

Target Exploration

Energy Geoscience Research & Development



MENA 2015 Oil & Gas Conference

(MENA15) The 10th International Middle East and North Africa Oil and Gas Conference

**9 and 10 September 2015 @ the Imperial College
180 Queens Gate, London SW7, UK.**

Oman

Oman

An Analogue for Future Oil and Gas of MENA

Organised by

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ARAB OIL & GAS

Why MENA 2015 Oil & Gas Conference has a Dedicated Sessions on Oman?

The upstream oil and gas industry of MENA countries didn't evolve uniformly, therefore the pioneering upstream experiences of the stable and exceptionally low political risk Oman can provide other MENA countries with ideal analogues when exploring, developing and producing:

- ✓ Precambrian Sourced Oil and Gas in Phanerozoic Reservoirs.
- ✓ Sub- and Intra-Ediacaran Salt Clastic and Carbonate Reservoirs.
- ✓ Permian and Carboniferous Glacial and Fluvial-glacial Reservoirs.
- ✓ Palaeozoic-Precambrian Tight Gas-condensates Reservoirs.
- ✓ Clusters of Marginal Discoveries with Mature Oil and Gas Fields.
- ✓ Heavy Oil Reservoirs by Gas- and Solar-generated Steam Injection.
- ✓ Cretaceous and Pre-Cambrian Shale Oil and Gas.

Pre- & Post-conference Courses

Course 1: The value of BHI data in Exploration-Appraisal-Production Cycle

The Instructor: Dr. Meriem Bertouche, *PhD.*, Badley Ashton and Associates, UK.

Place: Imperial College, London SW7. **Date:** 7 September 2015, **Time:** 8:30 AM to 17:00 PM.

Course 2: Introduction to the Petroleum Geology of Oman

The Instructor: Dr. Salah Dhahab, *PhD.*, Daleel Petroleum, Muscat, Oman.

Place: Imperial College, London SW7, **Date:** 8 September 2015, **Time:** 8:30 AM to 17:00 PM.

Course 3: Reservoir Quality Analysis When the Pore-scale Matters

The Instructor: Dr. Sanem Acikalin, *PhD.*, Badley Ashton and Associates, UK.

Place: Imperial College, London SW7, **Date:** 11 September 2015, **Time:** 8:30 AM to 17:00 PM.

Conference Chairmen and Speakers

MENA Oil & Gas Conferences: The Middle East and North Africa Oil & Gas Conferences are held regularly at the prestigious Imperial College, London SW7, UK.

For of previous MENA Oil & Gas Conferences, please visit:

<http://www.targetexploration.com/Conf.pdf>



MENA 2015 Oil & Gas Conference

**Oman an Analogue for Future Oil and Gas of MENA
9-10 September 2015, the Imperial College, London**

Time	Day One: 9 September 2015: Sessions and Presentations
8:00-9:00	REGISTRATION AND COFFEE

Chairmen: Dr. Salah Al Dhahab and Dr. Mohammed Al Warrak

9:00 AM **A. Review of Petroleum Systems, Discoveries & Production History of Oman**

9:00 AM **A1. Welcome note and opening remarks.**

Dr. Muhammad W Ibrahim, Target Exploration, London

9:20 AM **A2. The main orientations of Oman's energy policy.**

1. The fall in oil prices
2. Intensification of exploration
3. Diversification of the main industrial players
4. Consolidation of Petroleum Development Oman's production
5. Liquefied natural gas exports

Dr. Francis Perrin, Chairman of SPE, EISI & Editorial Manager of Arab Oil & Gas, France

10:00 AM **A3. Petroleum systems and proven play fairways of Oman.**

1. Brief history of hydrocarbon exploration in Oman
2. Petroleum systems in Oman (overview)
3. Evolution of exploration / play types / discoveries
4. Future HC potential in Oman

David Mackertich, Independent Petroleum Geologist, London, UK.

10:30-11:00

TEA BREAK AND POSTER SESSION

11:00 AM **B. Typical and Atypical Plays and Hydrocarbon Reservoirs of Oman**

11:00 AM **B1. Safah Field, Oman: Evolution from stratigraphic play concept to mature producing Middle East stratigraphic field model.**

1. Stratigraphic architecture of the Bab intra-platform basin
2. Synthesis of published models
3. Evidence for eustatic versus tectonic causes of the forced regression

Dr. David Boote, Consultant Petroleum Geologist, DB Consulting, London, UK.

