

SHRI VIGNESH

Founder and Lead Well Engineer, iDrilling Technologies

A Petroleum Engineer with ~ 9 years of experience in Well Integrity and Well Construction. Focused on bringing value to the upstream oil and gas industry by providing robust and cost effective solutions through an online cloud-based platform. Passionate about integrating emerging Deep Learning (DL) advancement into well construction requirements.



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📍 Dubai, United Arab Emirates

WORK EXPERIENCE

Lead Well Engineer iDrilling Technologies (iDT), Dubai

08/2023 - Present

Ingentia Energies Limited (IEL), Petralon Energy, WSPOL | Nigeria

Tasks and Responsibilities

- Ingentia Energies Limited (IEL): Development of the Basis of Design (BoD) for an onshore re-entry campaign into a 35-year old well that involves a visual survey, rigless casing integrity test, re-entry, WLL, re-perforations, DST and well completions with a dual tubing configuration.
- Petralon Energy (On-Going): Development of a Basis of Design for an appraisal / development well having a 3D trajectory with max. inclination of 39 deg, long open hole sections, completed with gravel packing and dual tubing completion configuration.
- Walter Smith, WSPOL (On-Going): Engaged in the tendering process involving technical evaluations for a 4 well campaign in Nigeria.

Lead Well Engineer iWells Integrated Management Consultants

04/2022 - 08/2023

Dubai, UAE

India - Client Confidential and Petralon 54 | Nigeria

Tasks and Responsibilities

- India; Client Confidential: Performed drilling feasibility studies for two deep (> 4,000m) high pressure wildcat exploration wells in Manipur and Tripura Regions, North-East India. Prepared basis of well designs for each region with detailed risk register, mitigations and impact matrix and presented recommendations for execution.
- Petralon 54: Re-entry campaign into a well with dual completions located in a swamp in Nigeria that had encountered casing annulus pressure (CAP) and water ingress (WI) challenges: (1) Identification of root causes, (2) Provision of operations support for well diagnostics and (3) Evaluation of diagnostics results and submission of findings and recommendations to the Client.

Technical Lead for Model Development iWells Integrated Management Consultants

06/2016 - Present

Dubai, UAE

Softwares and Proprietary Models Developed

- Software: Daily Drilling Report (DDR).
- Software: Well Barrier Schematics (WBS).
- Model: Cost Estimate Model for Drilling Projects.
- Model: Offset Well Analysis.

KEY COMPETENCIES

- Basis of Design
- Well Montages
- Drilling Programs
- Well Integrity
- Barrier Schematics
- Single String Casing Design
- Cement Integrity
- Casing Wear
- Tubular Corrosion
- Offset Well Reviews
- Trajectory Design and Optimization
- Python for Engineering
- Basic DL Models

MISSION AND VISION STATEMENT

MISSION STATEMENT

To establish iDrilling Technologies as the leading online platform in the upstream oil and gas industry for advanced well construction technology and services by bringing efficiency, value and quality delivery to Operators worldwide from remote locations cost-effectively.

VISION STATEMENT

Unique value creation in the 'Well Construction' space by integrating domain expertise with technology advancements in programming and AI to minimize physical footprints and the cost of resources in the design, preparation, pre and post drilling phases.

PERSONAL PROJECTS

MAASP and Kick Tolerance Model in Python

- Developed a 'Single Bubble' MAASP and KT Model in Python for In-House use on industry projects.

Well Barriers Model in Excel

- Created a robust well barrier schematics (WBS) model in excel for common well operations - Drilling, Casing, Primary Cementing, Wireline Logging, Suspension and Abandonment.

Single String Casing Design Model in Excel

- Created a simple single string casing design model in excel for vertical, deviated and horizontal wellbores that can model burst, collapse and uni-axial tension loads.

Well Integrity Model in Python (On-Going)

- Currently developing a well integrity mathematical model in Python to perform all essential design / engineering calculations relevant to well integrity assurance. Objective is to incorporate the model results directly into the Basis of Design / Drilling Program.

