This SPE workshop is the first technical focused meeting dedicated to offshore oil and gas exploration and development in Lebanon, after a series of events addressing policies and marketing aspects.

The Levantine basin in the eastern Mediterranean waters is one of the largest untapped exploration basins worldwide and is, consequently, attracting a lot of attention especially due to several major discoveries in the last few years.

Interpretation of seismic data covering the entire Lebanese offshore has shown a great potential. On 21 January 2017, the Lebanese Council of Ministers approved two decrees needed for the completion of the first licensing round for Lebanon. The first decree divided the Lebanese Exclusive Economic Zone into ten blocks. The second decree presented the Tender Protocol that defines the conditions for participating in the bid round, the criteria used in the bids evaluation, and the model Exploration and Production Agreement that will be signed between the State and the winning consortia. Furthermore, the required petroleum tax law was signed by the Lebanese Council of Ministers on 19 September 2017.

Shortly after the approval of the decrees, a first licensing round started and five out of the ten offshore blocks were open for bidding. Prequalified companies, after two prequalification rounds, were invited to submit their bids on the open blocks. Eventually, the Lebanese Petroleum Administration received two bids presented by the consortium Total-ENI-Novatek for blocks 4 and 9. The evaluation of the bids and the signature of the EPAs will follow in November 2017.
Wednesday, 14 March 2018

Opening Session

Session 1: Setting the Scene—Lebanon Exploration Activity and Potential
Session Chairs: Elie Daher, United Safety; Kassem Ghouayeb, American University of Beirut

Experts from the Lebanese Petroleum Authority (LPA) will share up-to-date information about:
- Available data and studies
- Current understanding of the offshore fields’ potential
- Status of exploration activity and plans

Session 2: De-Risking the Petroleum System Elements, Offshore Lebanon
Session Chairs: Gwenael Guerin, Total; Jevon Hilder, Spectrum Geo Limited

There is still a good deal of uncertainty regarding the main petroleum system elements of the Levantine Basin offshore Lebanon. This session will focus on current thinking concerning:
- Source rock distribution, maturity and the likelihood of oil or gas generation and migration pathways—the biogenic gas system is proven in the recent discoveries close to Lebanon offshore, but is there any room for a thermogenic system?
- Possible reservoir provenance, quality and distribution—as no well has been drilled yet which could prove the sand presence, the regional understanding of the potential provenance is key for the future exploration in the area.
- Structural evolution of the basin and implications for hydrocarbon traps and their integrity—the tectonic history of the area is complex, and the structural evolution is one of the main ingredients for success in this case.

As well as examining areas which were the subject of some conjecture currently, we will attempt to identify where new data or different approaches will improve our understanding of the petroleum system, vital for de-risking the exploration phase.

Session 3: International and Regional Analogues and Lessons Learnt
Session Chairs: Rachad G. Ghanem, Lampion Oil & Gas Services; Ahmed Sabry, Schlumberger

Recently acquired seismic data offshore Lebanon led to the identification of promising prospects, yet many questions remain unanswered (e.g. basin temperature, pressure, rock and fluid properties, etc.). It has become common practice to use and supplement subsurface datasets with information and concepts derived from basin and reservoir analogues. This aims at building a better understanding of new frontiers being explored, reducing uncertainties, and focusing on key elements for successful exploration and development. The industry has spent substantial efforts in recent years in examining the challenges inherent in the selection and application of appropriate analogue data.

The western and south-western portions of the Levant basin were drilled with valuable direct and indirect measurements obtained from tests carried at well sites. Data from such regional analogues along with other international ones are believed to play a major role in reducing uncertainties pertaining to geology and reservoir characteristics within the Lebanese un-drilled area. Lessons learnt from regional and international analogues would significantly help to optimise well location selection and planning, improve managing drilling challenges, and enhance understanding of reservoir characteristics and challenges.

Thursday, 15 March 2018

Session 4: Challenges in Deep and Ultra-Deep Offshore Drilling
Session Chairs: Roy P. Borkhoche, Baker Hughes, a GE company; Kamel El Kholy, Schlumberger

The first exploratory well in the Levant basin (Leviathan-1 2010) was drilled to a depth of 5,170 metres at an estimated cost of USD 95 million when the natural gas commodity price was USD 5.42/MMBTU. In the current market conditions, where natural gas prices are depressed (USD 3.0/MMBTU), drilling challenges or inefficiencies can easily deter further investment and development activity. Hence, it is critical to have the right combination of planning and execution coupled with the highest quality and HSE standards for the Lebanese offshore prospect to succeed. A full-stream integrated approach would be required to minimise the risks, improve well delivery efficiencies and drive down the cost per well.

The main purpose of this session is to go through the multiple drilling challenges and to ensure mitigation plans are in place prior to start-up. These complex deep wells are high pressure, high temperature applications which require a unique approach and cutting-edge technology in order to drill and place within the reservoir productive zone. Among these challenges are drilling in water depths of up to 2,000 metres, which require unconventional surface and sub-surface infrastructure. Other encountered drilling challenges include, wellbore stability with reactive shale zones, shallow gas subssea spots, casing and tubular collapse in salt and pressured zones, multiple traversing fault lines, narrow pressure window drilling intervals, ECD management and depleted targets, downhole dynamics and drilling inefficiencies, severe lost circulation, well control and reservoir uncertainties. All these challenges increase the drilling risks and can easily drive well costs beyond the economic break-even point, if not well understood and properly planned for along with effective mitigation planning.

