



SOCIETY OF PETROLEUM ENGINEERS

SPE NEWS

COPENHAGEN SECTION

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SILVER LININGS

The year has already started with a great turnout of over 130 for the Hess sponsored January presentation on Ocean Bottom Seismic Acquisition and February will see Chevron welcome the first of our distinguished lectures. This looks to be an interesting event that will touch upon the key to successful conformance engineering. In March as we yearn for the warmth of the sun, start to see the first flowers push free of the snow signalling the beginning of brighter things, DONG will welcome us to an evening listening to a review of the challenges that have been faced by the Siri platform over the last 5 years. Certainly not a dull program.

In the last newsletter I touched upon the value for money that SPE membership provides and since that publication the statement has only become more true. Since then the price of oil has dropped by close to 50% and with it has come all of the stress, pressure, delay and uncertainty that has been synony-

mous with the oil industry throughout its history. But history has also shown that such periods have led to seismic shifts in technology and large bounds in work processes.

Doing more with less or working smarter to generate increased returns or reductions in costs without additional investments. Investment in ideas and people as opposed to increasing the rig count and making full use of the terabytes of data streaming onshore to fully understand and optimize the reservoir. These are the attributes of the industry leaders as they position themselves for better times.

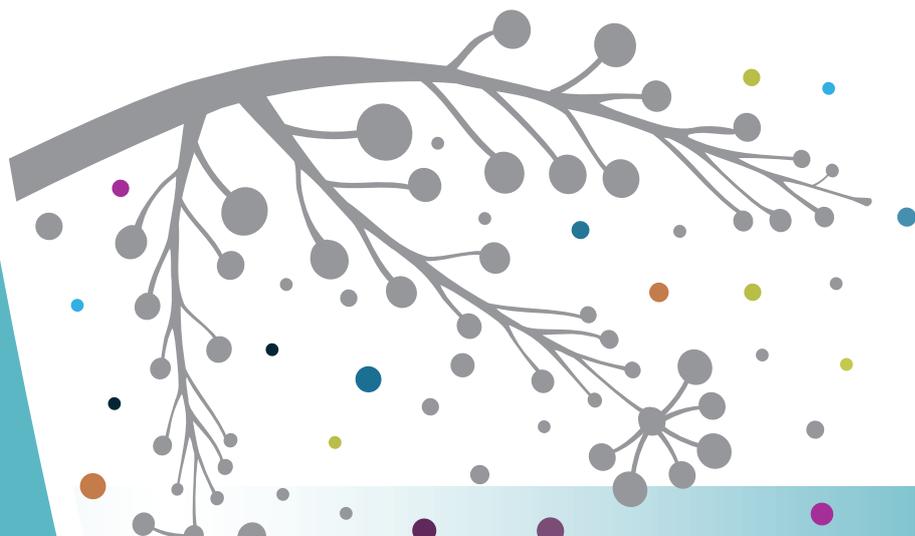
The SPE is a well positioned for companies and individuals to make the most of this time by having access to other people's failures and successes as well as peer reviewed best practices and technology trials.

We look forward to seeing you in February.

Anders Krag Norman,
SPE Copenhagen
Section Chairman

FUTURE MEETINGS

FOR MORE INFORMATION REGARDING
THE PROGRAMME SEE PAGE 6



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SPE YP NEWS

On Wednesday the 14th of January over 20 Young Professionals met at Søernes Ølbar in Østerbro. The get together gathered YPs from Maersk Oil, Hess, DONG, Schlumberger, Baker, Lloyd's Register and even a couple of soon to graduate students from DTU. It was also a truly multinational crowd with various professions from within the industry being represented. The event served as a platform for exchanging experiences and networking with the main point on the agenda being a very interactive talk by Bill Ginty from DONG.

Bill has spoken about his past experiences in the business, the beginnings of his career, the ups and downs of the industry along the way, the "dos" and the "don'ts" and work-family balance. Some very valuable tips were also given by Bill on how SPE can help YPs in developing their technical expertise and in helping to flourish their professional careers.

