

Aloysius Heru Danardatu

Petroleum Engineering Consultant

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A highly experienced Petroleum Engineer with over 25 years of expertise in leading engineering roles for various multinational companies. A performance-driven professional with a strong passion for applying data analyses and design thinking. Extensive experience in Well and Reservoir Management, Gas Lift and ESP, Waterflood Management, Integrated Production Modelling (IPM/IAM/PSO), Production Operations, Digital Oilfield (DOF), and Sensing Technology (DTS/DAS).

Qualifications Summary

- Experienced in constructing and integrating well and network models into an Integrated Production Model to enhance current processes and improve production optimisation efforts, while adhering to safety guidelines and maintaining zero incident rates.
- Skilled in managing complex projects and collaborating with senior management to review production against monthly and annual targets.
- Extensive experience providing consultancy services and identifying engineering solutions, as well as managing teams from project start to finish.

Career Experience

X-Systems LLC for ADNOC, Abu Dhabi, United Arab Emirates
Production Optimization Specialist (Consultant)

August 2022 – Present

The ADNOC Production System Optimization (PSO) Team is part of the Thamama Centre – Subsurface Excellence Division. The PSO Project Team is working on an initiative to support ADNOC's digitalization road map by providing foundational and advanced scenarios for a PSO. The Integrated Production Model (IPM) helps assets enhance production system performance while adhering to reservoir guidelines.

TotalEnergies E&P DK, Esbjerg, Denmark
Senior Petroleum Engineer

February - June 2022

Collaborating with the Project Start-up Team to prepare ninety wells for re-start after new surface facilities are commissioned as part of the Tyra Field Redevelopment Project (TRP). Developing well and network models for integration into the new DOF system, essential for the well and reservoir management plan.

TotalEnergies E&P UK, Aberdeen, Scotland
Lead Well Performance Engineer

2019 – 2022

Co-lead the monthly well performance group meeting for the asset to detail production performance and measure against annual/monthly corporate targets. Lead the monthly sand management review for effective risk management of sand production from the reservoir to the Gryphon FPSO top side facilities. Encourage the use of the DOF system for the asset by regularly updating well and network models. Conduct production engineering studies using well and network models to support production optimisation within a producing asset.

- Maximized production based on gas compression and water handling capacity units and led the production optimization team.
- Contributed significantly to the development and implementation of the Gryphon FPSO Digital Oilfield (DOF) system.
- Successfully revived and secured production from long-term shut-in wells.

Maersk Oil and Total E&P Denmark, Esbjerg, Denmark
Senior Petroleum Engineer

2013 – 2019

Managed production optimisation for nine waterflood patterns, serving as the Well Owner for the Production Management Team. Approved well tests and production modelling to support field operations and workover processes. Utilised the internal Operating Rhythm to conduct comprehensive well and reservoir management on producing assets in the Danish Sector of the North Sea, including well production and reservoir studies, as well as preparation and execution support for well interventions and workovers.

- Conducted a field trial introducing a new carbon rod conveyed optic system, which measured distributed temperature (DTS) and distributed acoustic (DAS), marking the first implementation in the North Sea Danish Sector.
- Enhanced the gas lift implementation workflow by following proper design standards, installation procedures, troubleshooting protocols, and conducting thorough breakdown investigation reporting.

Saudi Aramco, Dhahran, Kingdom of Saudi Arabia
Lead Project Engineer/Petroleum Engineer

2008 – 2013

Led the installation, function testing, and design of 194 planned Electric Submersible Pumps (ESP) for a new field increment project, targeting an initial rate of 400 KBOD with a contract value exceeding \$40 million USD. Implemented Intelligent Field (I-Field) technology, including project planning, specifications, and corporate performance. Prepared detailed reports for over 500 Permanent Downhole Monitoring Systems (PDHMS) and 70 Smart Well Completion (SWC) systems.

- Successfully achieved zero Lost Time Incidents (LTI) and Health, Safety, and Environment (HSE) incidents during multiple installations and functional tests of Electrical Submersible Pumps (ESP).
- Validated an overhauled hydraulics simulation model (surface and sub-surface network) with field capacity tests to optimize production and maintain productivity for an offshore field producing 800 KBOD.

Schlumberger Global Resources, Tripoli, Libya
Client Centre Manager / Production Technologist

2007 – 2008

Managed a client centre consisting of two reservoir engineers and two geoscientists to effectively deliver projects in accordance with client requirements. Oversaw all aspects of production management and updated the production database/forecast for wells with a total oil production capacity of 350 KBOD. Evaluated overall productivity and identified key areas for improvement to maintain efficient production output. Ensured compliance with safety guidelines in line with national, local, and company standards, while mitigating risks for potential workplace incidents.

- Generated annual consulting revenue amounting to \$1.2 million USD from Client Centre.

Additional Past Experiences

[a] Senior Production Stimulation Engineer, **Schlumberger Canada Limited**, Calgary, Canada; [b] Production Stimulation Engineer, **Schlumberger Indonesia**, Jakarta, Indonesia; [c] Production Enhancement Engineer, **Schlumberger Indonesia**, Balikpapan, Indonesia; [d] Petroleum Engineer, **Chevron Pacific Indonesia**, Duri, Indonesia.

Education

Master of Science (**MSc**) in Petroleum Engineering – New Mexico Institute of Mining and Technology (NMT), Socorro, NM, USA.

Bachelor of Science (**BSc**) in Petroleum Engineering – Institut Teknologi Bandung (ITB), Bandung, Indonesia

Professional Training

Leading a Team, Total, Paris, 2019; Integrated Waterflood Management, Shell, Copenhagen, 2014; Waterflood: Performance Prediction and Surveillance, HOT Engineering, Vienna, 2013; Coiled Tubing Operation, Saudi Aramco, Dhahran, 2012; Schlumberger: Production Stimulation Engineering School (2005); Essentials of Project Management (2003); Sales and Marketing School (2001)

Affiliations

Society of Petroleum Engineers (SPE), Member, 1999 – Present; Ikatan Ahli Teknik Perminyakan Indonesia (IATMI), Member, 2001 – Present

Publications

SPE 219047 – Detailed Integrated Asset Model Boosts Water Injection Potential in Giant Fields

SPE 170663 – Data Acquisition and Processing of Carbon Rod Conveyed DTS and DAS in Very Long Horizontal Wells: First Trial in North Sea Danish Sector

SPE 92779 – Oil-Based Mud Micro-Imager (OBMI) Application in Sangatta: A Field Case Study

SPE 80512 – Successful Extreme Underbalance Perforation in Exploration Well, Donggi Gas

SPE 72134 – Case Study: Maximizing Productivity with Extreme Underbalance Perforation

Languages /Software Proficiencies

English, Fluent; Bahasa Indonesia, Fluent | Petroleum Experts IPM Suites [10+ Years]; MS Office [10+Years]