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Tentative Program

5th International Conference on Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai, UAE



Theme: Recent Advancements & Upcoming Challenges in Petroleum Basins

****For Available Speaker Slots****

Contact: petroleumgeology@conferenceseries.net

<http://petroleumgeology.conferenceseries.com/>

Glimpses of Petroleum Series Conferences



Program at a Glance

Day 1

Morning Sessions

Reception/Registration	08.00-09.00	
	Time	General Session
	09.00-09.15	Inaugural Address
Least of 3 Keynote/Plenary Talks	09.15-09.45	Keynote/Plenary Talk 1
	09.45-10.15	Keynote/Plenary Talk 2
	10.15-10.45	Keynote/Plenary Talk 3
Panel Discussions/Group Photo		
Coffee/Tea Break 10.45-11.00 (Networking)		
11.00-12.40	5 Speakers (20 Mins Each)	
Lunch Break 12.40-13.30		
13.30-15.30	6 Speakers (20 Mins Each)	
Coffee/Tea Break 15.30-15.45 (Networking)		
15.45-17.25	5 Speakers (20 Mins Each)	

Evening Sessions

19 Speakers for Day 1

Day 2

Morning Sessions

	Time	Session 1	Session 2
	09.00-10.40	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
Coffee/Tea Break 10.40-10.55 (Networking)			
	10.55-12.35	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
Lunch Break 12.35-13.25			
	13.25-15.05	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)
Poster Sessions			
Coffee/Tea Break 15.05-15.20 (Networking)			
	15.20-17.00	5 Speakers (20 Mins Each)	5 Speakers (20 Mins Each)

40 Speakers on Day 2

NOTE: Program schedule is subjected to change with final allotment of the speaker slots

For more Details PS: <http://petroleumgeology.conferenceseries.com/>
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Petrochemistry 2015-Scientific Program

Day 1 November 30, 2015

09:00-09:30 Registrations

Grand Ball Room B



09:30-10:00

Opening Ceremony

Keynote Forum

10:00-10:05	Introduction
10:05-10:30	Russell R Chianelli University of Texas at El Paso, USA
10:30-10:55	Clifford Lipscomb Greenfield Advisors LLC, USA

Networking & Refreshments Break 10:55-11:10 @ Foyer

Track 1: Chemical Applications in Producing Oil & Gas

Track 2: Fuel Chemistry, Technology & Processing

Session Chair: Tereza Neuma de Castro Dantas, Federal University of Rio Grande do Norte, Brazil

Session Chair: Antanas Juostas, Aleksandras Stulginskis University, Lithuania

Session Introduction

Title: Transformation of vanadyl porphyrins in heavy residue during thermal upgrading under hydrogen

Zongxian Wang, China University of Petroleum, China

Title: Pyrolytic and properties of endothermic fuels in minichannels at temperatures up to 750°C

Qincheng Bi, Xi'an Jiaotong University, China

Title: Tractor fuel consumption, exhaust emissions and their normative assessment during field application

Antanas Juostas, Aleksandras Stulginskis University, Lithuania

Title: Development and application of a fluid catalytic cracking gasoline hydro-upgrading process GARDES

Xiaojun Bao, Fuzhou University, China

Title: Supercritical water oxidation for the treatment of hazardous effluents

Bushra Al-Duri, University of Birmingham, UK

Lunch Break 12:50-13:35 @ Foyer

Title: A robust image analysis approach for high void fraction gas-liquid flows

Ashish Karn, University of Minnesota Twin Cities, USA

Title: Complex processing of solid fuel in plasma chemical reactor

Alexandr Ustimenko, Institute of Combustion Problems, Kazakhstan

Title: Geochemical significance of petroleum asphaltenes as maturity and source indicator of oil

Manoj Kumar Sarmah, Oil India Limited, India

Title: Comparative study of oil recovery efficiency enhanced by surfactants, microemulsions, and nanoemulsions

Tereza Neuma de Castro Dantas, Federal University of Rio Grande do Norte, Brazil

Title: Technology of pulse and wave development of a network of cracks in a bottomhole zone of oil or gas layer

Shipulin Alexander Vladimirovich, National Mineral Resources University, Russia

Title: Research and application of compound viscosity reducer in ultra-heavy oil wells

YuQi Yang, China University of Petroleum, China

Networking & Refreshments Break 15:35-15:50 @ Foyer

Title: Thermodynamic modeling behavior of cellulose acetate / polyvinyl chloride blend membrane preparation

Ayman Taha Abd El-aziem El-gendi, National Research Center, Egypt

Title: Analysis of natural fractures and effect of deformation intensity on fracture density in Garau Formation for shale gas development within two anticlines of Zagros fold and thrust belt, Iran

Asaad Pireh, Research Institute of Petroleum Industry, Iran

Title: CO₂-Prophet model based evaluation of CO₂-EOR and storage potential in mature oil reservoirs

Dayanand Saini, California State University, USA

Day 2 December 01, 2015

Grand Ball Room B

Keynote Forum

Erich Hums

Consulting Environmental Catalysis, Germany

Zulkhair Mansurov

Institute of Combustion Problems, Kazakhstan

Networking & Refreshments Break 10:50-11:05 @ Foyer

Track 3: Petroleum Geology

Track 4: Renewable Energy & Feedstock

Track 5: Environmental & Pollution Issues

Track 6: Filtration & Separation

Session Chair: Peter Wasserscheid, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Session Co-Chair: Rakhi Mehta, Sarvajanic College of Engineering and Technology, India

Session Introduction

Title: The structural changes of asphaltenes and metalloporphyrins during hydroconversion

Olga Vladimirovna Zaitceva, Topchiev Institute of Petrochemical Synthesis, Russia

Title: Automating sandstone acidizing using a rule-based system

Ali Garrouch, Kuwait University, Kuwait

Title: Modelling of steam gasification of char in a circulating fluidised bed

Mukhtar Bashir, Aston University, UK

Title: Real and perceived risks in communities near unconventional shale gas/oil activities

Clifford A Lipscomb, Greenfield Advisors LLC, USA

Title: Evaluation of the causes of increasing the pressure drop of fixed bed reactor RCD unit

Ali Shaeri, NIOEC, Iran

Lunch Break 12:45-13:30 @ Foyer

Title: Nanofuels: Preparation, stabilization and combustion

Rakhi Mehta, Sarvajanic College of Engineering and Technology, India

Title: Numerical prediction of the reaction rate constant of chlorine disinfection process at a wastewater treatment plant.

Experimental model validation and simulation studies

Feridun Demir, OsmaniyeKorkut Ata University, Turkey

Title: HT-PEMFC electrocatalysts applied in desulfurization

Maria Sol Rau, Fraunhofer Institute for Chemical Technology ICT, Germany

Title: Hydrogen storage and transport in Liquid Organic Hydrogen Carriers (LOHCs)

Peter Wasserscheid, Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Title: A surfactant/polymer flood potential in a typical Middle Eastern reservoir

Ridha Gharbi, Kuwait Oil Company, Kuwait

Title: Characterization of the corrosion of oilwell cement exposed to H₂S under high-sulfur gas reservoir conditions

Gu Tao, Southwest Petroleum University, China

Networking & Refreshments Break 15:30-15:45 @ Foyer

Poster Presentations 15:45-16:45

Day 3 December 02, 2015

Grand Ball Room B

Track 7: Chemical Reaction Engineering

Track 8: Process Chemistry & Technology

Track 9: Applied Catalysis

Session Chair: Mamdouh A Gadalla, The British University in Egypt, Egypt

Session Co-Chair: Masanobu Kubota, Kyushu University, Japan

Session Introduction

Title: Aqueous extraction of organic part of oil sands under influence of ultrasound

F Sultanov, Institute of Combustion Problems, Kazakhstan

Title: A novel graphical technique for pinch analysis applications: Mass and energy integration

Mamdouh A Gadalla, The British University in Egypt, Egypt

Title: Plasma unit for processing of carbon containing waste

Alexandr Ustimenko, Institute of Combustion Problems, Kazakhstan

Title: Fretting fatigue in hydrogen and the effect of impurity addition to hydrogen on fretting fatigue properties

Masanobu Kubota, Kyushu University, Japan

Networking & Refreshments Break 10:50-11:05 @ Foyer

Title: Trans-esterification of locally used cooking oil over zirconia/titania nano-catalyst

Jabbar Gardy, University of Leeds, UK

Title: Numerical simulation of the liquid-solid counter-current fluidization processes inside an extraction column based on the particle trajectory model

Li Zhongyuan, Tianjin University, China

Title: The effects of research octane number and fuel systems on the performance and emissions of a spark ignition engine: A study on Saudi Arabian RON91 and RON95 with port injection and direct injection systems

