#### PERSONAL DETAILS

Name: Steve Major, CPetEng, FEI, CEng, FIMechE

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Nationality: British Marital Status: Married

#### **CAREER SUMMARY**

Currently working as a Principal Petroleum Engineer for REM Advisory in UAE/UK providing a variety of Reservoir/Petroleum/Operations/Production Engineering, Reserve Auditing and Certification and Due Diligence Commercial services worldwide. From 2014-2017 employed by RISC Advisory using extensive technical and management experience for field development planning, asset evaluation (Red Flag and Due Diligence studies) and reserves reporting, field operations, production optimisation, technical consulting projects, strategic planning and portfolio management in Australia, Middle East and SE Asia.

From 2012-2014 employed by Senergy as Project Director providing Project Direction and Sub-Surface Technical and Operational Support to Field Development Studies in the UAE, Far East and Worldwide. To date Projects have ranged from Full Field Development Plans on 7 Assets, running a team of 35+ Consultants/Client Staff, to specialist studies on underperforming Reservoirs/Assets in Russia, Yemen and Indonesia to Competent Persons Reports in the Middle East and Asia.

Prior to 2012 worked as a Reservoir and Operations Consultant Optimising Asset Developments and evaluating new Venture Opportunities with Mubadala Oil and Gas in Abu Dhabi. From 2007-2011 worked for Dragon Oil in Dubai responsible for Production and Operations activities in Turkmenistan having also been previously responsible for all Petroleum Development activities.

During 2006-2007 consulted out of the UK providing Petroleum and Reservoir Engineering services and working for Woodside Energy (North Africa) Ltd as Subsurface Manager, Development Group, Tripoli responsible for developing discoveries in the Murzuq and Sirte Basins, Operational support to Exploration Well Testing activities and the recruitment and development of national staff within the Development Group. From 2005-2006 worked as a Consultant providing Engineering Support to Newfield Petroleum UK Limited, London.

From 2000 until transfer to Pakistan in 2003 as Engineering Manager, South Asia for Tullow Oil, worked for Tullow International as a Consultant (through Blackwatch) then as Senior Staff Engineer with responsibility for all Engineering (Petroleum, Reservoir, Production and Operations) and associated activities for the South Asia (Pakistan, India and Bangladesh) and European/Middle East (Rumania, Onshore UK and Egypt) Asset Groups whilst based in Dublin. Between 1995 and 2000 employed by Tullow Oil plc, as Senior Engineer, Engineering Department, responsible for the engineering development and reservoir management of existing and future oil and gas developments, (acted as Head of Operations in Syria), the planning and execution of well operations (testing and workover), the technical and economic evaluation of new venture opportunities and the co-ordination of miscellaneous engineering and reservoir studies in the UK, Middle East, Africa and Asia.

Between 1991 and 1995 worked both as an Independent Consultant (Frontier Energy Consultants Limited) and as a Senior Consultant for Oilfield Production Consultants (OPC) responsible for reservoir and petroleum engineering studies and operations support. Previous consulting experience was gained with Robertson ERC as Senior Operations Engineer responsible for the setting up of operational interfaces with Clients, operational and reservoir performance studies, well test analyses and staff training. Between 1989 and 1990 employed by British Gas as Senior Petroleum Engineer responsible for reservoir management activities relating to the Rough gas storage project and exploration operations. Between 1980 and 1989 employed by BP Group; 5 years as an Operations Petroleum Engineer (BP Exploration) in operational, and 4 years as a Mechanical Engineering student (BP International).

#### **WORK EXPERIENCE**

## 2017 - 2017 REM Advisory, Middle East

## **Principal Advisor**

Provision of Reservoir Engineering and Advisory services worldwide

#### 2014 - 2017 RISC, Perth, Australia. Middle East and SE Asia

# Principal Petroleum Engineering Advisor

# Variety of confidential studies and projects;

Development of Investment Screening Process and Procedures to optimise capital investment.

Field Development Planning and multidisciplinary studies.

Transition to Operator management.

Red Flag Evaluations (VDR's and PDR's).

Due Diligence studies (Full technical studies and reserves evaluation for buyers).

Reserves Evaluations (Domestic and International Assets).

Subsurface evaluation of various Indonesian Assets.

Subsurface studies (conventional, unconventional and gas storage)

#### 2012 - 2014 Senergy Middle East, Dubai

## **Project Director**

# Russia/Yemen

Provision of subsurface and operational leadership for underperforming Assets.

#### Weatherford

Operational Input to design of a Real Time Operations Centre for Production - RTOC(P) - for ADCO in Abu Dhabi.

