This workshop is taking place at the right time for the industry. It will cover a familiar topic in a different light. In light of the current obscurities in the oil and gas industry, after the recession in crude oil price, especially within the second half of 2014, it is essential to start thinking differently and tackle complex surface and subsurface issues during the stage of Field Development Planning (FDP), in an innovative way. As commented by a senior management executive, “this is the best time to be a petroleum engineer in the oil industry”. Though, the challenges that we are currently facing are not new, we have faced them before and we will survive again and come out stronger. One of the key survival strategies here, is expanding development of inexpensive and easy oil via improving our FDP process and using the technology without having to compensate time for the cost of complexity—this would make the creative juices flow.

This workshop is set to provide participants with a full overview of the key challenges facing the oil and gas industry during the process of field development planning. This will cover, largely, risks and uncertainty management, related to data, project management, best utilisation of data and knowledge, impact of emerging technologies, managing of non-technical risks, resources and skill development, and transfer of knowledge. This workshop will share ideas on ways of overcoming these challenges.

WHO SHOULD ATTEND
Geologists
Geophysicists
Petroleum Engineers and Managers
Reservoir Engineers and Managers
Facility Engineers and Managers
Project Engineers and Managers

COMMITTEE MEMBERS

Chairperson
Khalid Al Khabouri
PDO

Osama Abazeed
Tendeka

Badar Ali Hilal Al Aamri
MEDCO Energi - Oman

Hussain Hamed Al Noumani
PDO

Suleiman Al Siyabi
OOCEP

Tarik Baig
BP

Chetan Bhavsar
Weatherford

Richard Mohan David
ADCO

Ibrahim Fahmy
ZADCO

Ozgur Karacali
Schlumberger

Jose Lozano
Partex Oil and Gas

Smina Mahrooqi
PDO

Yi Svec
Shell
SCHEDULE

MONDAY, 27 MARCH 2017

0830–0900 | Welcome Refreshments, Registration and Badge Collection, Hotel Safety and Security Briefing
0900–0910 | Opening Remarks and Introduction by the Chairperson
0910–0930 | Workshop Opening Keynote Address: Ali Gheithy, Functional Director of Petroleum Engineering, PDO
0930–1030 | Session 1: Field Development Life Cycle Practices
Session Chairs: Hussain Hamed Al Noumani, PDO; Tarik Baig, BP

The key objective in field development planning is to commercially mature hydrocarbon resource volumes from discovery to the operation phase. To successfully create robust field development plans, integration of specialist knowledge from various technical disciplines, ranging from an understanding of the geological petroleum system to managing processing and export facilities, is required.

Field development planning is applicable to both green and brown fields, and should be regularly revised to reflect the field maturity and recovery phase. This is required to ensure that optimal field development, maximal recovery, and the best field management, are in place.

Technical risks associated with subsurface uncertainties drive the appraisal activities for green fields, and data acquisition through well and reservoir surveillance during the operation phase for the brown fields. Given the current costs pressure and subsurface uncertainties, it is essential to create scalable and fit-for-purpose plans at each phase. Managing change, as a result of field performance, is an integral part of the planning process.

The session will aim to demonstrate integration and management of ideas, data, knowledge, capability, technology, processes, performance, risks and uncertainties, in today’s hydrocarbon field development.

The session will provide participants with a platform to share current industry practices, case histories and experiences in integrated hydrocarbon field development planning from both operator and service provider perspectives.

1030–1130 | Session 2: Risk and Uncertainty Management
Session Chairs: Suleiman Al Siyabi, OOCEP; Yi Svec, Shell

The complex geology in today’s reservoirs, coupled with expensive development schemes, makes field development planning a very challenging task. Geologists, engineers, and managers, are often faced with hard-to-make decisions with limited or incomplete knowledge during field development planning. To overcome the difficulties and to have more informed decisions, it is necessary to have a complete assessment of risks and uncertainties of the reservoir to be developed.

