Register Now

Abstract:

Gas/liquid ratios (GLRs) typically increase later in the life of a sucker rod-pumped well, and unconventional reservoirs may have high GLRs from the beginning of production. How to handle that gas production is important for sucker rod pumps, as the efficiency is reduced when gas enters the pump. A project was undertaken to quantify several methods used to handle gas production with sucker rod pumps and the effectiveness of each. This project focused on three areas of design or operation intended to improve gas handling:

 The sizing of downhole gas separators was reviewed, and steps were taken to match the pumping system with the proper separator. In cases where the separator was not



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pulled, the pump displacement was adjusted to ensure it was within the capacity of the existing separator. Where there was an opportunity to replace the separator, the design was modified to ensure the separator capacity matched the expected well production.

- Variable speed drives: Horizontal wells do not provide consistent inflow, but rather exhibit slugging behavior as portions of the lateral load up with liquid or gas. This makes pump-off control difficult with conventional rod pump controllers, which stop the pump completely when there is a lack of fluid at the pump. The performance of variable speed drives was studied to determine if continuous operation while adjusting the speed to accommodate slugging would improve production.
- Backpressure valves: Backpressure has been used as a
 method to improve the performance of wells with gas
 interference, but the benefits have been questionable
 compared to the negative impacts on equipment loading.
 Wells with elevated tubing backpressure were identified, the
 backpressure was reduced to line pressure, and the impact
 on performance was monitored.

Biography:



Anthony Allison is a Senior Artificial Lift Advisor for Occidental Oil & Gas, where he provides in-house support for the analysis, optimization, and troubleshooting of sucker rod pumps globally. He has thirteen years of experience with sucker rod pumping systems, and currently serves as chairman of API Subcommittee 11, which oversees standards related to artificial lift equipment. Anthony has previously served as chair of the SPE Artificial Lift Conference and Exhibition-

Americas and as an SPE Distinguished Lecturer. He holds a bachelor's degree in Electronics Engineering Technology and master's degree in Petroleum Engineering, both from Texas A&M University.

SPE—Denver Chapter 2021-2022 Membership Services Survey!



Interested in a professional PE license exam preparation course? Gary Bing Wines is coming to Denver in September 20-24, 2021. To learn more and register please tap the WinRock Logo.



Denver Section

Help us to serve you better? Tap the picture above to respond! Or contact <u>Eric Lyche</u> directly. <u>Here</u>.

SPE—2021 SPE SUMMER SOCIAL!



Join SPE to kick off the 2021-2022 term! Celebrate this year's regional award winners, honor 25+ year members, and reconnect with the SPE community.

This event will include networking opportunities, food, and drinks. Please purchase your tickets in advance <u>HERE</u>.

SPE—FUNDRAISER!



We had a successful 2021 Golf Tournament Fundraiser. Our acknowledgment goes to the Denver SPE Golf Committee. See you all next year!

SPE—DENVER CHAPTER VOLUNTEERING OPPORTUNITY!



Would you like to be part of a dynamic group of volunteers and help disseminate technical knowledge to our local SPE community? Tap the picture above to sign up! Or contact Eric Lyche directly.

SPE—MEMBERSHIPS!

FRIENDLY REMINDER RENEW YOUR MEMBERSHIP Did you renew your membership before the end of 2020? Sign in at spe.org to check Did you know SPE offers a membership fee waiver for unemployed or furloughed renewing members? Submit a written request to service@spe.org

Did you renew your membership before the end of 2020? Sign in at spe.org to check. Did you know SPE offers a membership fee waiver for unemployed or furloughed renewing members? Submit a written request to service@spe.org.

SPE—COMMUNITY OUTREACH

Do you want to teach young students about energy, serve breakfast at the Denver Rescue Mission, or judge science fairs? Join other SPE members in giving back to our community!

Upcoming Events:



SPE Serves Breakfast at the Denver Rescue Mission

Date: September 21st, 2021 **Time:** 6:15 am – 8:30am

Location: Lawrence Street Community Center | 2222 Lawrence

Street, Denver, CO 80205

Limit: 10 volunteers

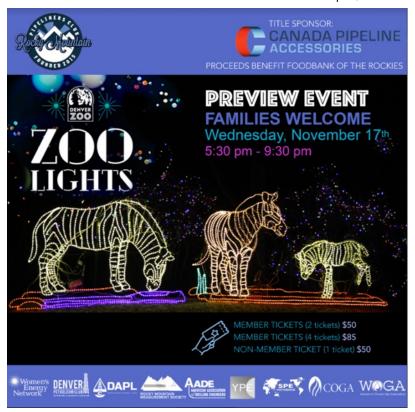
Free

Description:

Please join SPE Denver in their support of the Denver Rescue Mission, a nonprofit organization helping the poor and homeless populations of the Denver area at the Denver Coliseum. More than 85% of the services of the Denver Rescue Mission are operated by volunteers, serving people experiencing homelessness and poverty in our community since 1892. Please come and bring friends or family.