WORK EXPERIENCE

Drilling Project Engineer AMNI IPDC | Ghana and Nigeria

06/2019 - 10/2022

Ghana and Nigeria

Tasks and Responsibilities

- Deepwater Well Planning Phase for Kusia - 1X Well (Ghana) - Preparation of the Drilling Program, Statement of Requirements and Well Barrier Schematics for the well.
- Development of Well Barrier Schematics for One Pilot Hole and One Producer for Tubu 2019 Campaign. Presented it in a DWOP Exercise in Lagos, Nigeria.
- Worked with the Engineering and Operations teams to design and monitor scour protection measures using sandbags around the legs of the jackup rig.
- Office-based Quality Control and final circulation of the DDRs from the rig during operations.
- Daily Performance Tracking w.r.t. Time Vs. Depth, NPTs, Downhole Problems and Daily Costs.
- Preparation of the End of Well Reports (EoWRs).

Drilling Support Engineer AMNI IPDC | Nigeria and Stratum | Romania

05/2016 - 10/2021

Okoro Drilling Campaigns 2016 and 2018 (Nigeria) and Offset Well Review Exercise for the Poduri Field, 2021 (Romania).

Tasks / Responsibilities

- AMNI IPDC (2016 and 2018): Preparation of Well Montages; Well Trajectory Design and Optimization with TechDril-DSP One for horizontal wells with 3D trajectories, Preparation of End of Well Reports and Offset well reviews involving documentation of downhole problems, bit records, preparation of casing stick charts, etc.
- Stratum (2021): Performed a detailed offset well review of 9 wells in the Poduri field in Romania. Prepared well montages, compiled and analyzed downhole problems, bit performance and drilling parameters' studies, etc.

Support Engineer ASRY Shipyard | Bahrain

07/2018 - 11/2018

As part of iWells Integrated Management Consultants, Dubai

Tasks / Responsibilities

- Worked as a support engineer under the Drilling Superintendent of the Trident VIII, Independent Leg Jackup (ILJU) Drilling Rig - For the rig's refurbishment.
- Worked with a 3rd party rig inspection company - Dietswell to compile the critical items checklist for the rig.
- Witnessed the endurance test of the Trident VIII.

TECHNOLOGY AND INDUSTRY PRACTICES

Well Integrity Principles.

Life Cycle Well Barrier Management.

Risk Identification, Prevention and Mitigation.

Root Cause Identification by Positive Elimination.

Scientific Python for Engineering.

TRAININGS AND HIGHLIGHTS

Domain Expertise and Competency Development Coaching on Well Engineering and Drilling Preparation (2023) (05/2023 - 10/2023)

High Performance Coach - J. Muthu Kumar.

Data Science and Business Analytics (DSBA) (12/2022 - 07/2023)

University of Texas at Austin

Well Integrity Technologies: Planning, Execution and Troubleshooting (11/2021 - 12/2021)

Dr. Christos Kapitanios; Organized by GLOMACS

Cementing Technologies and Cement Integrity (08/2021 - 09/2021)

Mr. Lenin Diaz; Organized by iWells IMC DMCC, Dubai.

Well Delivery Process and Principles (04/2017 - 06/2017)

Talent Track; Organized by iWells IMC, Dubai.

Hands-On Training - Rig Building - Land Rig for a HPHT Well (Including Directional Drilling, PDT-SAT MWD) (12/2012)

AJAPA IPMC, Rajahmundry, India.

Research Study - APB Problem in Bhagjan-1, Assam (02/2015 - 06/2015)

AJAPA IPMC, Chennai, India.

President of SPE Student Chapter (06/2014 - 05/2015)

Maharashtra Institute of Technology (MIT), Pune, India.

- Received the Gold Chapter Award in ATCE 2015, Houston.

EDUCATION

M.Sc in Petroleum Engineering Heriot Watt University, Dubai

11/2018

Final Year Thesis - Well Integrity

- Well Integrity (WI): The Life Cycle Stability of a Well.

B.E in Petroleum Engineering Maharashtra Institute of Technology, Pune

05/2015

Final Year Thesis - Well Integrity

- Importance of WI and the Consequences of its Failure.