

## Oilfield chemicals - Any link with sand production?

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The current oil industry approach to geomechanical sand failure and production related evaluation of reservoir formations that have experienced substantial application of oilfield chemicals is often based on the assumption that interaction between chemical species and formation sand materials is of no geomechanical significance. The result is that chemical related failure and sand production potentials are not integrated with the overall field sand production optimisation process.

In this work, theoretical physico-chemical concepts combined with laboratory data obtained from Clashach cores chemical flooding experiments are used to explore the potential physical and chemical effects of oilfield chemicals on formation sand failure and production potentials. The work further explores the integration of chemical related sand failure with formation geomechanical evaluation.

### Biography

Gbenga Folorunso Oluyemi teaches oil and gas engineering at the School of Engineering of Robert Gordon University in Aberdeen; he is also a Co-Research Coordinator for the School, sharing the responsibilities for developing, implementing and reviewing research strategies and management plan for growing research within the school. Dr Oluyemi's research interests and expertise are in the application of rock mechanics to sand production prediction, sand production problems related to chemical treatment, formation damage and formation evaluation. He consults for the oil and gas industries in West Africa, Norway and the UK. He previously worked as a Project Leader with Scaled Solutions Ltd, where he was involved in a £0.8 million "chemical placement" Joint Industrial Project sponsored by a number of oil operating and service companies. Dr Oluyemi's early career saw him work as an Operation Geologist with Elf Petroleum (now Total) in Nigeria, and as a Geologist/Field Engineer/Project Manager with Betta Borix Nigeria Ltd., a consultancy firm specialising in water and mineral resources development. Dr Oluyemi is a UK Chartered Engineer and is a Member of the Energy Institute (EI) and the Society of Petroleum Engineering (SPE), Aberdeen Section where he currently chairs the Communications Committee. He has published more than 30 conference and peer reviewed journal papers on the subjects of oilfield chemistry, sand failure and production, and oilfield operation optimisation. Dr Oluyemi obtained a BSc degree Geology from University of Ibadan Nigeria; an MSc degree in Field & Well Management and a Ph.D. in Oil and Gas Engineering, both of which he obtained from The Robert Gordon University, Aberdeen UK.

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