Ibrahim Alshunaifi, King Abdulaziz City of Science and Technology, Saudi Arabia

Title: Investigation of vanadium phosphorus oxide seeds and their effect of the transformation of $\text{VO}(\text{H}_2\text{PO}_4)_2$ to the V-P-O catalyst precursors

Raja L Al Otaibi, King Abdulaziz City for Science and Technology, Saudi Arabia

Title: Macroeconomic analysis of current trends in the formation of world prices for oil

Lyudmila Berezhnaya, Gubkin Russian State Oil and Gas University, Russia

Lunch Break 12:45-13:30 @ Foyer

Awards & Closing Ceremony



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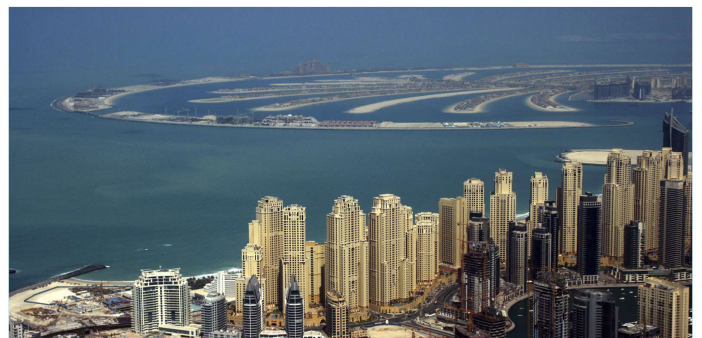
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Tourist Attractions



burjkhalifa



Dubai-Marina-and-Palm



Jumeirah-Beach



DubaiCreekGolfCourse



Dubai-Museum



Wild-Wadi1

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Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Behnam Rezaei is 25 years old and he's studying international law for master's degree in Allame university of Tehran. He is working on his thesis in the field of international environment law, namely "international liabilities of states in using the CCS technology for carbon storage under the seabed". He has written papers according to his fields of study that will be published in the near future in reputed journals.

Abstract

Carbon Capture and Storage (CCS) and its impacts on the reduction of air pollution and global warming

Behnam Rezaei Nasab
Allame Tabatabaee University of Tehran, Iran

Global climate change is maybe the most challenging environmental problem the world will be facing in near future. To decrease the noticeable growth of greenhouse gases and its related consequences, a broad set of CO₂-limiting policies will be needed. Carbon capture and storage is one of the most important technologies around the world that is considered as one of the options for reducing atmospheric emissions of CO₂ from human activities. CO₂ is emitted principally from the burning of fossil fuels, both in large combustion units such as those used for electric power generation and in smaller, distributed sources such as automobile engines. CO₂ emissions also result from some industrial and resource extraction processes, and from the burning of forests during land clearance. CCS would most likely be applied to large point sources of CO₂, such as power plants or large industrial processes. Carbon capture and storage is a process including the separation, transport and long-term isolation of carbon dioxide from the atmosphere. At large point sources such as hydrogen production plants, carbon dioxide is generated as one of the products of fossil fuels combustion. Through the use of rather complicated capture technologies, CO₂ can be separated from other byproducts, transported and captured by injection into storage reservoirs such as depleted oil and gas fields, deep saline aquifers or the deep ocean. The long term storage of CO₂ is considered as one of the main technologies that is needed for facing with the challenges of climate changes.

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Biography

Professor Megginson earned a BS in Chemistry in 1976, then worked as a petroleum chemist in industry for five years. He earned MBA (1982) and PhD in Finance (1986) degrees, and has been a professor for 30 years. He is the Price Chair in Finance at the University of Oklahoma and the Saudi Aramco Chair in Finance at King Fahd University of Petroleum & Minerals. He has published over 50 articles and books, which have been downloaded over 52,000 times from the Social Sciences Research Network and cited over 14,800 times, according to Google Scholar

Abstract

The Financial Organization of Petroleum Exploration and Production Worldwide

Name: William Megginson
University of Oklahoma, Price College of Business, Norman OK 73019, USA
King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia

his talk will cover four main issues relating to the financial organization of exploration and production within the global oil and gas industry: (1) the three major groupings of companies within the global oil and gas industry--integrated oil companies (IOCs, or supermajors); state-owned national oil companies (NOCs); and independent E&P companies, mostly headquartered in the US; (2) the financial structure of E&P companies and the financing of their \$800 billion annual capital investments; (3) how these three groups of companies secure access to potentially hydrocarbon-rich areas of land (and seabed) for exploration and development—and how this differs between the US, other OECD countries, and emerging markets; and (4) how mergers and acquisitions (M&A) have transformed global oil & gas industry, shrinking the classic “seven Sisters” to four supermajors, while adding many new players to the top ranks of the industry. The talk will examine how oil and gas companies raise capital and how IOCs split their (heretofore massive, now reduced) cash flows/profits between capital investment and returning cash to shareholders as dividends or share repurchases. Dr. Megginson will also describe how the unique property rights structure in the US enabled the shale revolution, and discuss the implications of Mexico’s landmark 2014 change in awarding E&P contracts-to private, and even foreign investors. The talk will conclude with an assessment of the immediate and possible long-term impact of persistently low oil prices on exploration and production worldwide.

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Biography

Senior research worker in Academy of Sciences (PhD in 1979, DrSc in 1996, Assoc. Prof. 2000, Univ. Prof. 2009), in Astronomical Institute of Academy of Sciences of the Czech Republic, Prague-Ondřejov observatory. His specialization is satellite dynamics (a branch between celestial mechanics and physical geodesy) and study of the gravitational field of the Earth from artificial satellites and its geoapplications. He has published more than 200 papers in reputed journals, 3 class texts, 3 books, and had been serving as a teacher of satellite geodesy at the Czech Technical University in Prague.

Abstract

Gravity Signal at Ghawar, Saudi Arabia from the Global Gravitational Field Model EIGEN 6C4, and Similarities Around

Prof. Ing. Jaroslav Klokocnik,
Astronomical Institute, Academy of Sciences of the Czech Republic,
CZ-251 65 Ondřejov, Fričova 298, Czech Republic,

Gravity disturbances (or anomalies), the Marussi tensor of the second derivatives of the disturbing potential, the invariants of the gravity field, the strike angle and other functionals and functions of the geopotential, as represented by recent global gravitational field models, are computed for Ghawar, Saudi Arabia and for surrounding areas. With the gravity anomalies, derived from the EIGEN 6C4 global combined gravity models (based on satellite as well as terrestrial data), we can see features well known to geologists, geophysicists, geomorphologists and others. Resolution with the global gravitational models is, however, lower than with terrestrial data only, but our “view” is global and regional. With the invariants, strike angles and virtual deformations, we can find more interesting features than only with the gravity anomalies themselves. We can see, namely by means of the strike angle and the virtual deformations, analogies between places with the oil deposits in the area of the Caspian Sea, Ghawar in Saudi Arabia, and other localities nearby. It is evident that the only “gravity signal” cannot decide about possible deposits of any mineral or oil but – as is known on a local scales – can be a useful tool, which – in conjunction with other data and experience of specialists – may lead to some new discoveries of deposits. Several interesting places are indicated by the strike angles and virtual deformations at the Persian and Oman Gulfs, Saudi Arabia, the United Arab Emirates (UAE) and the Red sea.

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Biography

Lucas Fievet has completed his Master in theoretical physics at the age of 22 years from ETH Zürich. He then founded Ahead Solutions Sarl, a company providing IT services for Biotech and Smartgrid solutions. Since 2014 he is pursuing a PhD at the ETH Chair of Entrepreneurial Risks in applying machine learning to financial markets.

Abstract

Forecasting future oil production in Norway and the UK: a general improved methodology

Lucas Fievet
ETH Zuerich, Chair of Entrepreneurial Risks, 8092 Zuerich, Switzerland

We present a new Monte-Carlo methodology to forecast the crude oil production of Norway and the U.K. based on a two-step process, (i) the nonlinear extrapolation of the current/past performances of individual oil fields and (ii) a stochastic model of the frequency of future oil field discoveries. Compared with the standard methodology that tends to underestimate remaining oil reserves, our method gives a better description of future oil production, as validated by our back-tests starting in 2008. Specifically, we predict remaining reserves extractable until 2030 to be 5.7 ± 0.3 billion barrels for Norway and 3.0 ± 0.3 billion barrels for the UK, which are respectively 45% and 66% above the predictions using an extrapolation of aggregate production..