We are looking forward to future events and hope to see even wider YP representation. If you have any suggestions for improvements or would like to see other events come to life, do not hesitate to send your thoughts and ideas to jedrzej.bryla@maerskoil.com



VISIT TO DONG ENERGY

On the 21st of November 2014, more than 40 students of DTU SPE Student Chapter attended a visit and workshop to the Dong Energy in Gentofte. After an interesting presentation on the technical challenges involved in the drilling of the Hejre field, students were given a second presentation on the structural renovation occurring on the older Dong assets. After coffee and snacks, career advice and information about the application procedures for the Dong graduate scheme was offered. The event came to a close after a networking lunch provided kindly by Dong.



CHRISTMAS PARTY

To celebrate the end of the semester and the beginning of the festive period, the DTU SPE Student Chapter held a Christmas night for all chapter members on 6th December, 2014. Æbleskiver proved to be very popular and spirits were high with the approaching holidays and delicious Gløgg.



List of Events for SPE Student Chapter – Spring 2015

Date	Event
3 February	Internal Petrobowl Competition
19 February	CV and interview seminar from HR perspective (Lee Milligan, Maersk Oil)
March	Field Trip to Baker Hughes, Blue Orca
17 March	Petrobowl Regional competition
April	Anders Presentation for Bachelor / Master Students
June	General assembly & Summer BBQ (new student rep. has been appointed)

HOLISTIC DIAGNOSTIC APPROACH: THE KEY TO SUCCESSFUL CONFORMANCE ENGINEERING

Excessive water production is a widespread problem that can detrimentally affect the profitability of hydrocarbon-producing reservoirs and limit their economic life. A wide variety of mechanical and chemical technologies have been implemented throughout the years for controlling unwanted fluid production, referred to here as conformance technologies. However, historically water-control technologies are often perceived as low-success-ratio treatments.

The main objective of this presentation is to provide an overview of: (1) conformance technology development in recent years and (2) how proper diagnostics and candidate selection are the keys to high success ratios with these types of treatments. An overview of how water-control tech-

nologies have evolved in recent years is presented as the industry moves to more complex reservoirs, higher-temperature environments, and tougher environmental restrictions, among other factors.

Several varying case histories are discussed, highlighting the problem identification stage before execution, including different types of reservoirs, wellbore completions, and water-production mechanisms, among others. Case histories are presented related to water coning, interwell communication problems attributed to high-permeability streaks and/or fractures, and water control during stimulation treatments, among others. It is also important to understand that each technology has limitations, as conformance treatments are often applied in reservoir/wellbore conditions outside of their operating capabilities. ◀

BIOGRAPHY



Julio Vasquez, Halliburton

Julio Vasquez is a petroleum engineer working as a Conformance Global Product Champion for Halliburton's Production Enhancement product service line in Houston, Texas, USA. He has been with Halliburton for ten years. He is responsible for providing technical support to Halliburton global operations related to water and gas shutoff and

for the development of business, R&D, and training strategies for conformance. Previously, Vasquez worked at the Halliburton Technology Center in Oklahoma. Vasquez holds 6 US patents (10 pending) and has authored more than 50 SPE publications. Vasquez holds both a BS and MS degree in Petroleum Engineering from the University of Oklahoma. ◀



“KEEPING THE TAIL WAGGING”

How do you keep late life, low production assets running and creating value? How do you balance risk versus reward in aging offshore assets? When do you decide enough is enough? The presentation will discuss experiences of managing a cluster of late life assets in the Netherlands which are still continuing to produce almost 10 years after initial preparations for decommissioning took place. ◀



●● BIOGRAPHY ●●●●●●●●●●



Ewan Chesser, Chevron Denmark Country Manager since January 2015

Ewan studied Chemical Engineering at Edinburgh University graduating in 1994 with a First Class honors degree.

After leaving University, he worked for an Independent Chemical company specializing in the environmental recycling and refining of industrial solvent streams. He then joined BP at their Grangemouth Refinery in Scotland in 1998 and worked for BP for almost ten years, first managing projects in the refinery then moving upstream to their Operations centre in Aberdeen.

He joined Chevron in 2009 working in their Partner business team covering all Chevron's interests in both the UK and Denmark. In 2013 he moved to become the Operations Manager of their Dutch interests based in the Hague. This ended in late 2014 when Chevron's assets in the Netherlands were divested. Since the beginning of 2015, Ewan has been the Country Manager for Chevron Denmark.

