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BRIDGES to our ENERGY Future
09 - 13 July 2017



World Petroleum Council

Prof. Musaed N. J. AlAwad
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Subject: F20 - HSE and operations integrity – keeping pace

Dear Prof. N. J. AlAwad,

Thank you for your submission to the Call for Papers for the 22nd World Petroleum Congress in Istanbul in July. I am pleased to inform you that your abstract entitled

Engineering Management and Inspection Schedule of Petroleum Well Integrity

has been accepted as a poster for Forum 20 at the 22nd WPC.

The selection process proved a difficult task for the Forum Chairs and Vice Chairs, with nearly 1600 high quality abstracts submitted to the Congress.

On behalf of the WPC Programme Committee and organisers, I'd like to offer you our congratulations on being accepted.

You will shortly receive detailed instructions on how to submit your final materials.

Please note that all presenters are entitled to the special rate for Speakers at the Congress, presenting a 50% discount on the full registration fee if booked before the 30th April 2017.

You are advised to register early (<http://www.22wpc.com/register.php>) For further information about the Congress and the full programme please visit our website at www.22wpc.com

Once you have registered, we encourage you to book your flights and accommodation early to benefit from the best rates and availabilities.

Thank you again for your submission and we look forward to seeing you in Istanbul from the 9-13 July 2017.

With best regards

Mr Tor Fjaeran

Vice President, World Petroleum Council and
Chairman of the 22nd WPC Congress Programme Committee

Find out more about the 22nd WPC 2017:

Web site: www.22wpc.com | Email 22wpc@22wpc.com

Musaed N. J. AlAwad and Hawwas A. Mohammed: “Engineering Management and Inspection Schedule of Petroleum Well Integrity”, Poster, the 22nd World Petroleum Congress (WPC22), Istanbul, Turkey, July 9 to 13, 2017.

Abstract

Oil and gas supply the world with energy by approximately 60% of all available energy sources. The global hydrocarbon well inventory accounts for at least 1.8 million wells, more than 870,000 wells of these wells are active. Wells must be designed to ensure well integrity, i.e. that the fluids stay contained within the wellbore, and that the surrounding subsurface layers, including aquifers, are protected. Well integrity is a result of technical, operational and organizational barriers applied, with the intention to contain and control the reservoir fluid and well pressures. Failure to obtain and maintain adequate well integrity (barriers) could lead to catastrophic events, like demonstrated in the Gulf of Mexico in 2010, with the Deepwater Horizon incident. For an oil/gas well to maintain its integrity and be produced effectively and economically, it is pertinent that a complete zonal isolation is achieved through out the life of the well. This complete zonal isolation, however, can be compromised due to factors that come into play during the operative life of the completed well. In this study, the typical well integrity primary and secondary barriers are outlined in details. Examples of Worldwide incidents due to well integrity failure are presented. An appreciable statistical data on well integrity failures worldwide are presented and analyzed. Furthermore, risks associated with different types of well integrity failure issues and how to reduce/mitigate them are discussed. Procedures, roles and responsibilities of personnel involved in the well lifecycle towards well integrity are presented. Finally, a holistic Well Integrity Barriers Inspection Schedule for use by the oil and gas producing companies worldwide are developed. This paper provides the oil industry society with a clear picture on the elements of petroleum well integrity; a general well integrity inspection schedule; and a risk based inspection and maintenance matrix.