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Biography

Mohamed KA. Khalifa received his B.Sc. in geology from University of Tripoli, Libya, PG.DipSci, and M.Sc. in geology from University of Jordan, Amman - Jordan, and his Ph.D. in applied geology from University of New South Wales, Australia. He has extensive industrial, research and teaching experience as a Project Geologist at the Petroleum Research Centre in Libya; a Petroleum Geoscientist at 3D-GEO Pty Ltd in Melbourne, Australia; an Exploration Geologist at Triassic Geological Services Pty Ltd in Brisbane, Australia and consultant Geoscientist in Exploration Department at the Libyan Petroleum Institute, Libya. He has teaching experience as Senior Lecturer at the University Teknologi PETRONAS, Malaysia; Senior Lecturer at the University of Malaya, Malaysia; and as teaching assistant (tutor) at the University of Jordan. Currently he is working in the capacity as Associate Professor at the University of Zawia, Libya. He has published more than 25 articles in reputed journals and has been serving as referee/reviewer of many reputed journals. His main research interests focus on seismic data interpretation in petroleum geology, with special emphasis on seismic/sequence stratigraphic analysis and sedimentary basin analysis.

Abstract

Correlation of facies distribution and sequence stratigraphic analysis of the latest Silurian to Lower Devonian sequence in the eastern part of the Darling Basin, western New South W

Mohamed Kh. Khalifa
Department of Geology, Faculty of Science, University of Zawia, PO Box 16418, Zawia, Libya.
Lithosearch Geological Consulting, 521 Williams Street, Broken Hill, NSW 2880 - Australia.

This work presents the facies controls on the sequence stratigraphic architecture of the latest Silurian to Lower Devonian sequence corresponding to the Winduck Interval in the eastern part of the Darling Basin, western New South Wales, Australia. The study integrates wireline logs, drill cores and limited biostratigraphic data to determine the facies subdivision that has controlled sequence stratigraphic architecture. Sedimentological analysis was applied, using characteristic wireline-log responses, and core descriptions, to aid in the development of a depositional environment for the Winduck Interval. Twenty-two sedimentary facies are defined, forming five facies associations which were grouped into seven electrofacies defined by wireline log signatures. These facies associations are characterised as distributary channel sand complexes, distributary mouth bars, tidal channel sands, proximal delta fronts associated with mouth bar complexes, and distal delta front to prodelta sediments. The sequence stratigraphy of the Winduck Interval could be subdivided into four sequences in the two available wells (DM Kewell East DDH-1 and DM Mossgiel DDH-1). Closer study of the sequence stratigraphy in the approximately 900m thick Winduck Interval revealed ten parasequences (A-J) in progradational to retrogradational parasequence sets and four main Winduck sequences, WKS1, WKS2, WKS3 and WKS4, in ascending order. The integration of correlation techniques (log correlation, recognition of changes in core facies, electrofacies observation and parasequences) has helped to define the non-marine sequence stratigraphic model. This model of the Winduck Interval has the potential to refine existing sedimentary schemes and, given the higher resolution and more detailed correlation, may significantly improve subsurface stratigraphic reconstructions and aid in prediction of hydrocarbon-bearing reservoirs.

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Biography

Magali ADER has completed her PhD from University Paris Diderot (France) and postdoctoral studies from University of Reading (UK). She is professor of Geochemistry at the Earth Physics Institute of Paris (Institut de Physique du Globe de Paris). Her work focusses on the use of stable isotope for understanding diagenesis histories and depositional paleoenvironments. She has published 48 papers in reputed International earth science journals.

Abstract

Title: Chlorine and Bromine stable isotope compositions and formation water characterisation

Ader, M., Giunta, T., Eggenkamp, H., Bonifacie, M., Agrinier, P.
Institut de Physique du Globe de Paris, France

While most chemical tracers are prone to changes upon water-rock reaction, chlorine and bromine are though to be conservative. This is why the Br/Cl ratio is so useful in particular to trace the origin of formation waters. This is also why the stable isotope compositions of both elements (^{37}Cl and ^{81}Br) can provide information not only about the formation waters origin but also about solutes transport processes in sedimentary basins (mainly diffusion and ion filtration). ^{37}Cl and ^{81}Br vary significantly in formation waters ^{37}Cl ranging from -1.5 to +1.5‰ and ^{81}Br from -1.0 to +3.5‰ (precisions are usually better than $\pm 0.1\%$). These ranges are important considering that Cl- and Br- both originate directly or indirectly from seawater, which ^{37}Cl and ^{81}Br values are extremely homogeneous. Although the mechanisms responsible for these variations are still in the process of being identified, we emphasize here that opportunities for a better characterisation of formation waters using both tracers already exist and could be very useful for hydrocarbon exploration production and operation.

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Biography

Konstantinos Dimos is a chemist with a M.Sc. Diploma on Materials Chemistry and Technology, and a Ph.D. Thesis on Materials Science and Engineering. He is a former visiting Lecturer at the Materials Science Department (Patras University), and was a postdoc researcher on the topic "Design of novel nanoporous materials for hydrogen storage" at Ioannina University. Currently, he is a senior researcher on the – funded by Abu Dhabi National Oil Company – project "Magnetic Nanoparticles (MNPs) for Reservoir Characterization" at the Greek N.C.S.R. "Demokritos". He has 1 editorial and 35 publications (2 reviews, 1 invited monograph) with a mean ~4.2 Impact Factor.

Abstract

Magnetic nanoparticles-assisted mapping of flows in oil reservoirs

Konstantinos Dimos
Institute of Nanoscience and Nanotechnology, National Center for Scientific Research "Demokritos", GR-15341 Ag. Paraskevi, Attiki, Greece

Since Enhanced Oil Recovery (EOR) leads to economically beneficial crude oil extraction, mapping of subsurface flows and streams in petroleum reservoirs could drastically decrease the cost of extraction per barrel. On the other hand, nanotechnology, apart from inspiring researchers in terms of scientific view, has already found its way in integrating in various fields of applications. Hence, a current trend of nanotechnology is the usage of nano-tracers for the aforementioned flow mapping in oil reservoirs. In this direction, Abu Dhabi National Oil Company has funded a project which aims to develop a novel methodology for characterizing oil reservoirs. Partners in this project are Petroleum Institute (Abu-Dhabi, UAE), NCSR Demokritos (Greece), Korea Basic Science Institute (Korea), Vanderbilt University (USA) and University of Ioannina (Greece). Methodology is based on the injection of magnetic nanoparticles (MNPs) and their detection during flooding by using advanced electromagnetic (EM) techniques. Upon injection, the MNPs alter the magnetic permeability of their local environment guiding to modified transmission and reception of low frequency electromagnetic waves by a system of electromagnetic antennas. This enables the reconstruction of the MNPs' position by using advanced post-processing methods (software) based on inversion algorithms, thus revealing their flow inside the reservoir. For the implementation of the project, MNPs such as maghemite were prepared with the flame spray pyrolysis technique and were functionalized with appropriate surface groups in order to acquire stable colloidal suspensions that withstand the high pressures developed during flooding and the harsh conditions encountered in reservoirs. Laboratory scale preliminary results showed that MNPs displayed excellent behavior during limestone core flooding experiments, indicating their possible long distance invasion in the reservoir in future scale-up reservoir rock simulations.

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Biography

Zhang Tianjiao is a PhD student at the age of 26 from China University of Petroleum(East China), studying in the area of petroleum geology.

Abstract

Characters Of Sedimentary Facies And Main Control Factors In Upper Fourth Member Of Shahejie Formation In Qingnan Sub-sag

Zhang Tianjiao
China University of Petroleum(East China), No. 66 , Changjiang West Road , Huangdao District , Qingdao , 266580, China

The Qingnan Sub-sag is located within the Dongying Sag, Jiyang Depression, Bohai Bay Basin, onshore China. This sub-sag was indicated as a promising exploration area, however, compared to the other sub-sags in the Dongying Sag, the characters and distribution characteristics of Qingnan sub-sag remain poorly understood which restricts the oil and gas exploration in this region. A regional study, involving core observation, well-logging, 3-D seismic, sporopollen, organic carbon content, characteristic elements and heavy mineral, has been undertaken. The fan delta, delta and beach bar were recognized based on 20 core observation and well-logging data. The paleogeomorphic shows a stable shallow semi-enclosed sub-sag based on the 3-D seismic data covering the region, making the paleo-hydrodynamic power weak. The paleo-climate is humid and hot which is identified by sporopollen fossil, including pinaceae, granodiscus and quercoidites. Two provenance systems were recognized based on the characteristic elements and heavy mineral. All the analysis show that: 1) the gentle paleogeomorphic is advantage of the development of fan delta, delta and beach bar; 2) the humid and hot paleo-climate provides accommodation space and protection for the clastic sedimentary of fan delta and delta; 3) the fan delta is controlled by the north provenance system, the delta is controlled by the south provenance system, beach bar is controlled by the both; 4) the weak power of paleo-hydrodynamic restrict the distribution range of beach bar. The results make the distribution regularity of sedimentary facies clear and will help the oil and gas exploration in the region.