11:30 AM **B2. Atypical Miqrat Formation in the Abu Butabul Field, North Oman- Depositional Character and Reservoir Quality Implications of a Complex Reservoir**

1. Depositional evolution of the Miqrat Formation in the Abu Butabul Field, which exhibits markedly different depositional character typified elsewhere in Oman.

2. Reservoir quality characterisation of the Miqrat in Abu Butabul Field.
3. Reservoir quality controls and their stratigraphic distribution
4. Predictability of reservoir quality in a complex reservoir

Dr. Sanem Acikalin^{*1}, Jamie Moss¹, Hassene Berkani², Waleed Al Hadhrami², Meriem Bertouche¹, Muhammed Al Lawati², Salam Al Busaidi²

¹ Badley Ashton & Associates Ltd. Winceby House, Winceby, LN9 6PB, Horncastle, Lincolnshire, UK. ² Oman Oil Company Exploration and Production LLP. Muscat, Sultanate of Oman.

12:00 AM

B3. Genesis and consequences of fracturing in the cretaceous carbonate reservoirs of North Oman.

1. The natural fractures of the Natih Formation
2. The natural fractures of Shuaiba Formation
3. The Late Cretaceous, Tertiary deformations and Salt diapirs
4. Diagenetic enhancement and fracture corridors

Dr. Salah Al Dhahab, Senior Geological Advisor, Daleel Petroleum, Muscat, Sultanate of Oman.

12:30-13:30

LUNCH / TEA BREAK AND POSTER SESSION

13:30 PM

C. Oil and Gas Development Plans and Contracts Under Low Oil Prices

13:30 PM

C1. Driving Enterprise Risk Management (ERM) effectiveness through ERM performance embedding in Oil & Gas.

1. ERM in KOC
2. Strategic Objective of ERM
3. ERM Policy Statement
4. Responsibilities
5. Challenges
6. Mitigation Process & KPM's
7. Consultants involvement

Khalid Al-Awadhi*, Team Leader (ERM), Kuwait Oil Company and **Thoppil Chandy Varghese***, Project Leader, Kuwait Oil Company

14:00 PM

C2. Identifying the critical factors for successful adoption of digital oilfield systems using the design-reality gap model

Nael Al-Naimi, Geologist and IT Consultant, Milton Keynes. UK.

14:30 PM

C3. Relationship between oil recovery factors to PSA & service contracts.

1. PSA Model and Transparency Issue (EITI)
2. Service Contracts and Transparency (EITI)
3. Oil Recovery Factor (definition) in Relation with EITI Criteria
4. Governing Laws, Regulation & Agreements (State & Regions)
5. Contracts area's (Blocks) Petro-Geological characterization
6. Regional and International Geo-Political stability & Influences
7. Oil Market Prices and Host Country Economical situations
8. Petroleum Technology and Good Oil Practices versus available Services
9. Damage to: National Incomes, Infrastructures, Society and Examples.

Hama-Jaza Salih Kader, Senior Advisor & MD of Baba NRSC, Sulaimaniyah, Iraq.

15:00-15:30

TEA BREAK AND POSTER SESSION

15:30 PM

D. Conventional and Unconventional Oil and Gas Potential of MENA

15:30 PM

D1. An overview of the shale gas prospects in MENA countries

1. Introduction
2. Potential Shale Gas in MENA
3. The Future of Shale Gas Industry
4. Conclusions.
5. Recommendations.

A. Fenghour, PhD, Consultant Petroleum Engineer, London,

16:00 PM

D2. Palaeozoic Shale Gas and Oil potential in Jordan and north-western Saudi Arabia.

1. Basin Development and Stratigraphy.
2. Exploration & Development Status.
3. Petroleum Systems.
4. Discovered Oil and Gas Fields.
5. Ordovician Shale Gas Potential.
6. Silurian Shale Oil Potential.

Dr. Munim Al-Rawi, Consultant Petroleum Geologist, Carta Design Limited, Dublin, Ireland.

