SOCIETY OF PETROLEUM ENGINEERS
Wyoming Petroleum Section
Marron Bingle-Davis, Secretary
P.O. Box 2154
Casper, WY 82602-2154

Section Website For Latest News:
http://wyoming.spe.org/

2019-2020 Wyoming Petroleum Section				
Section Chairman	Dave Chase	BLM	261-7685	dchase@blm.gov
Treasurer	Julie Cruse	Consultant	258-6092	juliemcruse@gmail.com
Scholarship Chair	Luke Opitz	Consultant	234-7833	lukeopitz1@gmail.com
Program Chairman	Paul Bonifas	Consultant.		paulbonifas@gmail.com
Secretary	Marron Bingle-Davis	Sunshine Valley Petroleum	233-8737	marron@sunshinevalleypetroleum.com
Continuing Education	Xuebing Fu	SWIFFTech	(713) 321-9198	engineerfu@gmail.com
Membership Chair	Sabrina Hamner	WOGCC	234-7147	sabrina.hamner@wyo.gov

THANK YOU 2020 SPONSORS

GOLD SPONSORS

NERD GAS COMPANY

Wold Energy PARTNERS

ULTRA UP PETROLEUM

SILVER SPONSORS

WWC ENGINEERING

UPSTREAM Petroleum Management, Inc.

QuestDrillingFluids

BRONZE SPONSORS

The Nicholas Family

TRUE

GROUSE MOUNTAIN ENVIRONMENTAL CONSULTANTS

UPCOMING AREA MEETINGS

WYOMING GEOLOGICAL ASSOCIATION –

All **WGA/SPE IN-PERSON MEETINGS FOR OCTOBER HAVE BEEN CANCELLED** due to the COVID-19 pandemic. The safety of our membership is of the utmost importance, so we appreciate your patience and understanding during this unpredictable time. The **BELOW TALKS ARE HOSTED VIRTUALLY FRIDAYS AT NOON**. If you would like to attend these virtual talks, please RSVP to wygeology@gmail.com by Thursday to receive the meeting information.

October 2, 2020: No Talk

October 9, 2020: Dana Perterman – Western Wyoming College – *Digitizing the Oregon Trail*

October 16, 2020: John Lee & Greyson Buckingham – DISA – *High-Pressure Slurry Ablation - A size reduction/liberation technology for mining and reclamation*

October 23, 2020: Ray Clayton – Allen and Crouch – *Gas Well De-Liquidization*

October 30, 2020 (SPE): Kelly Meyers – Gene R. George & Associates, Inc. – *Maximizing Reserve Recovery Through Chemical Optimization Of Frac Fluid*

UPCOMING MONTHLY PRESENTATIONS FOR THE SPE WYOMING PETROLEUM SECTION

October 30 SPE Meeting – Zoom Meeting: Kelly Meyers – Gene R. George & Associates, Inc. – Maximizing Reserve Recovery Through Chemical Optimization Of Frac Fluid

November 6 SPE Meeting – Virtual SPE Distinguished Lecturer: John de Wardt - DE WARDT AND COMPANY - *Drilling Automation is Here: Propagation, Pitfalls, Profits & Production*

Society of Petroleum Engineers

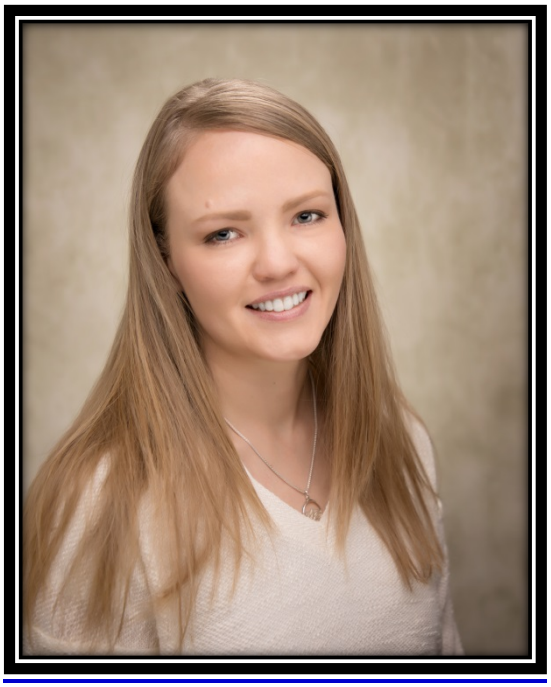
Wyoming Petroleum Section
October 2020 Newsletter
http://wyoming.spe.org/

When:	October 30, 2020	RSVP to
Where:	VIRTUAL MEETING	wygeology@gmail.com
Time:	12:00 PM	for meeting link

Event: **Kelly Meyers – Gene R. George & Associates, Inc. – Maximizing Reserve Recovery Through Chemical Optimization Of Frac Fluid**

BIOGRAPHY:

Kelly Meyers is Petroleum Engineer, EIT with Gene R. George & Associates, Inc. Ms. Meyers received her bachelor's degree, in Petroleum Engineering, in 2014 and her master's degree, in Chemical Engineering, in 2018 – both from the University of Wyoming. She has extensive research experience in Interfacial Chemistry and is currently working with Lee Shafer on this project. Mr. Shafer is a professional chemical engineer in Wyoming with over 40 years of oilfield experience, including 15 years of completion experience. Mr. Shafer was instrumental in the design of the Anticline Disposal facility in Pinedale, WY and holds 8 patents in water treatment and fracture stimulation processes.