Almost all projects in the oil and gas industry have significant uncertainties in which some of them may lead to significant risks. To avoid any erosion of value of a project, a systematic and accurate assessment of uncertainties must be undertaken to arrive at an optimised and risk-averted, fully-integrated field development plan.

This session will discuss the following key points with an effective and systematic approach to risk management and uncertainties during field development planning:

• The identification of risks and ranking them according to their causes and impact
• Review of the project risk identification and quantification methodologies
• Linking of risks to key uncertainties in the FDP development concepts
• Assessment of impact of uncertainties on development outcome
• Development of uncertainty mitigation and contingency activity plan
  • Balance between design flexibility and costs optimisation
  • Production operating strategy
  • Tie the key development uncertainties to the activity plan in WFRM.
• Communication of risk and uncertainty assessment for informed decision making

During FDP, risk and uncertainties analysis should be kept simple by targeting the uncertainty parameters that have a material impact on the value of the project. One keeps in mind that even with the most rigorous technical approaches, the uncertainties may remain.

1130–1145 | Coffee Break/Group Photograph
1145–1230 | Breakout Discussion (Session 1 + Session 2)
1230–1330 | Luncheon and Prayers

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1330–1430  |  Session 3: Knowledge/Data Utilisation for Effective Field Management  
Session Chairs: Khalid Al Khabouri, PDO; Jose Lozano, Partex Oil and Gas

Field development is an integrated activity and requires reliable data at all the different stages of its life cycle. The potential issues with data are typically being captured in the early planning stages of the field development study and the process of refining the data resumes throughout the life cycle of the field development. It is known that in many cases a new piece of data may originate from our review of the reservoir understanding (conceptual field model) and may create serious consequences on the FDP; however this should not be done without a proper review of the rest of the available data.

Hydrocarbon fields are primarily developed based on the location of the discovered field, type and volumes of the hydrocarbons. This follows a complete life cycle of the field from discovery, appraisal, development, execution, and production, to abandonment. Throughout this cycle, there is one thing that remains unchanged—the data, which is collected throughout the different periods, surface as well as subsurface. However, it is apparent that the full utilisation of this critical component is missing and the information that is been collected is not sufficient for effectively developing our resources. Subsequently, it is crucial that the data is validated and easily accessible.

The main factors preventing the efficient usage of data are availability of data in the proper format; not being able to retrieve relevant information; change of employees; and lastly, loss of exact knowledge and comprehension in written documents. All of the former reasons (if not some) may contribute to the lack of complete data utilisation and integration. This leads to a tendency to start from scratch and build-up knowledge over a limited period of time. Consequently, this may result in studies taking longer than required and, most likely, a higher risk in making similar inaccuracies as in the past studies.

Here we offer the opportunity, in bringing this topic to the forefront, to effectively manage the data as it is acquired, and link it to solve the issues highlighted earlier during the field development study.

This will help fuel a better understanding of the data based on past experience and facts gained, rather than having to start again from the beginning.

TUESDAY, 28 MARCH 2017

0830–0900  |  Welcome Refreshments, Registration and Badge Collection
0900–0910  |  Opening Remarks and Introduction by the Chairperson
0910–1040  |  Session 4: Impact of Technology on Field Development  
Session Chairs: Osama Abazeed, Tendeka; Badar Ali Hilal Al Aamri, MEDCO Energi - Oman

The current industry and market conditions add various extra challenges to the process of field development with the increasing necessity to achieve the desired recoveries with the minimum cost possible. At the same time, the growing reservoirs’ and fields’ complexities have been making the design and execution of a field’s development even more challenging.

The advancement in technologies has been always a key factor and an enabler in achieving the planned objectives of this process. They serve many objectives such as reducing uncertainties and enhancing understanding, optimising production under optimum costs, and improved exploitation of reserves for higher recoveries.

New technologies can contribute at various stages:

- Well planning and design
- Geophysical and reservoir technologies
- Drilling and completion technologies
- Production and recovery

The discussions of this session are expected to cover the various aspects of the impact of new technologies on the process of advanced field development, especially those related to the applicability in various types of reservoirs, and the added value of implementing such new technologies as compared to current practices.