16:30-17:00

E. Panel Discussion and First Conference-day Closing Remarks

20.00-22.00 Participants and Spouses are cordially invited to:

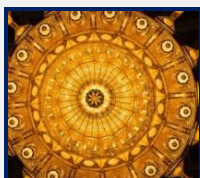
The 10th MENA Oil & Gas Conference Dinner

Time 20:00-22:00 PM

Date: Wednesday 9 Sept 2015

Place: To Be Announced





MENA 2015 Oil & Gas Conference

**Oman an Analogue for Future Oil and Gas of MENA
9-10 September 2015, the Imperial College, London**

Time	Day Two: 10 September 2015 : Sessions and Presentations
8:00-9:00	REGISTRATION AND COFFEE

Chairmen Dr. M. Ala and Dr. M. Al Warrak

9:00 AM F. Petroleum systems, new discoveries and new production of MENA

9:00 AM F1. Welcome note, summary of 1st day and outlines of 2nd day papers
Dr Muhammad W Ibrahim, Target Exploration, London.

9:20 AM F2. Tectonic evolution and sedimentation of the Ediacaran-Cambrian rocks of Jordan.

1. The Ediacaran Araba Complex of Jordan (ca. 605-550 Ma) is a major cycle of sedimentary, volcanic, volcanoclastic and igneous rocks emplaced in an extensional regime following amalgamation of the Arabian-Nubian Shield.
2. The Araba Complex is bounded by two major unconformities (Araba and Ram); the uppermost defines the base of the post-extensional Cambrian Ram Group (ca. 530 Ma).
3. Cambrian sedimentation is mostly characterised by the deposition of alluvial and marginal marine siliciclastics derived from the ANS hinterland and deposited in a high flux–high discharge regime.
4. The regional Burj marine transgression (ca. 509 Ma) comprising shallow marine carbonates (trilobite-rich) and tidal siliciclastics is an important seismic reflector that can be traced throughout the region.
5. Jordan's Ediacaran to Cambrian tectonics and sequences, located in the west of the ANS, present an interesting contrast to the hydrocarbon provinces in Oman and the surrounding region.

Dr. John H. Powell*, Professor Abdul-Kader M. Abed¹, Ghaleb H. Jarrar¹ and Yves-Michel Le Nindre²

*speaker British Geological Survey, Nottingham UK, ¹ University of Jordan, Amman, Jordan, ² Consultant, formerly BRGM.

10:00 AM F3. Hydrocarbons potential of the Neoproterozoic-Cambrian Salt of Oman and the UAE.

1. The Neoproterozoic-Cambrian salt basins of Oman and the UAE
2. The Ara salt succession in Oman
3. The Hormuz salt succession in the UAE
4. HC potential of the Ara salt of Oman
5. HC potential of the Hormuz salt in the UAE

Dr. Mohammed Warrak, Structural Geologist, the Open Univ. Milton Keynes, UK.

10:30-11:00

TEA BREAK AND POSTER SESSION

11:00 AM G. Petroleum Systems, Typical & Atypical Plays & Reservoirs of Iraq

11:00 AM G1. Petroleum systems in Kurdistan region of Iraq: analogues with Oman.

1. History of hydrocarbon exploration in Iraq / Kurdistan
2. Play types in Kurdistan, stratigraphy, source rocks, discoveries
3. Comparison of petroleum systems in Kurdistan with Oman
4. Can the long exploration / production history in Oman help in Kurdistan?

David Mackertich, Independent Petroleum Geologist, London, UK.

11:30 AM G2. Reservoir damage factor values related to production levels and permeability in Komitan and Qamchqa Formations matrix and fractures porosity systems in KRGs fields of NE Iraq.

1. Basic related Definitions
2. Main Reservoir Rocks in Kurdistan, Iraq
3. Simple Reservoirs (Limestone, Dolomite, Sandstone) destitution in Iraq
4. Complex Reservoir Rocks and System
5. Matrix Porosity and Permeability
6. Fracture Porosity and Permeability
7. Disadvantages of joint Matrix and Fractures in single Reservoirs
8. Reservoir Damage related to Production levels
9. Reservoir Damage related to joint Matrix and Fracture Permeability
10. Reservoir Damage related to Reservoir Management
11. Reservoir Damage related to Country Regime System
12. Reservoir Damage related to Transparency (EITI).
13. Damage samples: Komitan and Qamchqa's Reservoir Rocks of KRG/Iraq.
14. Conclusions and Recommendations

Hama-Jaza Salih Kader, independent Senior Pet. Advisor and Managing Director of Baba NRSC, Sulaimaniyahyah, Iraq.