#### Talisman Energy, Indonesia

Provision of Reservoir and Petroleum Engineering subsurface and operational support for New Business Opportunities and Asset Evaluations.

#### Mubadala Petroleum (Ongoing)

Project Direction of multi-disciplinary study for Mubadala in Bahrain

## **Imperial Energy**

Subsurface and Operational Review of underperforming Assets in Siberia

## Kuwait Energy Company, Kuwait

Provided Project Direction to large integrated study to deliver Field Development Plans for 7 KEC Assets in Egypt, Russia and the Ukraine to assist KEC in assessing the potential of all Assets. In addition to Project Direction also provided Reservoir, Petroleum and Operations Engineering Technical Support to the individual FDP Teams as required.

#### 2011 - 2012 Mubadala Oil and Gas

## **Senior Petroleum Consultant**

Responsible for Petroleum, Reservoir and Operations inputs to New Business Ventures and Asset Optimisations. Worked mainly on an Uzbekistan Opportunity alongside Petronas JV Team.

#### 2007 - 2011 DRAGON OIL, DUBAI

#### **Senior Operations Engineer (2009-2011)**

Responsible for Production and Operations activities in Turkmenistan from wellhead to lifting to ensure delivery of Production Forecast.

# Production Coordinator, Dubai (2008-2009)

Responsible for Flow Assurance activities in Turkmenistan to ensure production target achieved by end 2009.

#### Petroleum Development, Dubai (2008-2008)

Acting Manager responsible for Petroleum Development subsurface activities and surface Production related activities in Turkmenistan.

#### Production and Operations Coordinator, Dubai (2007-2008)

Responsible for Production and Operations activities in Turkmenistan. Worked closely with Petroleum Development team to increase production from 25,000 bopd to 40,000 bopd by end 2007 and 45,000 by end 2008.

## 2006 - 2007 INDEPENDENT CONSULTANT, LONDON

Petroleum/Production/Operations Consultant to Lundin Britain evaluating new opportunities and optimisation of existing North Sea Assets.

#### 2006 - 2006 WOODSIDE ENERGY (NORTH AFRICA) LIMITED

## Subsurface Manager, Development Group, Tripoli

Responsible for the development of exploration discoveries in the Murzuq and Sirte basins, supporting Exploration Well Testing activities, the recruitment and development of International and National Staff and management of all Development subsurface data and activities.

#### 2005 - 2006 NEWFIELD PETROLEUM UK LIMITED

## Senior Engineer, London

Provided Engineering support (Petroleum, Reservoir, Production, Economic Planning and Operations) to the evaluation, development and operation/optimisation of new and existing opportunities in the UK owned and operated by Newfield.

#### 2003 - 2005 TULLOW OIL LIMITED

## **Engineering Manager, Pakistan and South Asia**

Based in Islamabad, Pakistan, responsible for managing all Engineering (Petroleum, Reservoir, Production, Planning and Operations) activities in South Asia; In Pakistan, this covered the management of existing fields and new developments, in **Bangladesh** the implementation of a rig-less monobore testing and appraisal campaign followed by fast-track production and in **India**, the evaluation of new opportunities.

## Senior Engineer, Tullow International, Dublin (2002-2003)

Responsible for all Engineering (Petroleum, Reservoir, Production and Operations) and associated activities for the South Asia (Pakistan, India and Bangladesh) and European/Middle East (Rumania, Onshore UK and Egypt) Asset Groups. Also, responsible for the technical and evaluation of new ventures in support of the New Ventures Group.

#### 2000 - 2002 TULLOW OIL (through BLACKWATCH)

#### Senior Engineer, London and International

Initially responsible for Blackwatch world-wide Engineering studies but then back-contracted to Tullow Oil plc with continued responsibility for engineering studies in the UK and world-wide, routine production operations, the planning and execution of world-wide well operations, new developments (Pakistan) and the technical and economic evaluation of new venture opportunities.

#### 1995 - 2000 TULLOW OIL plc

## Senior Engineer, Engineering Department, Dublin

Responsible for the development and reservoir management of existing and future developments in the UK and world-wide. As Head of Operations, Syria, between 1996-1997 responsible for development and production of the Kishma Oil Field until Tullow withdrew from Syria in 1998. Responsibilities also included the planning and execution of world-wide exploration well testing operations, the technical and economic evaluation of new ventures and the co-ordination of engineering studies.

#### 1995 - 1995 FRONTIER ENERGY CONSULTANTS LIMITED

#### Senior Consultant

Independent Consultant contracted to Tullow Oil plc to design, plan and execute world-wide exploration well testing operations and assess the development potential of exploration discoveries.