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Biography

Dr Nandi Malumbazo graduated her PhD in Coal Chemistry in 2011 from the University of Witwatersrand at the age of 26. She has managed to establish a coal laboratory where she is currently conducting research and commercial work. Dr Malumbazo is supervising students with research projects on coal utilisation studies in South Africa. Dr Malumbazo is an internationally recognised Coal Petrographer. Dr Malumbazo is also a Project Manager for a Shale Gas programme which is the National Priority Project in South Africa. In the project she has to make sure the project operates under the allocated funds, deliver within the stipulated time and managing a team of 30 scientists and making sure the objectives of the project are achieved. One of her responsibilities is to conduct stakeholder engagements and represents the CGS Shale gas project at various shale gas government committees. She has currently organised a workshop bringing shale gas international experts to audit and guide the shale gas project that she is leading. Dr Malumbazo has managed to publish peer-reviewed publications and media articles in both Coal Chemistry and Shale Gas in South Africa. She is representing the Council for Geoscience in Hydraulic Monitoring Committee of South Africa.

Abstract

Shale Gas Activities in South Africa: The game changer in energy mix.

N. Malumbazo

280 Pretoria Street, Silverton, South Africa, 0001, email: nmalumbazo@geoscience.org.za

South Africa is still new to the concept of shale gas and needs to conduct research that will support petroleum exploration and help develop regulations around production. Several Oil and Gas Exploration companies have applied for Shale Gas Exploration licences onshore (as shown in Figure 1); these have not yet been granted. Shale gas exploration in South Africa could be facing two major unknown geological questions: the amount of economically recoverable gas trapped in the Karoo formations and the geo-environmental problems linked to the nature and the structure of the rock, the ground water migration and the micro- seismicity.

The Council for Geoscience Shale gas project commenced in the year 2015. The site selected for the project is in Beaufort West Commonage with a farm name Bulskop 143. The objectives of the project will be to collect and review new geological information on the of the Karoo, to define an environmental baseline, to assess the amount of recoverable gas mainly from the Whitehill and Prince Albert Formations, to cover various geo-environmental impacts like ground water dynamics with possible contamination, and monitor potential seismic interferences. On completion, the study will have interrogated the whole value chain of exploring shale gas except for the technology associated with it.

The Geology has been reviewed using existing historical geological data and unpublished reports, such as the geological maps, regional cross-section and structural interpretation. The Hydrogeology task has reviewed the groundwater quality data using historical data from Department of Water and Sanitation. In addition, hydrocensus (borehole auditing) work has been conducted to confirm the water (both surface and ground water) quality of the area and to generate a water quality database of the area to be drilled. The hydrocensus activity was followed by collection of water samples for laborato

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Biography

Haajierah Mosavel completed her MSc in Applied Geology at the age of 23 from the University of the Western Cape. Her Msc thesis, focuses on petrophysical characterization, seismic attribute analysis and multivariate statistical analysis of sandstone reservoirs. Currently, Haajierah is working on a shale gas project in the Beaufort West area of South Africa.

Abstract

3D geology modelling from boreholes, cross-sections and geological maps to support shale gas potential investigations in the Beaufort West area, South Africa

Haajierah Mosavel, Chiedza Musekiwa
Council for Geoscience, South Africa

The Council for Geoscience is conducting a three year research programme aimed at undertaking a wide range of geoscientific investigations in response to the start of the potential shale gas industry in the Beaufort West area. The research programme will potentially provide better shale gas quantification around the Beaufort West area based on the results obtained from the baseline investigations. The main activity of the project is the drilling of a 4000m vertical borehole. Before, during and after deep drilling commences, a base line study must be done and this consists of surface investigations at various scales. 3D geological modelling is important in the baseline study as it provides a three dimensional view of the sub- surface geology and hydrogeology and this will assist with understanding the distribution of deep ground water aquifers and provide information that may assist in avoiding any unwanted side- effects of shale gas exploration, such as polluting groundwater when drilling takes place. In 3D modelling, data from various sources is integrated. The data used in the 3D model in this study includes geological maps, cross sections and boreholes. Preliminary results of the model show the surface and sub- surface geology of the Beaufort West area as well as water strike levels which may intersect the proposed borehole at depth. Furthermore future work would include incorporating the results of the geophysics investigation

Petroleum Industry and Petroleum Geology

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Biography

Maryam has completed her master in Engineering Systems and Management from Masdar Institute of Science and Technology in Abu Dhabi-United Arab Emirates. She got her bachelor degree in Chemical Engineering in 2013 from United Arab Emirates University.

Abstract

CO₂-Enhanced Oil Recovery System Optimization with System Dynamics Material Balance Characterization of Injection

Maryam AlMazrouei
Masdar Institute of Science and Technology, Abu Dhabi, UAE

This paper presents a CO₂-EOR system model that comprises an infrastructure network optimization model and a material balance reservoir system dynamics model. A mixed integer linear programming model is developed to minimize the cost of a CO₂-EOR process. The model characterizes a CO₂-EOR system that contains a set of CO₂ sources with different per unit CO₂ capture cost, a set of CO₂ sinks with different per unit oil production CO₂ of injection as well as different transportation costs between each source and sink. The model identifies the sources/sinks to extract/inject CO₂ by minimizing cost with the consideration of their costs as well as transportation cost. This model is validated through varying some key parameters to identify their effects on the decision variables and the objective function. The dynamics of CO₂ and other fluids flow across the reservoir is studied through developing system dynamics model considering reservoir characterization of injection. This model has been tested and validated. The results from these two models will help decision makers to identify the amount of CO₂ that can be economically captured and stored, as well as the right regulation of industrial production process for CO₂ capture under different oil and gas prices. In addition, it will provide the decision maker to have a concrete and overall understanding of the fluid's behavior in the reservoir under CO₂ injection process.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Hanan Salama had completed her BSc. from Cairo University in 2008 and she had completed her Petroleum Geology Diploma from Geology department, Ain Shams University in 2009. She is a senior Exploration geologist in BAPETCO. Recently She is Working on her MSc. Degree from geology department , Cairo University and she has published a paper in El-Sevier journal in 2016.

Abstract

High Resolution Borehole Imaging data calibration with Cores and Electro-Facies Logs to Define Reservoir Continuity and characterization in Complex Clastic reservoir

Hanan Salama
Badr El-Din Petroleum Company (BAPETCO)

Introduction: Glass-like coatings are used due to their excellent properties in a broad application field like drug delivery systems or as implant coating for bone repair. However these glass-like coatings can only be generated at relatively high temperatures that limit their application in temperature-sensitive areas. Therefore, new developments and further research is going on to provide useful coatings also in these fields, e.g., as coating for cardiovascular implants.

Methods: Two glass-like coatings have been developed and characterized. These coatings have been applied using the well-known sol-gel-technique and tempered at moderate temperatures in different atmospheres. Afterwards the biocompatibility using human umbilical vein endothelial cells (HUVEC) has been investigated.

Results: The developed glass-like coatings possess excellent optical, chemical, and biological properties. By altering the existing sintering atmosphere, the cellular growth could be selectively influenced in a positive and a negative way. Additionally the coatings have been proven to be of radiolucent nature that makes them attractive for different fields.

Conclusion: The developed glass-like coatings are promising coatings for a later cardiovascular application. A later usage as closing layer on thin, fine, and sensitive wires like stents is cogitable. First and foremost these coatings can contribute in a better acceptance of an implant in the human body.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Matar NDIAYE has completed his PhD at the age of 45 years from University of Geneva. He is teacher and researcher in sedimentology and geophysics interpreter at the University of Cheikh Anta Diop. He has published 2 papers in reputed journals and he is very motivated for research.

Abstract

The syn-rift phasis in the Senegal basin: A petroleum implication

Matar NDIAYE
Institut of Earth Sciences
University of Cheikh Anta DIOP – BP 5396 Dakar - Fann - Senegal

The syn-rift phase is also called the Diourbel basin in the Senegal basin. It is located in the centre of the onshore part of the Senegal-Mauritanian Basin (SMB). The new interpretation of old petroleum data (2-D seismic lines and drilling data of three oil wells) in the deep part of this poorly evaluated zone, integrating gravimetric and magnetic data, has allowed the distinction of the Hercynian ante-rift phase (U1) which is distinguished from the syn-rift phase (U2) probably of Permo-Triassic to Middle Jurassic age. The syn-rift phase resulted in a series of compartments or grabens infilling aligned in a North-South direction. Tholeiitic volcanism of the Central Atlantic Magmatic Province (CAMP) is present in the syn-rift phase of the Diourbel-Thies area. The syn-rift deposits and associated volcanics allow us to surmise that the Diourbel basin represents a deeper rift basin. In comparison with other Central Atlantic Margins (CAM), the Diourbel rift basin could be one of the numerous rift basins that formed during the Permo-Triassic age. From a petroleum exploration perspective, the existence of the Diourbel rift basin is attractive because of the presence of structures that are excellent for deep gas exploration.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Jackson ndolo is a PhD candidate in Jomo kenyatta University of Agriculture and Technology in Kenya pursuing supply chain managment hoping to complete by the end of 2016. He has alot of interest in petroleum supply chain management more so on regulations and logistics. He is currently a tutorial fellow in Mount kenya university, school of business and economics, he has published over 8 papers in reffered journals and attended over three international conference in the region.