12:00 AM G3. Zagros- Geology and Petroleum System Overview

1. Introduction
2. Tectonic Setting
3. The Folded Belt
4. The Imbricate Belt
5. The Zagros Thrust
6. Depositional History
7. Hydrocarbon Plays
8. Source Rocks
9. Maturity And Migration
10. Zagros Reservoirs
11. Zagros Traps
12. Zagros Seals
13. Zagros Plays – A Summary
14. Reserves And Potential For Future Discoveries
15. References Cited

Dr. M. Ala, Department of Earth Science and Engineering, Royal School of Mines, Imperial College, University of London, London, UK.

12:30-13:30

LUNCH / TEA BREAK AND POSTER SESSION

13:30 PM

H. New Technologies for Reservoir Management in Kuwait

13:30 PM

H1. Frequency and impact of sand & dust storms on Arabian Gulf Oil & Gas operations.

1. Sand and Dust Storms (SDS) Crises in Arabian Gulf Countries.
2. Definitions, Genesis, Source and Types of Sand & Dust Storms.
3. Frequency of SDS in Kuwait and Arabian Gulf Countries.
4. Trends of SDS in Kuwait and Arabian Gulf Countries.
5. Short- and Long-term Predictions of Sand and Dust Storms
6. Impacts of SDS on Oil Operations in GCC Countries.
7. Conclusions and Recommendations

Dr. Muhammad W. Ibrahim, R&D Manager, Target Exploration, London, UK.

14:00 PM

H2. First application of Plasma Technology in KOC to improve well's productivity.

1. Introduction to North Kuwait.
2. Raudhatain Lower Burgan background and reservoir summary.
3. Introduction to Plasma Pulse Technology (PPT).
4. PPT – How it works.
5. Well RA-xxxx - Job design and execution.
6. Prosper Model – before and after PPT.
7. Production Performance of Well RA-xxxx.
8. Impact of PPT on nearby well RA-xxxx.
9. The way forward.
10. Conclusion

Fatma Nayef Al-Enezi*, **Suresh Chellappan**, **Hussam A. Marafie**, **Amro H. Bibi** and **Vasiliy B. Eremenko**, Kuwait Oil Company, Kuwait.

14:30 PM

H3. Application of Root Cause Analysis to off-depth perforations in oil and gas Wells - A case study.

1. Acknowledgement
2. Introduction - Root Cause Analysis (RCA)
3. Challenges in RCA
4. The Objective
5. Brief literature review - RCA tools/techniques & methods
6. Difference between RCA tools AND methods
7. Methodology
8. Discussion: Case History Off-depth Tubing Conveyed Perforation (TCP)
9. Summary
10. Conclusions and Recommendations

Venkata Satyanarayana Rao Kavi*, **Mostafa Refaei**, **Ibrahim A/Al-Kandari** and **Mohammad Abdullah**, Kuwait Oil Company, Ahmadi, Kuwait.

15:00-15:30

TEA BREAK AND POSTER SESSION

15:30 PM

I. Heavy Oil, PSA vs. SC and New-ventures Risk Analyses of MENA

15:30 PM

I1. Iran Oil and Gas: Evaluating Post-Sanctions Upstream Opportunities

1. Introduction – review of NIOC's major policies
2. Review of Iran oil industry's difficulties
3. Review of upstream and downstream investment opportunities
4. Regulatory regime

5. Opportunities for smaller independent players?
6. Role of technology and service providers
7. Conclusions

Dr. M. Ala, Department of Earth Science and Engineering, Royal School of Mines, Imperial College, University of London, London, UK.

16:00 PM I2. New-ventures risk assessment of undeveloped and bypassed conventional petroleum in MENA countries (with special emphases on Yemen, UAE, Tunisia, Oman, Libya and Egypt).