#### 1991 - 1995 OILFIELD PRODUCTION CONSULTANTS (OPC) LIMITED

#### Senior Consultant

Responsible for in-house and client petroleum and reservoir engineering studies, operations manuals, well test courses, Client liaison and personnel recruitment in addition to provision of experienced personnel on short term contracts for well test design and supervision work. Major client activities are detailed below;

#### **NEOTECHNOLOGY CONSULTANTS (1991-1995)**

## Software Support Specialist

OPC Ltd was the UK representative for Neotechnology Consultants in the UK and Europe. Responsibilities included software support (pipeline design, wellbore hydraulics, fluid properties, gas forecasting), Client liaison, marketing of products and software sales as required.

# TULLOW OIL plc, DUBLIN/SYRIA (19 months, 1994-1995)

## **Operations Engineer**

Responsible for the design, planning and execution of exploration well testing operations in Pakistan and Syria, the presentation of data to Partners and the analysis of potential commercial developments.

# BP EXPLORATION, ABERDEEN (3 months, 1994 and 5 months, 1993) Consultant Petroleum Engineer

Supervision of pre-frac well testing and acid fracturing stimulation operations on a deviated well in the Machar Field. Supervision of well re-entry, remedial coiled tubing, re-perforation and clean-up operations, commissioning and then data monitoring and facilities trouble-shooting during an Extended Well Test in the Mungo Field.

## DEMINEX UK OIL AND GAS LIMITED (1 month, 1993)

#### **Consultant Well Test Engineer**

Analysis of well test data with report to be used in Equity Negotiations.

## TEXACO UK LIMITED (1 month, 1993)

## **In-house Interpretation**

Analysis and interpretation of data from the Captain Prospect and recommendations for improved data quality during future well tests.

## ARCO BRITISH LIMITED, GUILDFORD (3 months, 1993)

## **Consultant Production Engineer**

Supervised Southern North Sea Carboniferous DST testing operations and the training of a Staff Engineer. Also supervised clean-up/testing operations on the Pickerill B Platform whilst training a Staff Engineer.

#### CANADIAN HUNTER (2 months, 1993)

#### **In-house Study**

Analysis of production and build-up data for horizontal wells to determine representative reservoir parameters and effective horizontal drainage lengths. Decline analysis and history matching of well production data, using PIE, to predict future well performance.

## SYRIAN PETROLEUM COMPANY, SYRIA (3 months, 1992)

#### **Consultant Production Engineer**

As a member of a multi-disciplinary team, led by Beicip-Franlab, evaluated the production potential of eleven fractured reservoirs (limestone/dolomite) in Hassake, North East Syria. Eight of the reservoirs contained sour oil (Heavy, Medium and Light Crudes) and three contained Gas. The study concentrated on the current reservoir recovery, individual well performance, sucker-rod pump performance, corrosion problems, current production strategies and the potential application of horizontal wells with a view to optimising field production without compromising reservoir recovery.

#### ARCO BRITISH LIMITED, GUILDFORD (6 months, 1992)

#### **Consultant Production Engineer**

Supervised Yare post-workover well testing operations and performed onsite analysis to evaluate re-perforation and acidising operations.

Supervised Pickerill clean-up, coiled tubing and testing operations from development drilling rig, performing onsite analysis to assess well performance and stimulation requirements.

#### FINA EXPLORATION NORWAY (2 months, 1992)

#### **Consultant Engineer**

Update of well testing manual to include detailed High Pressure/High Temperature well testing design philosophies and operations.

#### BULA OIL, LONDON (2 months, 1992)

#### **Consultant Engineer**

Production of conceptual well test programme for Atlantic exploration/appraisal well.

## ARCO BRITISH LIMITED, GUILDFORD (6 months, 1991)

## **Consultant Production Engineer**

Planned and supervised DST operations on a southern North Sea gas well with 14% nitrogen content. Well was treated as a HP/HT well and HAZOP'd accordingly. Offshore responsibilities included analysis of build-up data to minimise testing costs and in-situ training of an ARCO staff Production Engineer.

# IN HOUSE CLIENT STUDY (1 month, 1991)

## **Completion Design**

Review of historical well test, log, production and geological data from a field in Mozambique and generation of a future well testing and development programme to fully evaluate the potential of the field.

#### ARCO BRITISH LIMITED, GUILDFORD (5 months, 1991)

#### **Senior Production Engineer**

As Senior Production Engineer provided general support to the Operations Engineering and Reservoir development departments and participated in HAZOP studies of well testing operations.

Carried out a review and analysis of Pickerill appraisal well data prior to the planning and testing of selected development wells. Subsequently supervised testing operations, analysis of pressure data and production logs and prepared reports for Partner meetings.