Session 5: The Journey of Environment, Health, and Safety (EHS) from the Regulatory, Technical, and Operational Aspects
Session Chairs: Elie Daher, United Safety; Hesham Elkhafif, Petrobel

The Offshore Petroleum Resources Law (OPRL) establishes the main and general rules of the HSE regime in Lebanon, which is complemented by the extensive and detailed Petroleum Activities Regulations. New HSE legislation and regulations in Lebanon are currently being developed. The rules state that petroleum activities must be conducted in a way which enables a high level of safety. Any person managing or undertaking petroleum activities according to a petroleum right awarded under the OPRL must ensure high standard of health and high level of safety for their employees and the employees of subcontractors.

The right holder must ensure that anyone carrying out work on the behalf of the right holder through employees, contractors or subcontractors, complies with the HSE regulatory requirements. Petroleum activities must be conducted in a responsible and prudent manner and must include practices and methods that reasonably would be expected from internationally experienced operators. As we are embarking on the exploration journey, operators, contractors and regulators should strive to provide safe, healthy, and secure workplaces, protect the environment, uphold and promote human rights, and respect cultural norms and values everywhere we operate.

The exploration and production work has the potential to impact people, the environment and society but through good management practices, stakeholders are able to deliver excellence in HSE and SR performance. In this session, we will take a look at how we can effectively manage, measure, and advance our HSE and SR performance to achieve excellence in the years ahead for a safe journey into oil and gas exploration and production. Case studies, lessons learnt, best practices will be shared and discussed, and recommendations will be drawn.
Session 6: Optimal Data Acquisition for Reservoir Characterisation
Session Chairs: Ali S. Sikandar, Qatar Petroleum; Rodrigo Siqueira, Halliburton

What is the impact of a low oil price environment on data acquisition programmes, especially exploration? Are operators gaining value out of their investments on gathering data and turning it into decision-making basis?

When business decisions or investment decisions on a new play need to be made, the impact of a high uncertainty level in volumetric or productivity estimates may make the difference between investing further or not. The lack of proper information and analysis can make you miss a good investment or can also lead to an investment on an uneconomical play.

Oil and gas operators gain insight from acquiring accurate reservoir data in order to help them make better decisions. The right balance between the cost of the technology and how the information from that technology will be able to help reduce the uncertainty on a specific well or play.

This workshop will focus on the engineering aspects and the available technologies for reservoir characterisation in early exploration stages and how companies are able to optimise the value that a proper planned and executed data acquisition programme brings to their plans and decisions.

Session 7: Post-Exploration Phase: The Way Forward towards Field Development
Session Chairs: Amir Alwazzan, Dragon Oil; Ali Choumar, DNV GL - Oil & Gas

Exploration and production of oil and gas is a high-risk venture and the process of making decisions pertaining to this industry, is still a very complex one due to the high number of parameters and issues involved in it. However, the industry has experienced significant improvements in the management of uncertainties in the past decades, and uncertainty and risk analyses are becoming more popular, contributing in an important manner to clarify the range and the impacts of new discoveries as well as development and production assets.

In this session, participants will share their experiences in addressing post-exploration issues to better understand and quantify the risks and uncertainties associated with this phase along with their effective controls. Discussions will be covering the principles of the FDP option selection, data acquisition and interpretation, risks’ analyses and smart fields’ developments.

Session 8: Workshop Summary Session

Highlights from different sessions will be recorded, consolidated, and summarised during and after each of the above sessions. The summary will be presented, discussed, and finalised in this session.
Lebanon Offshore Oil and Gas Exploration and Development

REGISTRATION FORM

Early Bird Registration Deadline is 28 January 2018.

FIRST NAME ____________________________ LAST NAME ____________________________

SPE MEMBER? ☐ Yes ☐ No MEMBER NUMBER ____________________________

COMPANY/ORGANISATION ____________________________ JOB TITLE ____________________________

STREET/P.O. BOX NUMBER ____________________________ CITY ____________________________ STATE/PROVINCE ____________________________

ZIP/POSTAL CODE ____________________________ COUNTRY ____________________________ FAX ____________________________

TELEPHONE ____________________________ EMAIL (REQUIRED) ____________________________

DO YOU WISH TO PRESENT A POSTER? (SUBJECT TO SELECTION BY STEERING COMMITTEE)
☐ 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:

TECHNICAL DISCIPLINE (CHECK ONE):
☐ Management and Information
☐ Drilling
☐ Completions
☐ Production and Operations
☐ Projects, Facilities, and Construction
☐ Reservoir Description and Dynamics
☐ Health, Safety, Security, Environment, and Social Responsibility

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 IBAN as reference for the transfer)
Name of Bank: HSBC Bank Middle East Ltd, Jebel Ali Branch, P.O. Box 66, Dubai, UAE
Name of Account: SPE Middle East DMCC
IBAN Number: AE18020000036217131100
Swift Code: BBMEAEAD
☐ Credit Card (Check one): ☐ American Express ☐ MasterCard ☐ Visa

Card Number ____________________________ Expiry Date (mm/yy) ____________________________ Security Code ____________________________

CANCELLATION AND REFUND POLICY:
• A processing fee of USD 100 will be charged for cancellations received before the registration deadline of 12 February 2018.
• For cancellations received after the registration deadline, 12 February 2018, 25% of the fee will be refunded to the registrant.
• No refund on cancellations received within seven (7) days prior to the workshop date, i.e. on or after 7 March 2018.
• No refund will be issued if a registrant fails to attend the workshop.

NAME OF CREDIT CARD HOLDER: (PRINTED) ____________________________

SIGNATURE: (REQUIRED) ____________________________ DATE: ____________________________