Ewan is married, has two young children, and enjoys cycling and curling. ◀



PROGRAMME

17:00 - 18:00

Drinks

18:00 - 19:00

Presentation and SPE News

19:00 - 21:00

Dinner

LOCATION

Charlottehaven
Hjørringgade 12C
2100 Copenhagen

SPEAKER

Julio Vasquez, Halliburton
SPE DL

TOPIC

Holistic Diagnostic Approach:
The Key to Successful
Conformance Engineering

DINNER SPEAKER

Ewan Chesser, Chevron

TOPIC

Keeping the Tail Wagging

ENTRANCE FEE

None

REGISTRATION

Please indicate your attendance by Thursday 12 February by signing up on the internet www.spe-cph.dk

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FEBRUARY

SPE MEETING SCHEDULE

2014-2015

September 23	MAIN SPEAKER	AFTER DINNER
TOPIC	DTU Research Projects	Hydrocarbon Research & Technology Centre
SPEAKER	Dr Teresa Regueira Muniz; Konstantina Katika, Dr John Jørgensen	Bo Cerup-Simonsen
LOCATION	DTU	
SPONSOR	DTU	
October 22	MAIN SPEAKER	AFTER DINNER
TOPIC	Safety in Operations – A Leadership Journey	Process Safety in Wells
SPEAKER	Ben Ring, Shell	David Roberts, Shell
LOCATION	Shell	
SPONSOR	Shell	
November 19	MAIN SPEAKER	AFTER DINNER
TOPIC	Maersk Drilling Service Delivery Model	Dan Bravo Rationalisation
SPEAKER	Kristian Coff-Petersen, Maersk Drilling	Jakob Knudsen, Maersk
LOCATION	Maersk	
SPONSOR	Maersk	
January 21	MAIN SPEAKER	AFTER DINNER
TOPIC	Obtaining a high quality Ocean Bottom Seismic (OBS) survey on the South Arne Field	Downhole Scale Mitigation Trial on South Arne Using High Frequency Electromagnetic AC Signals
SPEAKER	Marianne Rosengreen and Erik Jakobsen, Hess	Anders Krag Norman, Hess
LOCATION	Moltkes Palae	
SPONSOR	Hess	
February 17	MAIN SPEAKER	AFTER DINNER
TOPIC	Holistic Diagnostic Approach: The Key to Successful Conformance Engineering	Keeping the Tail Wagging
SPEAKER	Julio Vasquez, Halliburton	Ewan Chesser, Chevron
LOCATION	Charlottehaven	
SPONSOR	Chevron	
March 10	MAIN SPEAKER	AFTER DINNER
TOPIC	The Siri platform repair project - reviewing 5 years of challenges	
SPEAKER	Jørgen Rentler Næumann, DONG	
LOCATION	DONG	
SPONSOR	DONG	
April 16	MAIN SPEAKER	AFTER DINNER
TOPIC	Lessons Learned in Technology Development... ...and Perforating 'Smart' Wells	
SPEAKER	Curtis G. Blount, ConocoPhillips	
LOCATION	Welltec	
SPONSOR	Welltec	
May 20	MAIN SPEAKER	AFTER DINNER
TOPIC	Comparing Formation Evaluation Measurements Made Through Casing with Openhole Logging Measurements	Annual General Meeting
SPEAKER	James Hemingway, Schlumberger	
LOCATION	GEUS	
SPONSOR	GEUS	
June	MAIN SPEAKER	AFTER DINNER
TOPIC	SPE Summer party	
SPEAKER		
LOCATION		
SPONSOR	Schlumberger	



SPE MEMBERSHIP DUES

PLEASE REMEMBER TO PAY FOR THE SPE MEMBERSHIP FOR 2015, AND ALSO REMEMBER TO UPDATE MEMBERSHIP DETAILS AT SPE.ORG, so as to receive the Copenhagen Section Newsletter and corresponding e-mails if based in Copenhagen/Denmark or otherwise interested in the section activities.

