



RAY TOMMY OSKARSEN

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EDUCATION and PROFESSIONAL AFFILIATIONS

- Ph.D., Petroleum Engineering, Texas A&M University 2004
Dissertation: "Development of a Dynamic-Kill Simulator for Blowouts Occurring in Ultra Deepwater."
- M. Sc., Petroleum Engineering, Texas A&M University 2001
Thesis: "Toolkit and Drillstring Valve for Subsea Mudlift Drilling."
- B. Sc., Mechanical Engineering, University of Surrey 1998
Thesis: "Sintering of Engineering Ceramics."
- SPE, AADE, IADC, API, ADR

WORK HISTORY

John Wright Company, Houston

2004-Present

Technical Services Manager: Responding to a wide range of well-control incidents and unique drilling projects around the world. The field responsibilities include intervention planning, modeling, documentation, supervision, and communicating with the special services and the customer. Lead developer of drilling, surveying, well-control, and risk-management software. Developed models and technical algorithms which are used in an application framework designed as a toolkit for drilling and well-control processes. Authored end-of-project reports, incidents investigation, emergency-response procedures, general well-control guidelines and blowout contingency plans for customers world-wide.

Texas A&M University, College Station

1999-2004

Research Assistant: Conducted research on Subsea Mudlift Drilling (SMD), which is a dual gradient drilling technology for ultra-deepwater drilling. This JIP was the largest in the history of the oil industry. Created a well-control toolkit designed for SMD. The toolkit was applied during a test well, which was the first dual gradient well with returns to the surface. Developed a dynamic kill simulator for blowouts occurring in ultra-deep water, which was funded by the Minerals Management Service. Also worked as a teacher assistant and guest lecturer.

FIELD EXPERIENCE HIGHLIGHTS

- ❖ Relief-Well Specialist responding to a well-control event in Syria. A slim-hole well was shut in after the drillstring had parted and a kick was taken. After careful evaluation of all options for forward intervention, it was decided to drill a relief well and circulate the hydrocarbons out using a modified drillers-method. Aided in planning and execution of relief well. Developed model for analysing MWD passive magnets to facilitate an efficient homing-in process as north-seeking gyro tools were not available in the country.
- ❖ Drilling Engineer assisting in a downhole well connect, which was the first of its kind. Provided support in testing and execution of a unique electromagnetic homing-in technique. The project, which was a trial for several new concepts, met all its objectives and was considered a great success by the customer.
- ❖ Well-Control Engineer assisting in the abandonment of a production well where the platform conductor had slumped and sheared the 13-3/8" casing and drillstring, leaving a fish in the openhole. The abandonment was achieved by drilling a stand alone relief well that intersected the target well below the 13-3/8" casing shoe.
- ❖ Well-Control Engineer responding to a blowout where rig was lost due to fire and gas broach to surface. Challenges included high media exposure, 8000' of open hole exposed to unconsolidated formations and only low accuracy inclination-only survey existed for the target well. The target well successfully located, intersected, and plugged to the satisfaction of the Texas Railroad Commission.
- ❖ Well-Control Engineer providing support to client who had taken a kick after cementing 9 5/8" casing. Subsequent to controlling the hydrocarbon flow, incident investigation was initiated. Most of the evidence supported that the kick occurred after cement displacement as a result of loss of hydrostatic in the lead cement during transition and that good cement practices could have prevented the incident.



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MODELLING AND SOFTWARE DEVELOPMENT HIGHLIGHTS

- ❖ Developed software to calculate initial blowout rates and required dynamic kill rate and pumping pressure. The algorithm uses a steady-state nodal analysis methodology combined with several multiphase flow and IPR models. The PVT properties of the fluids are calculated using various black-oil models and the fluid temperature is calculated using a semi-transient model based on the Holmes and Swift methodology.
- ❖ Developed software for passive magnetic ranging. The software uses MWD raw data in combination with Gyro data to calculate distance and direction from relief well to target well. The methodology used is to subtract Earth's magnetic field from the MWD raw data to find an interference vector pointing towards casing/tubing poles in the target well. By shifting the surface location of the target well, the interference data is fitted with a theoretical model and the proximity and high-side direction is calculated using vector calculations.
- ❖ Developed various directional drilling applications such as trajectory planning, proximity calculations to adjacent wells and a directional drilling simulator.
- ❖ Developed drilling hydraulics software for WBM and OBM.
- ❖ Developed various well-control applications such as kick tolerance, kick migration, and kill sheet.

CONFERENCES

- ❖ Presented at the 2009 SPE/IADC in Amsterdam
 - *"Rotating Magnetic Ranging Service and Single Wire Guidance Tool Facilitates in Efficient Downhole Well Connections"*
- ❖ Presented at the 2008 IADC Well Control Conference in Muscat Oman
 - *"A Case Study in Relief-Well Drilling Using a Modified Driller's Method as a Well-Intervention Alternative to Bullheading"*
- ❖ Presented at the 2007 IADC Well Control Conference in Singapore
 - *"Post Incident Investigation for Gas Flow After Cementing in 9-5/8" Casing"*
 - *"Risk Assessment and Unconventional P&A Operation to Mitigate Underground Blowout and Broach Risk on an Offshore Platform"*
- ❖ Presented at the 2003 IADC Deepwater Drilling Conference in Galveston
 - *"Recent Advances in Ultra-deepwater Drilling Calls for New Blowout Intervention Methods"*
- ❖ Presented at the 2001 and 2002 AADE Technical Conference - Poster Session.

SELECTED PUBLICATIONS

- ❖ R. T. Oskarsen, J. W. Wright, D. Fitterer, D. Winter, A. Nekut, and J. Sheckler,; *"Rotating Magnetic Ranging Service and Single Wire Guidance Tool Facilitates in Efficient Downhole Well Connections"* JPT (May 2009) 75.
- ❖ R. T Oskarsen, J. W Wright, O. B. Rygg, T. Selbekk, and M. Allcorn,; *"Relief Well Case Study: Modified Drillers Method Used as an Intervention Alternative to Bullheading"* Drilling Contractor Magazine (July/August 2009)
- ❖ A.W. Iyoho, J.R. Kunning, and R.T. Oskarsen,; *"Combining SBM Modeling and Drilling Data to Elucidate GOM Well Problems"* Paper 90047, SPE Annual Technical Conference and Exhibition, 26-29 September 2004, Houston, Texas