Please get in touch with community outreach team member Nico Cosca for more details! <u>nicolas.cosca@hpinc.com</u>

Register Now



RMPC 2021 Zoo Lights Holiday Party

Date: November 17th, 2021 **Time:** 5:30 pm – 9:30am

Location: Denver Zoo | 2300 Steele St, Denver, CO 80205

Description:

The Rocky Mountain Pipeliners Club and Colorado Oil and Gas Association have rented out the ENTIRE Denver Zoo! We hope you and your family can join us and have a chance to experience the 30th annual Zoolights, the Pipeliners way! Click on register now to be redirected to the event website. SPE members are eligible for the member discount. Select the Society of Petroleum Engineers as your referring organization when you add your tickets to your cart. Hope to see you there!

Please get in touch with community outreach team member Katrina Baer for more details! kbaer@calfrac.com



Watch this space for additional upcoming volunteer opportunities in the Denver area.

JOINT EFFORT— SPE Denver Section and Rocky Mountain MiT

There is a new effort afoot to help Rocky Mountain region oil industry professionals affected by the industry downturn that has been amplified by the pandemic. Several professional societies have banded together to launch Rocky Mountain Members in Transition, or MiT. This is an outgrowth of the MiT effort by the Society of Petroleum Engineers (SPE) in Houston that the

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Association of American Petroleum Geologists (AAPG) has joined. Other associated Rocky Mountain organizations now include SPE, AAPG, COGA, DWLS, RMAG, WEN, WOGA, and the University of Colorado, Denver GEM Program. The purpose is to help association members amid a career transition. For more information, please contact Susan Nash at snash@aapg.org or Terrilyn Olson at tmolson8550@gmail.com.

Upcoming Events:

Members in Transition Webinar: Technical Opportunities for Subsurface Scientists and Engineers in the Energy Transition

Date: Sept 9th, 2021 Time: 12:00 pm MDT Location: Online Webinar

Free

Description:

MiT announces an upcoming webinar with Dr. Shaina Kelly titled: "Technical Opportunities for Subsurface Scientists and Engineers in the Energy Transition". Register free online on the Rocky Mountain Association of Geologists website, here:

Register Now

This This past year has brought a tremendous acceleration for the energy transition and massive demand by the public and private capital markets for integrating environmental, social, and corporate governance practices in energy markets. Geoscientists and reservoir engineers have a wealth of knowledge about the characterization of critical subsurface fluid flow pathways, including fractures, rock matrices, fracture-matrix interfaces, and artificial subsurface components. These technical skill sets are in high demand for budding sectors such as CCUS, geothermal, and hydrogen storage, which involve fluid flow through porous and fractured media fundamentals, be it for containment or production. This talk will discuss opportunities encountered working with a fastpaced energy and environmental technology startup (AquaNRG) to leverage and/or retrofit oil and gas experience towards the technical challenges faced by subsurface energy transition activities. Shaina Kelly is a petrophysicist and engineer specializing in fluid flow characterization and unique core analysis, with 10+ related publications. Shaina has a Bachelor of Science in Environmental Engineering from the University of Florida and Masters and Ph.D. degrees in Petroleum Engineering from The University of Texas at Austin. She joined ConocoPhillips in 2016, working as a Senior Petrophysicist in their Geoscience organization on core and log analysis and single/multiphase flow modeling for various Lower 48 and international reservoirs, conventional and unconventional. Shaina joined AquaNRG in early 2021, a Senior Geoscience Engineer working on fluid-rock interaction modeling for various energy and environmental applications.

Members in Transition Webinar: END OF SUMMER NETWORKING EVENT

Date: Sept 1th, 2021

Time: 4:00 pm MDT

Location: Sloan's Lake 23rd Ave & Stuart St Denver, CO 80212

Free

Description:

Join us at Sloan's Lake Park (near the corner of 23rd Avenue and Stuart Street in the northeast part of the park) to hang out and network with your geo-friends, and make some new geo-friends! All are welcome.

Beer provided while it lasts, but feel free to bring some of your own to share (no glass containers, please). Street parking is available to the east of the park. Here:

Register Now

Drop by any time between 4pm and 7pm. We look forward to seeing you there! Register free online on the Rocky Mountain Association of Geologists (RMAG) website.

Please contact Members in Transition SPE liaison Shishir Shivhare, for more details! shishir.shivhare@sproule.com

Society of Petroleum Engineers - Denver Section

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Asia Pacific Level 35, Gardens South Tower Richardson, TX 75080-2040 USA Mid Valley City, Lingkaran Syed Putra 59200 Kuala Lumpur, Malaysia

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SPE members receive periodic emails on events and programs related to the section to which they belong. If you no longer wish to receive emails from this section, please opt-out. You may also choose to review your email preferences with SPE International.