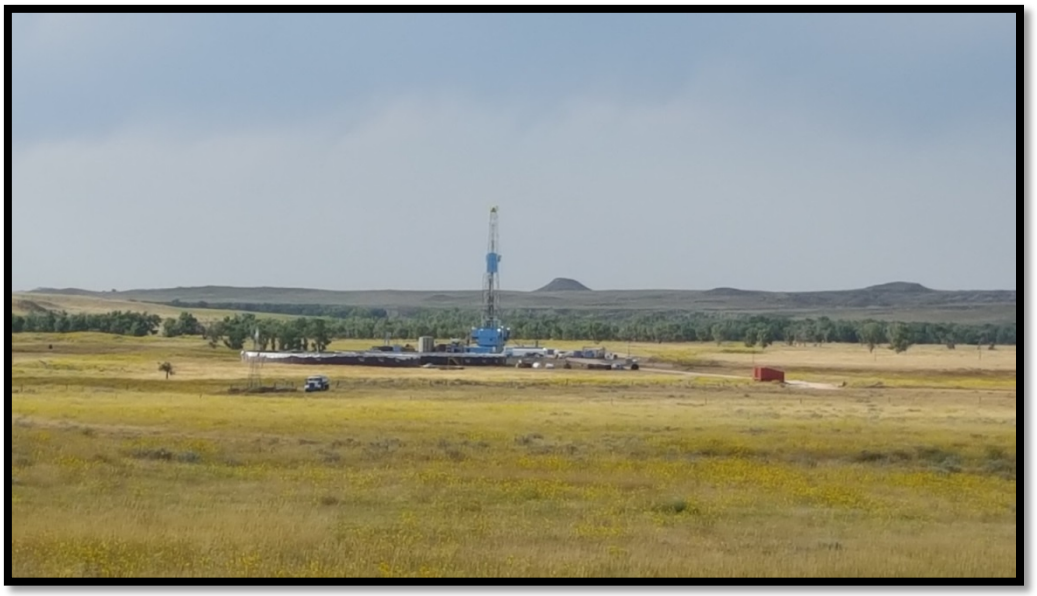
ABSTRACT:

Hydraulic fracture stimulation or "fracing" is a well stimulation technique involving the fracturing of bedrock formations by a pressurized liquid for the purpose of increasing Initial Production (IP) and ensuring high Estimated Ultimate Recovery (EUR). The process involves high-pressure injection of 'frac fluid' (primarily water, containing sand or other proppants suspended with the aid of thickening agents) into a wellbore to create cracks in the deep-rock formations through which natural gas, petroleum and brine will flow more freely. When the hydraulic pressure is removed from the well, small grains of hydraulic fracturing proppants (either sand or aluminum oxide) hold the fractures open. (See, Wikipedia – "Hydraulic Fracturing").

ABSTRACT CONT.

Common frac fluid recipes, however, can cause damage to the formation and hinder production. Additional complications arise when the frac fluid is not compatible with the formation. These can include near-wellbore damage due to fines migration or damage to the fracture face due to leak-off. Uncontrolled chemical reactions in the frac fluid system can deposit friction reducer residue near the wellbore. Finally, when spent acid mixes with commonly used friction reducers, a "gross mix of downhole junk" (commonly referred to as a "gummy bear") may form that can foul separators and clog tubing (See generally, Journal of Petroleum Technology, Sept 2020, Vol. 72, No. 9 at Page 26). Operators and service companies have also reported significant declines in oil production due to these gummy bears. Gummy bears are avoidable with a thorough understanding of the target formation controlling fluid interactions. Our mission is to determine optimum engineered frac-fluid compositions to preserve and enhance the hydrocarbon-bearing formation potential and address corresponding well stimulation and completion issues.

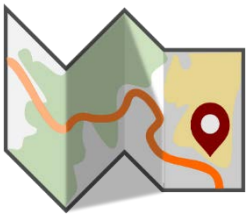
In this talk, I will provide a brief introduction, identify success stories, and discuss in more detail the problems associated with incompatible frac fluids. I will then identify the three (3) components of an optimal frac fluid and the process we use to determine the optimal frac fluid for a given formation – including refinement through flowback sampling. Last, I will discuss the timing of our evaluation process relative to drilling and completion, the amount of time required for sampling and analysis and finally the cost(s) associated with the optimization process.



CALENDAR OF EVENTS and NEWS WYOMING PETROLEUM SECTION

Due to our excellent participation in past continuing education events, we will continue to offer these as they become available. Our web address is *http://wyoming.spe.org*

The SPE Wyoming Petroleum Section will send out letters requesting scholarship sponsors for the 2021 year in November. Please consider helping out these deserving students in their academic pursuits. Scholarships will be awarded in the Spring of 2021. If you need further information please contact Sabrina Hamner at: sabrina.hamner@wyo.gov



MEETINGS ARE VIRTUAL UNTIL FURTHER NOTICE!!

RSVP TO wygeology@gmail.com
FOR LINK TO SEE TALKS VIA ZOOM

UPCOMING OPPORTUNITIES

Where: Little America Hotel & Resort - Cheyenne (2800 W Lincolnway, Cheyenne, WY 82009)

When: Thursday, October 22, 2020; 8 am-noon

Learn More & Register: https://www.landman.org/calendar-and-events/calendar

**Members - Reservations are Mandatory for Meetings **

Brandy Butler with WGA is taking phone reservations for meetings at 307-237-0027 or by email at wygeology@gmail.com. RSVP is now mandatory for attendance due before noon two days before the talk so please take a little extra time and call or email so that an accurate headcount can be given to the venue for their meal preparation. This also helps us to get scheduled into a meeting room that is adequately sized for our meetings. Your help in this matter is greatly appreciated.