The general argument in the topic of new technology usually is the risk associated with implementation, the level of maturity, and the applicability. On the other hand, another challenge that might appear on the horizon of the technology providers would be regarding the willingness of operators to support and enable their technologies.

1040–1120  |  Breakout Discussion (Session 4)
1120–1140  |  Coffee Break
1140–1240  |  Session 5: Management of Non-Technical Risks  
Session Chairs: Badar Ali Hilal Al Aamri, MEDCO Energi - Oman; Smina Mahrooqi, PDO

Our oil and gas industry has been facing risks that are tremendous and of both a technical and non-technical nature. The non-technical risks such as the sustainable...
development of the business as well the people, the In-Country-Value (ICV), the economics (especially in view of the current difficult oil prices), the development of the people and the quality control are as critical as the technical risks. They are amongst the main success-critical factors to be considered and well taken care of.

The discussions of this session need to address the challenges these risks impose on the projects and the industry as a whole, the impact of those challenges on the success and feasibility of a project, and the optimum solutions exercised (based on case studies) to overcome those challenges.

1240–1330 | Luncheon and Prayers
1330–1400 | Energiser
1400–1430 | Breakout Discussion (Session 5)
1430–1530 | Session 6: Wrap-Up
Session Chair: Khalid Al Khabouri, PDO
• Table discussions
• Group discussions
• Summary
• What does success look like?
1530 | End of Day 2

GENERAL INFORMATION

Format – Two days of informal discussions prompted by selected keynote presentations and discussions. Focused topics and issues critical to advancing both technology and best practices. Majority of the presentations are in the form of case studies, highlighting engineering achievements, and lessons learnt. In order to stimulate frank discussion, no proceedings are published and the press is not invited to attend.

Documentation
• Proceedings will not be published; therefore, formal papers and handouts are not expected from speakers.
• Work in progress, new ideas, and interesting projects are sought.

Poster Session – The Steering Committee encourages registrations from professionals who are able to prepare and present a poster on a relevant project.

Attendance – Registrations will be accepted on a first-come, first-serve basis. The Steering Committee encourages attendance from those who can contribute effectively either in discussions or with posters.

Workshop Deliverables
The Steering Committee will appoint a “scribe” to record the discussions and to produce the full workshop report for SPE.

Commercialism – Commercialism in posters or presentations will not be permitted.

Attendance Certificate – All attendees will receive an attendance certificate attesting to their participation in the workshop.

Continuing Education Units – Attendees at this workshop qualify for SPE Continuing Education Units (CEU) at the rate of 0.1 CEU per hour of the workshop.

Registration Information – This is a nonresidential workshop and therefore hotel accommodation is not included in the registration fees. The registration fees include all workshop sessions, coffee breaks, and luncheons.

Cancellation and Refund Policy
• A processing fee of USD 100 will be charged for cancellations received before the registration deadline, 25 February 2017.
• For cancellations received after the registration deadline, 25 February 2017, 25% refund will be made to the registrant.
• No refund on cancellations received within seven (7) days prior to the workshop date, i.e. on or after 20 March 2017.
• No refund will be issued if a registrant fails to attend the workshop.

Registration Policy
• Registration fee MUST be paid in advance to attend the workshop.
• Full fixed fee is charged regardless of the length of time that the registrant attends the workshop.
• Fixed fee cannot be prorated or reduced for anyone (workshop co-chairpersons, committee members, speakers, discussion leaders, students, and registrants).
• Delegates with no proof of advance payment are required to pay onsite by cash or cheque, present a copy of the wire transfer, or submit a letter from their company guaranteeing payment of the workshop fees.

SPONSORSHIP INFORMATION

Sponsorship support helps offset the cost of producing workshops and allows SPE to keep the attendance price within reach of operations-level individuals, those who benefit most from these technical workshops.