Abstract

State of Petroleum Supply Chain Management in Kenya: A Regulatory Perspective

Jackson Ndolo
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School of Business and Economics
Mount Kenya University

The oligopolistic nature and “cartel like” behaviour of petroleum supply chain in Kenya makes it’s susceptible to heavy government regulations. It’s on the backdrop on this the researcher sought to establish the role of government regulations on petroleum supply chain management in Kenya where 36 oil marketing companies were surveyed and 180 respondents purposively sampled. This paper therefore was part of this study and it seeks to elaborate the state of Kenyan petroleum supply chain management. Primary data was collected using structured questionnaire and analysed using SPSS. A pilot study of 15 respondents was done with 0.903 cronbach's alpha value being adequate and sufficient. The overall data a KMO of 0.858, a factor loading range of 0.735 to 0.868 and an individual factor R of 0.641 to 0.80. Kenya’s petroleum supply chain management is not only highly and adequately regulated but also responsive to a greater extent. The study recommends further research on the Kenya petroleum supply management especially on it’s of innovativeness and risk management.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Khalid Altayeb has graduated with a 2nd class (Honors) degree in Geology since 2006 and worked for two years as a part-time Teaching assistant in the University of Khartoum- Sudan. He had worked for one year as a Geoscience Engineer in China National Logging Corporation (CNLC-Sudan Branch), then he went to China in 2009 and completed his M.Sc in Petroleum Geology at the age of 28 years from the Faculty of Earth Resources of China University of Geosciences-Wuhan-China. Since 2012 he is working as a full-time Research Engineer (Geophysicist and Geologist) in Addax Research Department (ARDP) of Sinopec Exploration and Production research Institute (PEPRIS), Beijing, China.

Abstract

SEISMIC INTERPRETATION AND STRUCTURAL IDENTIFICATION OF IROKO-MOKOKO-ABANA (IMA) FIELDS, OFFSHORE CAMEROON

Khalid Altayeb

Petroleum Exploration and Production Research Institute of Sinopec, Beijing 100083, China

The Iroko-Mokoko-Abana (IMA) fields are located at the eastern part of the Niger delta within a complex setting that contains remarkable oil potentials. The structural style of these fields was identified using 3D seismic volume interpretation in which the seismic was combined with well data. The G&G correlation & interpretation of six key seismic cross well sections were firstly done to confirm the structural and sedimentary framework, then three key regional horizons of different depth levels were interpreted with their seismic attributes been extracted, and finally the depth conversion of the interpreted time maps were converted using a 2nd polynomial T-D function derived from well information. The integrated results demonstrate that there are 13 big Synsedimentary growth faults related to four shale diapirs of the Akata shale formation; these diapirs and their growth faults have acted as a positive element to produce faulted structures and have divided the IMA into 13 micro-faulted-structural blocks. Many additional potential hydrocarbon accumulations are located within these faulted-structural blocks.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Q. Zeng has completed his MEng at the age of 25 years from China University of Petroleum, then entered the PetroChina Hangzhou Research Institute of Geology. He is mainly engaged in the research of oil and gas reservoir geology and sandbody modeling. He has published 3 papers in reputed journals

Abstract

The sandbody architecture of fan delta front based on the digital outcrop technology — An outcrop case from Kuqa foreland area, Tarim basin, NW China

Qinglu Zeng
PetroChina Hangzhou Research Institute of Geology, Hangzhou 310023, China

The sandbodies of fan delta front are widely developed in Cretaceous Bashenjiqike formation in the foreland area of Kuqa depression, Tarim basin, which are the advantageous places of natural gas accumulation. In view of the situation of few drillings and large inter well spacing in A gas field, by choosing a typical outcrop similar with the target stratum, using the holographic laser scanning technology for the multi-faceted and full coverage scanning to acquire three-dimensional data, matching with the measured geological information and sampling analysis data to build a digital geological model, the sandbody architecture can be revealed effectively. It performances as multiple underwater distributary channels stacked vertically, accompanied by a few mouth bars and distal bars. The thickness of the single sandbody is 1~5m and the width-thickness ratio is less than 20 with a negative correlation. The sandbody architecture types are presented as incomplete stacked stitching, side stitching and isolated type, between which there is stable lateral distribution of mudstone with a smaller number and thin layer thickness. The distribution of sandbodies is featured as large area and continuity and the content of sandstone throughout the modeling section is more than 80%. The porosity and permeability of the lower part of sandbodies are better than the bottom and top part. The sandbodies are not fully connected with each other and the heterogeneity is strong in the inner layers and interlayers. This result can provide favourable supports to develop such type of reservoirs in Tarim, Shengli and Liaohe oilfield in China.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Sajjad Negahban is PhD student in School of Petroleum Engineering, China University of Petroleum (East China). At the age of 34 years he has 7 years experience in oilfields. In PhD duration he conducting research for feasibility of using oil based drilling fluid in gas-lift Dual Gradient Drilling (DGD). This work was supported by National Key Basic Research Program of China (2015CB251200) and Program for Changjiang Scholars and Innovative Research Team in University (No. IRT_14R58).

Abstract

Importance of solubility and bubble pressure models to predict pressure of nitrified oil based drilling fluid in dual gradient drilling

Sajjad Negahban*, Wang Ruihe and Sun Baojiang
School of Petroleum Engineering, China University of Petroleum (East China), Qingdao, 266580, China

Gas-lift dual gradient drilling is a solution for deepwater drilling challenges. As well, Continuous development of drilling technology leads to increase employment of mineral oil based drilling fluids and synthetic-based drilling fluids, which have adequate characteristics such as: high rate of penetration, lubricity, shale inhibition and low toxicity. The paper discusses utilization of nitrified mineral oil base drilling for deepwater drilling and for more accurate prediction of pressure in DGD at marine riser, solubility and bubble pressure were considered in steady state hydraulic model. The Standing bubble pressure and solubility correlations, and two new novel models which were acquired from experimental determination were applied in hydraulic model. The effect of the black oil correlations, and new solubility and bubble pressure models was evaluated on the PVT parameters such as oil formation volume factor, density, viscosity, volumetric flow rate. Eventually, the consequent simulated pressure profile due to these models was presented.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Hajer Negra is a Ph.D. student at the University of Tunis El Manar, graduated in 2012 with bachelors in geology (first class honors). At the same university in 2015, she completed a master's degree in earth science, specializing in sedimentary basin analysis and reservoir characterization. Her master's thesis is on the stratigraphic and structural relation between the Paleozoic unconventional hydrocarbon reservoir and the Mesozoic aquifer of South Tunisia. The research was done in collaboration with the Center of Petroleum Research and Exploration of the Tunisian Oil Company (ETAP). She is currently actively involved Young Earth Scientists (YES) Network as national representative for Tunisia.

Abstract

Unconventional reservoir exploration and groundwater relation in southern Chotts basin of Tunisia.

Hajer Negra
Water Technology Research Center, Route touristique de Soliman BP 273-8020 Soliman, Tunisia.

The hydrocarbon demand is incessantly growing what makes the need to vary the energy sources inevitable. For this reason we tried to put highlight on the unconventional resources, and because of the controversies it has raised and especially the fact that this industry could damage aquifers, we chose to focus our work on the relation between the Lower Cretaceous "Continental Intercalaire" aquifer and the Silurian hot shales in the southern Chotts basin of Tunisia, being based on the seismic and well data.

The term Continental Intercalaire refers to the Continental episode located between two cycles of marine sedimentation. It is characterized by normal to low energetic deposition that facilitates the deposits of massive sandstones and sand beds with some intercalations of siltstones and shales. The lowermost part of this Formation is marked by the presence of interbeds of dolomite and anhydrite.