1. Basic Pre-requisites
2. Data and Study
3. Conclusions and Recommendations
4. Ranking MENA Countries ED&P New-ventures Potential

Dr. Muhammad W. Ibrahim, R&D Manager, Target Exploration, London, UK.

16:30-17:00 J. Final Panel Discussions and Conference Closing Remarks

No.	Poster Presentations
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1. **New (2015) Concession Map and On- & Off-Shore Opportunities of Oman.**
Courtesy of the MOG of Oman.
2. **Successful Integrated Reservoir Management Leads to Doubling of Production: A Case Study of Upper Burgan Reservoir, Raudhatain Field, Kuwait.**
Suresh Kumar Chellappan* and Moudi Al Ajmi, Kuwait Oil Company, Ahmadi, Kuwait.
3. **Site Investigation of Crude Oil Contamination – Using risk based principles to shape the data collection process.**
Rob Mell* and Richard Croft, ERM, UK.

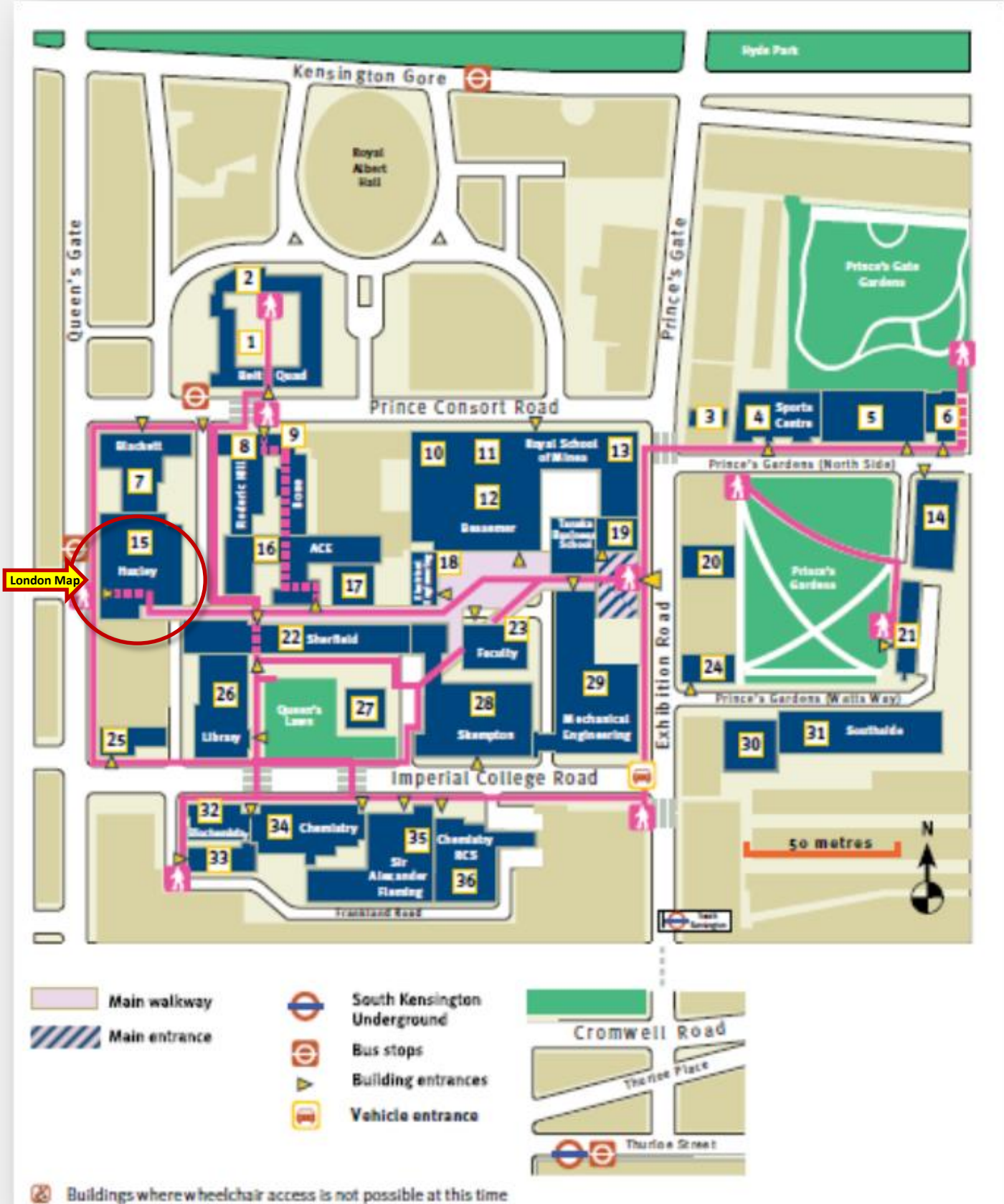
No.	Standby Oral Paper Presentations
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- S1. Successful integrated reservoir management leads to doubling of production: A case study of Upper Burgan reservoir, Raudhatain Field, Kuwait.**
 1. Introduction to North Kuwait.
 2. Raudhatain Upper Burgan Background and Reservoir Summary
 3. Well Status.
 4. Pressure – Production History of Raudhatain Upper Burgan.
 5. Production Acceleration: Horizontal/Multilateral with ICD/SSICD/AICD.
 6. Fast Track Water Injection Plan & WI Projects.
 7. Isobar updates and Impact WI on Pressure and Production.
 8. VRR Performance.
 9. Water Flood Management.
 10. Decline Curve analysis / ESP PIP monitoring.
 11. Successful Water Conformance Control.
 12. Doubling of Production.
 13. Conclusions and Way Forward