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HEJRE PROJECT

STATUS – JANUARY 2015

All the main equipment for Hejre has now arrived at the construction site in South Korea. More than 200 individual packages of process and utility equipment (compressors, pumps, switchboards, etc.) have arrived from 18 different countries. The majority of the suppliers are European, but there are also suppliers from Israel, USA and Singapore.



The 17 tonnes ball valve installed on the platform.

In order to perform with a high level of safety under the extreme HPHT (high pressure, high temperature) conditions of Hejre, specialised equipment is required. Below, we have listed some interesting facts that highlight the demanding requirements:

- The biggest valve on Hejre has a height of 3.5 meters, a width of 5 meters and a weight exceeding 17 tonnes. It is a 12" ball valve which is designed for 832 bar (~850kg per square centimeter) and 170oC. With these specifications and when the valve is closed, it is able to withstand an exerting pressure of more than 600 tonnes.
- Hejre has three self-contained firewater pumps. Each of these pumps can deliver sea water at a rate up to 350 000 bbl/day (55 000 m3/day).
- Hejre has three turbine generators which are fuelled by natural gas. Each of the generators can generate more than 11,000kW.

- The hot oil and gas production will be cooled down for stabilisation using massive heat exchangers. The heat exchangers have a cooling capacity of 28.000kW each.
- The Hejre platform has more than 630km cable installed.
- The platform is being built on six specially made 'shoes'. The shoes are used for sliding Hejre from the fabrication site out onto a transportation vessel. Each shoe weighs about 200 tonnes.
- Hejre has been specially designed for installation with the world's largest floating crane 'Thialf'.

Last summer, the Hejre jacket was installed, the pipe laying vessel Castoro Sei laid the Hejre oil and gas export pipelines and the drilling rig Maersk Resolve moved in position and began drilling Hejre HA-1, the first HPHT production well in the Danish sector, as shown in the figure below.

Drilling the Hejre reservoir section and the long open hole section above was done using Managed Pressure Drilling (MPD) techniques and equipment including the Rotating Control Device (RCD). This was done without any significant losses reaching a TD of more than 5700 m MD in the recent holiday season. The running and cementing of the super 13 chrome production liner was performed as planned and completion operations are now ongoing.



A RCD spool is a part of the MPD equipment which makes it possible to add backpressure on the wellbore during drilling operations.



SIRI PLATFORM REPAIR

The Siri platform was installed in 1998, and first oil from the Siri field was in 1999. In 2003, the Nini and Cecilie fields were tied in to Siri. During a routine inspection of the Siri platform in August 2009, cracks were discovered in a load-bearing part of the structure supporting parts of the Siri platform.

Production was immediately shut down, and temporary measures were implemented to stabilise the structure and allow production to resume while a permanent repair was performed. The repair was run as a fast track project with high priority in DONG E&P.

DONG E&P applied technology never before used in the oil and gas industry to repair the platform. In combination with application of state of the art structural engineering methods and models this has allowed the platform to continue operation both during the repair and for the remaining operational life.

During the repair project, a number of challenges arose that put pressure on the execution schedule. The installation work was thus completed in the summer of 2014, and third party verification and ENS approval was achieved in October 2014. ◀





Jørgen R. Næumann

Jørgen R. Næumann holds a MSc in Petroleum Engineering from the University in Stavanger. He has nearly 20 years diverse experience in the oil and gas industry, having worked mostly with brownfield projects in the Norwegian and Danish sectors. He has been in the Siri Area Asset since 2012, representing the owners towards the repair project and coordinating this with other activities in the licences. He is also responsible for the ongoing insurance claim and other commercial issues in relation to the damage. He is currently also chairman for the Field Development Committee.

C O P E N H A G E N
M E E T I N G
T U E S D A Y 1 0 M A R C H 2 0 1 5

MARCH

PROGRAMME

17:00 - 18:00
Drinks

18:00 - 19:00
Presentation and SPE News

19:00 - 21:00
Dinner

LOCATION

DONG E&P
Nesa Allé 1
2820 Gentofte

SPEAKER

Jørgen Rentler Næumann,
DONG E&P

TOPIC

The Siri platform repair project
– Reviewing 5 years of challenges

ENTRANCE FEE

None

REGISTRATION

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