The Jurassic Sebaia Evaporites Formation is dominated by massive anhydrite and shale beds with some sandstone intercalations. As seen in the seismic, Sebaia Evaporites layers have high energy what made it easy to recognize. The Silurian Hot Shales are highly faulted. The lowermost part of the Silurian is marked by the presence of the "Hot Shales" representing the major source rock of the Sahara Platform. This unit consists of dark grey to black shale. A regional study of the southern Chotts basin showed that the evaporites layers are present in the whole study area. These layers, which represent a protection for the aquifer, and constitute a separation between the two reservoirs (water and hydrocarbons), have an average thickness of 450 m in the petroleum wells of the area. So there is no clear contact between the Continental Intercalaire and the Silurian Hot shales, if the faults which reach the two targets are sealed. An FMI can be done to detect the sealing of these faults. We used four wells in our study, only one well reaches the Silurian Hot Shale Formation. For that reason, a lithostratigraphic and wire line logging correlation between wells has been established to see the extension and continuity of the hot shale Formation.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Ronghu, Zhang , Master Engineer of Geology, has completed his PhD at the age of 27 years from Petrochina Research Institute of Petroleum Exploration and Development. He was mainly engaged in sedimentology, oil and gas reservoir and the accumulation of research. Nearly 30 papers have been published in domestic and international core journals

Abstract

Sedimentary microfacies and palaeogeomorphology as well as their controls on gas accumulation within the deep-buried Cretaceous in Kuqa Depression, Tarim Basin, China

Ronghu Zhang , Junpeng, Ge Chen, Qinglu Zeng
Hangzhou Institute of Geology, PetroChina, Hangzhou 310023, China

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Dr. Yongan (Peter) Gu obtained his Ph.D. degree at the University of Alberta (Canada) in 1999. He was hired as an assistant professor in 1999, an associate Professor in 2002, and a full professor in 2006 at the University of Regina (Canada). His three major research areas are CO₂-enhanced oil recovery (CO₂-EOR), carbon capture utilization and storage (CCUS), solvent- and thermal-based EOR in post-CHOPS reservoirs. Dr. Gu has conducted 34 large research projects funded by the Canadian governments and the petroleum industry. He has co-authored over 80 refereed journal papers, 4 invited review articles, and presented 54 peer-reviewed conference papers.

Abstract

Optimum Miscible CO₂-SWAG/WAG Injection in the Bakken Formation

Yongan (Peter) Gu
Petroleum Systems Engineering, Faculty of Engineering and Applied Science
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The Bakken formation has approximately 271-503 billion barrels of light oil in place and becomes a vast and vital light oil resource in Western Canada and the adjacent states in USA. This tight oil formation has permeabilities of 0.01 to 1 mD and the oil recovery factor of its primary production is estimated to be 1-3%. Water is very difficult to inject in large volumes into it, whereas CO₂ may breakthrough it more easily than water. Thus how to properly inject water and/or CO₂ and maximize the oil recovery in the Bakken formation becomes a key technical question.

In this paper, miscible CO₂ simultaneous water-and-gas (CO₂-SWAG) injection and CO₂ water-alternating-gas (CO₂-WAG) injection in the Bakken formation are experimentally studied. A total of fifteen coreflood tests are conducted by applying waterflooding, miscible CO₂ flooding, miscible CO₂-WAG and CO₂-SWAG injection. The miscible CO₂-SWAG injection with an injected water-gas ratio (WGR) of 1:3 in volume achieves the highest oil recovery factor and carbon utilization factor, which is followed by the miscible CO₂-WAG injection with the optimum slug ratio of approximately 1:1, miscible CO₂ flooding, and waterflooding. The WGR and the WAG slug size show strong effects on the fluid production trends in the miscible CO₂-SWAG and CO₂-WAG injection processes, respectively. In comparison with water or CO₂ alone, the water-CO₂ mixture has a much lower mobility in the tight formation. Hence, the high oil recovery in the optimum CO₂-SWAG/WAG injection is attributed to a well-controlled water-CO₂ mobility and a substantially weakened waterblocking effect

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Prof., D.Sc. Mai Thanh Tan was born April 15, 1944 in Ha Tinh, Vietnam. He received Ph.D. in Geophysics from Hanoi University of Mining and Geology (1983), D.Sc. in Geophysics from University of Science and Technology AGH, Poland (1990) and Professor title (2005). He has over 45 years of teaching experience at universities, author of more than hundred papers and leader of many scientific projects. He is a member of SEG, AAPG, Vice President of Vietnam Association of Geophysicists (VAG). He was Vice Rector of Hanoi University of Mining and Geology (1994- 1998), Dean of Faculty of Oil and Gas, Hanoi University of Mining and Geology (1994-2004).

Abstract

Title: Enhancement of seismic data analysis for stratigraphic traps in the flank of Southeast the Cuu Long Basin, Offshore Vietnam

Mai Thanh Tan
Hanoi University of Mining and Geology, 18 Vien Str., North Tu Liem Dist., Hanoi, Vietnam

Cuu Long Basin is located on the southern continental shelf of Vietnam. The southeastern marginal slope of this basin contiguous to the Con Son Swell with complicated geological conditions. The sediments in the flank pinch-out and/or onlap with thicknesses ranging from 1.0 to 2.5 km. Although there were many researches here, there are still difficulties on evaluating oil and gas potential. Enhancing seismic data analysis is necessary to support this problem.

There are special seismic studies (amplitude analysis, spectral-decomposition, seismic inversion, average instantaneous phase, etc.) carried out in this area in order to find non-structural hydrocarbon traps, such as fans, channel, etc. in the Oligocene sequence. The integration of seismic stratigraphic analysis results with existing well log data in the southeastern part of the basin indicated, of which, the pinch-outs and alluvial fans in Oligocene have been evaluated as potential candidates for oil and gas exploration in the area. The research results support predicting the sedimentary facies (lacustrine, fluvial, alluvial fan, etc.) and determining the distribution of stratigraphic traps in the study area. Thus, using various methods of analyzing seismic stratigraphy, combining with well logs, seismic attributes, the stratigraphic traps in the area can be revealed better.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Buraq Adnan Al-Baldawi has completed his MSC studies at the age of 31 years from Baghdad University. He is the staff member as Assistant Teacher in earth sciences department at college of sciences - University of Baghdad. He has published more than 10 papers in reputed journals and has more than a certificate of experience in the use of interpretation of well logs softwares such as Interactive petrophysics, Techlog and geolog as well as builds a geological models using petrel software

Abstract

Well Logs Interpretation for the Determination of Lithology and Fluid Contents of Asmari Formation, Abu Ghirab Oil Field, South Eastern Iraq.

Buraq Adnan Al-Baldawi
Department of Geology, College of Sciences, University of Baghdad. Baghdad- Iraq

The detection of hydrocarbon content and lithology from well log has always been an important practical issue in the interpretation of Petrophysical oil prospecting data. Detailed knowledge of the distribution of reservoir properties such as porosity, permeability, volume of shale, water saturation, and barriers influencing fluid flow are important for reservoir evaluation project. The current study represents evaluation of petrophysical properties in two wells of Asmari Formation in Abu Ghirab oil field (AG-32, and AG-36) at Missan governorate, southeastern Iraq. The petrophysical evaluation was based on well logs data to delineate the reservoir characteristics of Asmari Formation. The available well logs such as (sonic, density, neutron, gamma ray, SP, and resistivity logs) are digitized using the Didger software. The environmental corrections and petrophysical parameters such as porosity, water saturation, hydrocarbon saturation, bulk water volume, etc. were computed and interpreted using Interactive Petrophysics program. Lithological, mineralogical and matrix identification studies were estimated using porosity combination cross plots. Petrophysical Characteristics were determined and plotted as computer processing interpretation (CPI) using Interactive Petrophysics program. Asmari Formation in Abu Ghirab oil field is divided into three sub formations: Jeribe/ Euphrates, Kirkuk group which divided into two zones: Upper Kirkuk zone, and Middle-Lower Kirkuk zone. Interpretation of well logs of Asmari Formation is found a commercial Asmari Formation production and presents medium oil shows in some ranges of formation especially in upper Kirkuk zone at well AG-32 but in the well AG-36 especially in the lower part of Jeribe/ Euphrates and Middle-Lower Kirkuk zone have low to medium oil shows. Lithology of Asmari Formation is range from massive dolomite in Jeribe/ Euphrates zone to limestone in upper Kirkuk zone to limestone and sandstone in middle-lower Kirkuk zone where as mineralogy of Asmari reservoir is calcite and dolomite with few amounts of Anhydrite.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Prosenjit Ghosh obtained his BSc (Geology) (1991) from Hansraj College, Delhi University and MTech in Applied Geology (1994) from University of Roorkee (Uttar Pradesh) and PhD (2000) from Devi Ahilya Vishwa Vidhyalaya, Indore while working under the supervision of S.K. Bhattacharya at the Physical Research Laboratory (PRL), Ahmedabad. Subsequently, he was Postdoctoral Fellow (2001-2002) at PRL. He was WMO-IAEA post doctoral fellow at Max Planck Institute for Biogeochemistry, Jena with Willi Brand and Caltech postdoctoral fellow with John Eiler. He worked as an Assistant Professor at Tokyo Institute of Technology, Tokyo, Japan during 2006-2007. He joined as an Assistant Professor in the Centre for Atmospheric and Oceanic Sciences, Indian Institute of Science in the year 2007 and became a core faculty at the Centre for Earth Sciences in the year 2008, soon after its creation. He is adjunct faculty in other departments which includes Centre for Atmospheric and Oceanic Sciences and Divecha Centre for Climate Change.