Liaised with the drilling department in the planning of HP/HT oil and gas well tests in Germany, Holland and the North Sea.

## 1990 - 1991 ROBERTSON ERC, MARLOW

## **Senior Operations Engineer**

Employed as Senior Operations Engineer responsible for the setting up of an Operations Department to provide an operational interface with Clients, perform operational and reservoir performance studies, well test analyses and the training of engineers (ERC and Client Staff).

## 1989 - 1990 HYDROCARBON OFFSHORE SERVICES (BRITISH GAS)

## Senior Petroleum Engineer, Rough Field, Easington

Responsibilities included reservoir management of the Rough reservoir including the evaluation of simulation predictions, planning and execution of necessary reservoir operations and monitoring, of the Amethyst development project.

## 1989 - 1989 HYDROCARBON OFFSHORE SERVICES (BRITISH GAS)

## **Operations Petroleum Engineer, London**

Responsibilities included production and execution of DST test programmes, supervision of contractors during testing operations, well test analyses using PANSYSTEM or WELTEST, Monitoring of joint venture operations, reservoir development studies, SCAL and PVT studies.

#### 1988 - 1989 BP EXPLORATION LIMITED

# Operations Petroleum Engineer - SNS Drilling, Great Yarmouth

Responsibilities included input to drilling programmes for production wells, compilation of test programmes to cover TD logging, pre- and post-frac testing, fracturing, completion and fracture clean-up operations. Also, supervised drilling and testing operations, performed real time analysis of well test data and produced necessary well reports.

#### 1986 - 1988 BP EXPLORATION LIMITED

## Petroleum Engineer (Reservoir Operations), SNSFG, Easington

Responsibilities included the planning and execution of all West Sole workover, infill well, well service and reservoir management activities to ensure uninterrupted gas production together with the continuous monitoring of the reservoir through the design, execution and analysis of well tests and simulation studies, as appropriate, to optimise field recovery and well productivity. Also, provided operational support to reservoir engineering groups in London and Aberdeen as required.

## 1984 - 1986 BP PETROLEUM DEVELOPMENT

#### Petroleum Engineer (Stimulation), Well Evaluation, Aberdeen

Responsibilities included input to, and co-ordination of, the design, preparation and execution of stimulation treatments including hydraulic fracturing and acidising, generation of in-house fracture design programmes, supervision of stimulation vessel fracturing operations, analysis and interpretation of production logs and well test pressure data and the monitoring of formation damage studies.

# 1984 - 1984 BP RESEARCH CENTRE

#### Mechanical Engineer (Engineering Research), Sunbury on Thames

Responsible for engineering projects related to onshore and offshore operations.

#### 1980 - 1984 BP INTERNATIONAL

#### **Sponsored Student**

Thin sandwich degree course with total of 20 months in training placements at The Centre for Industrial Studies, Loughborough, BP Llandarcy Refinery, GEC Gas Turbines, Mathwebb and BP Sunbury to gain practical engineering experience and fulfil the training requirements of the Institute of Mechanical Engineers.

## PROFESSIONAL AFFILIATIONS

**2012 – 2016 ENERGY INSTITUTE** 

Elected Fellow in October 2013, (FEI)

Gained Chartered Petroleum Engineer Status in 2013, (CPetEng)

1980 – 2016 INSTITUTE OF MECHANICAL ENGINEERS (IMechE)

Elected Fellow in April 2011, (FIMechE) Gained Chartered Status in 1986, (CEng)

1984 - 2016 SOCIETY OF PETROLEUM ENGINEERS (SPE)

Past Chairman Irish Section, (2001-2003)

Commenced 3-year term on SPE Engineering Professionalism Committee (2017)

# EDUCATIONAL BACKGROUND

1980 - 1984 LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

Mechanical Engineering (Thin Sandwich Course) Bachelor of Technology (BTech) - 1st Class Honours

1973 - 1980 MARLING GRAMMAR SCHOOL, STROUD

S Levels: Maths (1),

A Levels: Maths (A), Physics (A), Chemistry (A), Further Maths (C)

O Levels: Eleven

## **SOFTWARE EXPERIENCE**

Well Testing: PIE, PANSYSTEM, SAPHIR

Reservoir Production: FORGAS, PIPEFLO, WELLFLO, INPROP

Simulation: Rubis, M-Bal, GAP, PROSPER, IMEX, T-Navigator, RE Studio

Economics/Other PEEP, Crystal Ball, @RISK

**LANGUAGES:** Knowledge of French

**INTERESTS**: Travelling, Cycling, Rugby, Photography.