Suresh Kumar Chellappan* and Moudi Al Ajmi, Kuwait Oil Company, Kuwait.

- S2. Evacuated Flat Plate Solar Collectors for Steam Flooding Enhanced Oil Recovery.**
Dr. V.G. Palmieri, TVP Solar SA, Geneva, Switzerland.
- S3. Diagenesis, porosity evolution and sequence stratigraphy of the Cenomanian-early Campanian carbonate reservoir of northwestern Iraq.**
1. Sequence stratigraphy of Gir Bir, Wajna and Mushorah formations
 2. Shallow and deep burial diagenesis
 3. Porosity types
 4. Porous zones
- Professor Ali I. Al-Juboury**, Mosul University, Iraq.
- S4 Oil and gas contracts' risks negotiation in the climate of economic recession.**
1. Risk allocation in a healthy climate, during the time of oil price peak.
 2. Contract is an instrument of passing the risk and limiting liability.
 3. Project finance matrix and direction of risk movement.
- *Back-to-back agreement helps in passing on the risk.
*Long term agreement ensures security of supply.
*Tendencies of contractual negotiations conducted during recession.
- Gamal M AbuElkhair**, Petroleum Engineer, Kuwait Oil Company, Kuwait.
- S5 Hydrocarbons prospects in the Western Desert of Iraq with reference to Shale Gas.**
1. Introduction
 2. Potential Shale Gas in W. Desert Wildcats
 3. Conventional and Unconventional Prospects in W. Desert of Iraq
 4. Pilot Project
 5. Conclusions
- Dr. Thamer Uqaili**, Oil and Gas Consultant, Mississauga, Canada.
- S6 Projects selection for economic diversification in Iraq.**
5. Introduction
 6. Strategy of Economic Diversification
 7. Investment Laws in Iraq
 8. Long, medium and short- term planning
 9. Priorities of diversification Hydrocarbons-linked projects
 10. Conclusions and recommendations
- Dr. Salam Smeasim**, CEO, Dar Alnahrain Consultancy, Amman, Jordan
- S7 Development of heavy oil of the Lower Fars Formation in South Iraq.**
1. Introduction: Accumulations in South Iraq
 3. The Kuwaiti Experience
 4. Availability for Contracting
 5. Alternatives for Exploitation
- Dr. Thamer Uqaili**, Oil and Gas Consultant, Mississauga, Canada.
- S8 The Role of Synchronous Fold Structures in The Middle East Oil and Gas Fields**
- Dr. Munim M. Al-Rawi¹ & Dr. Mohammed Warrak²** ¹ Carta Design Limited, P.O. Box 62, Leixlip, Co. Kildare, Ireland, ² Edgecote, Great Holm, Milton Keynes, MK8 9ER, UK

Imperial College Kensington Campus Map



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