Abstract

Life underneath the Deccan trap: New Insights from Stable C, O and Clumped Isotopes from the Cretaceous Stromatolite s underneath the Amba Dongar carbonatite bo

Prosenjit Ghosh

Centre for Earth Sciences, Indian Institute of Science, Bangalore 560012
Divecha Centre for Climate Change, Indian Institute of Science, Bangalore 560012

Amba Dongar carbonatite -alkaline complex has been a longstanding subject of interest for the geologists and geochemists as it is one of the best examples of a carbonatite ring dike complex emplaced in the western part of the Deccan Flood Basalts. The emplacement age at the Cretaceous– Tertiary boundary (65 ma,) (1) makes it an exclusive body to understand the complexity of Deccan eruption. Radiogenic Sr isotope study of carbonatites and alkaline silicate rocks of this complex indicate their cogenetic origin (1). The Amba Dongar complex intrudes cretaceous sedimentary layers known as Bagh Formation of early to middle cretaceous based on biostratigraphic correlation (2). Although the carbonatite body has been investigated widely but only few attempts were made to investigate the sedimentary formations underneath. Here we report occurrence of cretaceous stromatolite deposit from the Amba Dongar complex. These stromatolites which was previously interpreted as Travertine (3) occurs as thick sedimentary deposits in the valleys of Amba Dongar dome. Our preliminary stable carbon and oxygen isotope results show a range of $\delta^{13}C_{VPDB}$ values from -2.24 to -3.90 ‰ while $\delta^{18}O_{VPDB}$ values ranges from -1.43 to -8.10 ‰. This stromatolite carbonate is isotopically distinct from the Bagh Bed sediments investigated by other workers (4). In a $\delta^{13}C$ vs $\delta^{18}O$ crossplot, the values are consistent with palustrine carbonates of the Lameta Beds (4). We have compared our results with the other cretaceous stromatolites deposits from different region. Results showed that stromatolites from Amba Dongar were deposited in a coastal environment. Comparison of $\delta^{13}C$ and $\delta^{18}O$ numbers with Phanerozoic seawater $\delta^{13}C$, $\delta^{18}O$ evolution curve given by (5) confirms its late cretaceous age. Based on thin section study, we speculate presence of organic debris in the layered structures and possible indication of thermal maturity (as this sedimentary deposit is intruded by the Deccan basalt) suggesting reservoir characteristic of a hydrocarbon deposit. Further Clumped isotope investigation of carbonate and organic matter extraction is underway while this abstract is written. Details will be presented at the conference.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Mohamed KA. Khalifa received his B.Sc. in geology from University of Tripoli, Libya, PG.DipSci, and M.Sc. in geology from University of Jordan, Amman - Jordan, and his Ph.D. in applied geology from University of New South Wales, Australia. He has extensive industrial, research and teaching experience as a Project Geologist at the Petroleum Research Centre in Libya; a Petroleum Geoscientist at 3D-GEO Pty Ltd in Melbourne, Australia; an Exploration Geologist at Triassic Geological Services Pty Ltd in Brisbane, Australia and consultant Geoscientist in Exploration Department at the Libyan Petroleum Institute, Libya. He has teaching experience as Senior Lecturer at the University Teknologi PETRONAS, Malaysia; Senior Lecturer at the University of Malaya, Malaysia; and as teaching assistant (tutor) at the University of Jordan. Currently he is working in the capacity as Associate Professor at the University of Zawia, Libya. He has published more than 25 articles in reputed journals and has been serving as referee/reviewer of many reputed journals. His main research interests focus on seismic data interpretation in petroleum geology, with special emphasis on seismic/sequence stratigraphic analysis and sedimentary basin analysis.

Abstract

Correlation of facies distribution and sequence stratigraphic analysis of the latest Silurian to Lower Devonian sequence in the eastern part of the Darling Basin

Mohamed Kh. Khalifa
Department of Geology, Faculty of Science, University of Zawia, PO Box 16418, Zawia, Libya.

This work presents the facies controls on the sequence stratigraphic architecture of the latest Silurian to Lower Devonian sequence corresponding to the Winduck Interval in the eastern part of the Darling Basin, western New South Wales, Australia. The study integrates wireline logs, drill cores and limited biostratigraphic data to determine the facies subdivision that has controlled sequence stratigraphic architecture. Sedimentological analysis was applied, using characteristic wireline-log responses, and core descriptions, to aid in the development of a depositional environment for the Winduck Interval. Twenty-two sedimentary facies are defined, forming five facies associations which were grouped into seven electrofacies defined by wireline log signatures. These facies associations are characterised as distributary channel sand complexes, distributary mouth bars, tidal channel sands, proximal delta fronts associated with mouth bar complexes, and distal delta front to prodelta sediments. The sequence stratigraphy of the Winduck Interval could be subdivided into four sequences in the two available wells (DM Kewell East DDH-1 and DM Mossgiel DDH-1). Closer study of the sequence stratigraphy in the approximately 900m thick Winduck Interval revealed ten parasequences (A-J) in progradational to retrogradational parasequence sets and four main Winduck sequences, WKS1, WKS2, WKS3 and WKS4, in ascending order. The integration of correlation techniques (log correlation, recognition of changes in core facies, electrofacies observation and parasequences) has helped to define the non-marine sequence stratigraphic model. This model of the Winduck Interval has the potential to refine existing sedimentary schemes and, given the higher resolution and more detailed correlation, may significantly improve subsurface stratigraphic reconstructions and aid in prediction of hydrocarbon-bearing reservoirs.

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Dr. Nabil has completed his PhD at the age of 35 years from Assiut University. He is Vice Dean for Academic Affairs in Faculty of Applied Science, Tamar University, Yemen. He has published more than 10 papers in reputed journals and has been reviewing in many Journals.

Abstract

Proven petroleum system of the Masila oilfields in the Sayun-Masila Basin, Eastern Yemen

Dr. Nabil Mohammed Ahmed Al-Areeq
Department of Geology and Environment, Faculty of Science Tamar University, Yemen

The Masila oilfields have become the biggest oil producing part of the Sayun-Masila Basin. However, the petroleum system with its essential elements and processes has not been published yet. This paper overviews the petroleum system aspect of the Masila oilfields which has been identified and named Madbi-Qishn (!) petroleum system. The Masila oilfields were elongated along the ancient Najd fault system (NW/SE) in the late Jurassic time and had continued up to the early Cretaceous. The Masila oilfields filled with syn- and post-rift sediments and include good source and reservoir rocks. The predominant source rock is the organic-rich shale of the Madbi Formation (Kimmeridgian) which involves upper Madbi shales member and found throughout the all oilfields of the Masila. These shales contain high total organic carbon content (TOC >5.0 wt%) and predominantly Type II with mixed Type II-III kerogens. The Madbi shales are within the oil window maturity with determined vitrinite reflectance values in the range of 0.40-1.0 Ro%, therefore, these shales include effective source rocks with the greatest source potential in the Masila oilfields. Geochemical oil-source rock correlation studies showed that regional distribution of the oil fields almost overlap with the previously constructed pod of active Madbi shales indicating that oil migrated from the active Madbi source rock to reservoir rocks. The reservoir rocks are found in several stratigraphic levels, but the sandstone of the Qishn clastic member of the Qishn Formation represents the main reservoir in the Masila oilfields. The fractured basement and the vuggy dolomite within the Saar Formation compose the secondary reservoir rocks in the Masila oilfields. The lower Cretaceous limestone and shales of the Qishn Formation were developed in the Masila oilfields and represent good regional seal in all fields of the Masila region. The traps are characterized by structural elements represented by dominant horst and tilted fault blocks, which initial formed during late Jurassic-early Cretaceous and development during Oligocene-Middle Miocene time. Burial/thermal histories models demonstrate that oil generation from the Madbi shales commenced in the Late Cretaceous and peak oil generation

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Sameer N. Ali Al-Jawad, have Ph.D. Degree in Petroleum Reservoir geology / University of Baghdad/ College of Science.
Work as chief Reservoir Geologist / Ministry of Oil / Reservoir & Field Development Directorate in the Southern Reservoir Studies.
He submitted; over 20 geological & reservoir geology studies and researches concerning southern oil fields in Iraq and related topics on carbonate reservoirs development projects.
He has Supervised more than 16 master student.