Sponsors benefit both directly and indirectly by having their names associated with a specific workshop. While SPE prohibits any type of commercialism within the workshop hall itself, the society recognises that sponsoring companies offer valuable information to attendees outside the technical sessions.

SPONSORSHIP CATEGORIES
Sponsorships are offered on a first come basis. Please contact SPE to verify the availability of a particular sponsorship. Existing sponsors have the opportunity to renew the same level of sponsorship for annual workshops.

SPONSORSHIP BENEFITS
In addition to onsite recognition; SPE will recognise sponsors on the SPE website and in all printed material for the workshop. Based on the sponsorship selected, sponsoring companies also receive logo visibility on promotional workshop items.

FOR MORE INFORMATION
For a detailed list of available sponsorships, including benefits and pricing, contact Olga Vyshnevskа at ovyshnevskа@spe.org.
**REGISTRATION FORM**

**SPE Workshop: Advanced Field Development—Sustainability and Challenges**

27–28 March 2017  |  PDO Learning and Development Center, Muscat, Oman  | www.spe.org/go/15amc2

Attendance is limited and is not guaranteed. Early registration is recommended. Please print or type in black ink.

**IMPORTANT:**
Registration fee MUST be paid in advance for attending the workshop.

**WORKSHOP FEE:**
SPE Members:
- Before 10 February = USD 700
- After 10 February = USD 1000
Nonmembers:
- Before 10 February = USD 800
- After 10 February = USD 1300

Workshop fee includes:
Technical sessions, materials, daily coffee breaks and luncheons, certificate of Continuing Education Units (CEU), and welcome reception and dinner (if applicable). Accommodation is NOT included in the workshop registration fee.

**IMPORTANT:** All SPE Middle East rates are net of taxes. The fees in this form do not include any local or withholding taxes. All such taxes will be added to the invoice.

Fax or email the completed registration form with payment or credit card information to:
- Online: www.spe.org/go/15amc2
- Email to: registrationdubai@spe.org
- Telephone: +971 (4) 457 5800
- Fax: +971 (4) 457 3164

Visa: SPE Middle East, North Africa, and South Asia will assist in providing a visa invitation letter, upon request in writing, to confirmed registrants after receiving full payment of registration fees. Visa invitation letters take five days to issue from the date of request and it is the delegate’s responsibility to obtain their own visa. SPE cannot issue the visa nor can we guarantee it will be obtained.

Questions: Contact Olga Vyshnevskka, Event Manager, at ovvyshnevskka@spe.org.

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DO YOU WISH TO PRESENT A POSTER? (SUBJECT TO SELECTION)
- Yes
- No

DO YOU WISH TO BE CONSIDERED A DISCUSSION LEADER? (SUBJECT TO SELECTION)
- Yes
- No

If yes, please indicate the subject on which you would like to present:

HOW DID YOU FIRST BECOME AWARE OF THIS EVENT?
- Colleague (word of mouth)
- Section or Student Chapter
- JPT Ad
- Industry Publication
- Email from SPE
- SPE Website
- Other Industry Website
- Brochure Received by Mail
- I am a Committee Member/Presenter
- Employer
- An Exhibitor
- Others (please specify)

DO YOU HAVE ANY MOBILITY/DIETARY REQUIREMENTS? (PLEASE SPECIFY):

**PAYMENT DETAILS:**
- Bank Transfers: (Please include the name of the registrant and 15AMC2 as reference for the transfer)
  - Name of Bank: HSBC Bank Middle East Limited, Jebel Ali Branch, P.O. Box 66, Dubai, UAE
  - Name of Account: SPE Middle East DMCC
  - IBAN Number: AEIB02000000362171100
  - Swift Code: BBMEAEAD
- Credit Card (Check one):
  - American Express
  - MasterCard
  - Visa

Card Number (will be billed through Society of Petroleum Engineers) Expiry Date (mm/yy) Security Code

**CANCELLATION AND REFUND POLICY:**
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