Abstract

Carbonate Reservoir Development Project: Synchronous Carbonate Stratigraphy for Reservoir Optimization Strategy, South Iraq Oil Fields.

Sameer N. Ali Al-Jawad
Work as chief Reservoir Geologist / Ministry of Oil / Reservoir & Field Development Directorate in the Southern Reservoir Studies.

The current lithostratigraphic construction of the Cenomanian Ahmadi, Rumaila & Mishrif carbonates succession, & Late Turronian Khasib formation in the south Iraqi oil fields, seriously create: diachronous-stratigraphic-link and related diachronously-connected flow-units.

The diachron strato-link generates; diachronous-production-framework and associated random-reservoir-pressure-buildup.

Genetic sequence stratigraphy context: has applied on the mentioned carbonate reservoirs in the North-Rumaila, West-Qurna and Majnoon oil fields, with respect to; Arabian-plate chronosequence stratigraphy & allied chrono-markers. A synchronous-stratigraphic model; of eight (decametric scale) genetic sequences, has infra-structured the studied succession, mainly based-on; the construction of the smallest-set of the genetically-related high-frequency lithofacies-cycle, and cycle-set. A case-study static-model of 20 to 24-SynLayer framework; has introduced as syn-production-steering agenda, with associated; synchronous reservoir facies configuration and flow-unit to fluid-flow-barrier perspectives.

For Safe Production from this carbonate succession, it is highly advised; to use the above stratigraphic proposition and the following presented facies package/selective-completion schedule, using; selective-perforation-plan/ preferred acid-job; for items 1 & 2, with isolation-record of item 3:

- 1 -M/G-dominated-facies-package of RF101-102/RF103 to RF104.
- 2 -Transition-facies-package of R-L/RF104 to RF105/RF106-Cluster.
- 3 - Clayey/argillaceous mud-dominated facies-package

Petroleum Industry and Petroleum Geology

November 24-25, 2016 Dubai,UAE

Biography

Abstract

Source Rock Geochemistry and Oil: Source Rock Correlations of Some Oilfields in the Offshore Gippsland Basin, Southeast Australia

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The Golden Beach, Emperor and Halibut Subgroups and Strzelecki Group are the major source rocks in the Gippsland Basin. The principal objective of this work is to study the geochemistry of the source rocks and to employ the bulk geochemical parameters along with biomarker characteristics to identify and distinguish the crude oils samples of three oil fields and correlate them with their potential source rocks in order to determine the genetic relationship between the oils and the source rocks. The study also focused on gas correlation in order to understand the occurrence of oil in the middle part of the basin and gas towards the basin margins. In order to investigate the possible oil-source rock correlation, the geochemistry of the four potential source rocks was studied in order to understand their source quality, levels of maturation, and to select the best quality source rocks for correlation studies. Six crude oil samples from three oilfields (Bignose, Gudgeon, and Halibut Fields) were correlated with the source rock extracts in order to determine the genetic relationship between them. Different parameters employed for the correlation include gross composition of oils and source rock extracts, gas chromatography and mass spectrometry (GCMS) of biomarkers, and environmental analysis for more reliable results. The results of the oil-source correlation studies indicate that there is positive correlation between the extracts of the Golden Beach and Strzelecki source rocks and oils from Gudgeon and Halibut Fields, whereas the oils from Bignose Field show negative correlation. This indicates that the Golden Beach and Strzelecki source rocks act as major source rocks to the oils in Gudgeon and Halibut Fields, and probably to the less mature oils from the Bignose Field. The results also indicate that the oils were sourced from terrestrial source rocks of the Golden Beach Subgroup and Strzelecki Group that were deposited under oxic conditions. The gas correlation results show that the type of natural gas in the various oil and gas fields studied is mainly thermogenic in origin, formed as a result of thermal cracking of organic matter into gaseous and liquid hydrocarbons

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Abhishek Anand is presently pursuing Final year B.Tech Program in Petroleum Technology from Aditya Engineering College affiliated to Jawaharlal Nehru Technological University (Kakinada), Andhra Pradesh. He is a meritorious student and stands in the toppers list in his academics. He has presented many Papers, Posters as well as attended many Oil and Gas Seminars and Conferences. Abhishek has been awarded 1st and 2nd prize in Several Colleges and National Level platforms. He has published two of his papers one by PETROCHEMICA 'Journal of Petroleum, Chemical and Control engineering' and other by IJLTET Publishers. He has completed one month of Industrial training with Oil and Natural Gas Corporation limited (ONGC) and One month of Internship with Reliance Industries Limited (RIL) and visited many working rigs and process plants. He also has good knowledge in programming skills including C, C++, JAVA, HTML, Tec-plot software.

Abstract

IMPLIMENTATION OF SAGD TECHNIQUES

Abhishek Anand

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Steam assisted gravity drainage (SAGD) is a foremost example of how structured research and development has led to the commercial implementation of technology in oil and gas industry. SAGD gives faster, simpler and higher production or producing the hydrocarbons which was previously thought impossible are the driving forces behind most R&D initiatives in oil and gas industry. Steam Assisted Gravity Drainage is an advanced form of steam stimulation and enhanced oil recovery method for producing bitumen and heavy crude oil. In this process a pair of horizontal wells is drilled into the reservoir, one a few meters above the other and high pressure steam is continuously injected to the upper wellbore to heat the oil and reduces its viscosity causing the heated oil to drain into the lower wellbore, where it is pumped out. Approximately 2 to 4 barrels of water are required per barrel of oil produce, where 90 percent of the water used can be recycled, so only half a barrel of new water is added to the process for each barrel of oil produced. SAGD and CSS (Cyclic Steam Stimulation) are two commercially applied thermal recovery processes used for heavy oil recovery. The majority of bitumen is trapped at shallow depths and immobile at undisturbed reservoir conditions because of its extremely high viscosities. SOR (Steam to oil ratio) is commonly used as the key performance indicator for efficiency. SOR indicates the volume of steam required to produce a certain amount of oil. The aim is to minimize SOR where values in the 2.0 to 3.5 range are considered as good performance. Other performance indicators are recovery factors and bitumen production rate. The current most commercial project is to increase the thermal efficiency and bitumen recovery of the process through SAGD contrast, such as steam distribution optimization, solvent injection and inflow control. With the successful implementation of SAGD technology the industry still facing two major challenges to overcome are dependence on natural gas as the energy source for producing steam and environmental impact. Treatment of the recycled water consumes energy and generates waste.

Petroleum Industry and Petroleum Geology

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Biography

Abstract

Carbonate Reservoir Development Project: Renewal IOR Technique to Improve Oil Recovery for Mishrif Carbonate Reservoirs, South Iraq Oil Fields.

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The conventional water injection scheme; has many disorder-impacts on the Mishrif carbonate reservoirs in the south Iraq oil fields: initiate from the pre-mature-water-breakthrough to water-channeling-system, due to; the trouble maker facies TMF-buildups, specially the highly-leached RF5/RF6 reservoir-facies, consisting pores of larger than 50 micron in size, with absolute-permeability (Ka of over 500mD).

The uncommon Mishrif sweep-efficiency by high water-front-advance; extremely increase water-cut% and decrease cumulative-oil-recovery. Virtual increase; of residual-oil to more-than 55%, is highly expected to be generated for Mishrif reservoirs, by successive; usual water injections. The facies/fluid characteristics; display: oil-recovery of 2 to 5% of the OOIP from extreme-TMFs, both in the North-Rumaila & West-Qurna oil fields. Whereas; the 56% of OOIP; of (semi/non-TMFs)-buildups, with pores of less than 20 micron in size, with Ka ranging from less-than 20 to 185 mD, will be disorderly-encroached.

A modified IOR technique: for Mishrif multi-carbonates, has organized as; polymerized-alkaline-surfactant-water (PAS-Water)-injection at early-stage, & crude-oil-in-water-divertorinjection post-Wbtwithin 0.3 to 0.65 – 0.85 PVwi, in order to; improve Mishrif oil-recovery. Special core analysis schedule, under reservoir condions (2250 psi & 90 °C), has carried out; on tens of standard core-plugs characterized by Mishrif rocks heterogeneity. The final results, are summarized as: 15 to 25% IOR, and 10 – 15% water-oil ratio decrease, as well as; Mishrif rock-oil interfacial tension decrease to acceptable levels. The technique has achieved; mobility-ratio (Mr) decrease, and residual-oil-mobility of (65%). Ultimate oil recover y of (85 to 90%) @ (6.5 PVwi). It is highly advised, to use; 10 micron mesh-filter at the main injection plant and 4 or 5 micron mesh-filter at the injectors, to avoid; around 80% of the parcle-effects.

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