

# **Michael Davis**

Drilling Engineer, Manager, and Wellsite Leader

## **Experience**

### Education

B.S. Petroleum Engineering The University of Texas-Austin

## **Skills and Abilities Developed**

Meticulous, diligent and balanced, detail oriented engineer with rig site supervision experience in HTHP drilling and deepwater exploration wells. Range of drilling experience: deepwater, jackup, platform, barge, & land, exploratory HTHP gas wells, extended reach (ERD), horizontal & troublesome drilling environments, microholes, narrow drilling windows, passive & proactive MPD & UBD techniques, well intercept interventions, re-entries, sub-salt, & ultra deep drilling. Also expertise in: drilling geomechanics, & chemistry techniques for managing HTHPHA gas wells (HTHP plus high acid gas "sour gas" wells) & other challenging environments, HTHP well control, trouble shooting problem geological areas, w/diligent research, engineering fundamentals & adaptive plans that work. Formal risk analysis & mgt through hi tech solutions implemented by well construction teams empowered w/well conceived, detail oriented strategies, tactics, plans & leadership. Have demonstrated clear leadership in principles of well design involving process and order best practices. Advise engineers across teams & groups on casing setting depth & design & drillstring design for HTHP & ERD wells, building consensus on complex issues by diligent attention to details & fostering inclusive, formal & informal peer reviews, & overcoming objections by fact finding & "influencing" soft skills. Excellent work ethic & interpersonal skills, including poise, tact & diplomacy & able to handle sensitive & confidential situations, present ideas & projects & work in a fast paced environment & balance multiple competing tasks & demands, & assess & manage priorities.

Skilled in pore pressure prediction using petro-physical methods, using shallow hazards in well planning & site assessments for MODU's, deepwater casing design & installation, WellCat, StressCheck, TDAS, APB analysis & mitigation, subsea wellheads, landing string design, rotary steerable & concentric reaming system applications. Thorough understanding of 30CFR250 B, C, D, E & F, API Docs relative to well

planning: RP 2SK, 10B2, B3, B4, B5, B6 D2, 53, 65, 79, 90, 96. Spec 6A, 10D, 16A, 16D, benchmarking systems, nodal analysis software to calculate WCD's, & all new permitting processes for GOM deepwater drilling.

Specialties: Creating and implementing plans that work. Solving complex, problem wells, with hi tech/low stress solutions. HTHP ultra deep exploratory drilling. Drilling operations in harsh environments like narrow drilling windows, ballooning, deviation issues, abnormal pressure, & wildcats on time and budget using conventional or MPD techniques. Expertise in casing setting depth selection. Ultra deepwater drilling planning & operations and obtaining permits in new GOM regulatory processes. Competency, People skills and ethics to get complex and difficult things done quickly, diligently and right.

## **Administrative Chairperson of the SPE Human Factors Technical Section**

SPE

2016 – Present

Developing the group. Defining Human Factors. Defining Critical Mission Statements. Defining Critical Focus.

Defining critical industry issues. Developing consistent human factors principles for the international drilling industry.

## **Board Member of the SPE Online Communities Committee**

SPE

2012 – 2014

Plan for the way forward and current operational issues.

## **Technical Editor for the SPE Peer Review Committee.**

December 2007 – Present (10 years)

## **Founder**

Drill Science Corporation (DrillScience.com)

January 1999 – Present (18 years)

Petroleum Engineering and Project Management for Drilling, Completion, and Production Production.

Drilling Engineering in house and onsite supervision.

Completion Engineering in house and onsite supervision.

Production Engineering in house and onsite supervision.  
Reservoir Engineering  
Well Design based on drilling and reservoir geomechanics.  
Cost estimation (AFE)  
, Performance controls  
, Annual Budget Development.  
Working with GnG teams.  
Researching and implementing new technologies.  
Designing well construction design and operations software.  
Contributing to Petroleum Engineering Discussion Groups.  
Developing emerging technologies.  
Supplementing core competencies with further study via professional technical papers and conferences.  
Technical Editor for the SPE Peer Review Committee.

Companies served include:

Activa Resources, ADMA, Aminex Oil & Gas, Apache Corporation, AFE Oil & Gas, British Petroleum, Choice Exploration, Dietswell, El Paso Exploration & Production, EPI, IP Petroleum, Kerr McGee, The McAlester Fuel Company, Mission Resources, Noble Energy, Occidental Petroleum, Pogo Producing, Signa Engineering, Subsurface Consultants, Tech Power Controls, Total Energy Services, Worldwide Deepwater Services.

## **Senior Drilling Engineer**

Cliffs Drilling Company

August 1992 – December 1998 (6 years 5 months)

Turnkey Drill HTHP wells including Deepwater, Horizontal, International. Worked on the second round of offshore turnkey drilling projects awarded by PEMEX.

## **Drilling Engineer**

Triton Engineering Services

May 1990 – July 1992 (2 years 3 months)

Design and implement turnkey drilling projects completing them within competitive timeframe and cost budget. Drilled turnkey offshore wells for PEMEX that was the first offshore turnkey projects ever awarded to a US company. Projects included deepwater drilling and ultra deep HTHP drilling. Worked on drilling projects in Russia and deepwater drillship drilling in Southeast Asia and West Africa.

## **Drilling Engineering Intern**

Chevron

May 1989 – September 1989 (5 months)

Worked offshore in deepwater Santa Barbara Channel.

Supervised two rigs in Huntington Beach.

Authored document on cost savings on operations operated from the Ventura, CA office.

## **Reservoir Engineering Intern**

Standard Alaska Production Company

May 1988 – September 1988 (5 months)

Researched and analyzed well tests for the Kuparak field in the Arctic of the North Slope.

Built a database of useful parameters derived from well test analysis.

Utilized self-created database of skin factors derived from calculations performed on well test data to high grade prospects for workovers resulting in increased future production.

Analyzed software needs of the reservoir and production group for a tool to accomplish needed tasks and presented findings to management for implementation.

## **Drilling Subject Matter Expert – 2015 IADC Drilling Manual 12th Ed**

### **Technical Papers written**

Drilling Geomechanics - Pre-Drill Fracture Centroid Perspective Is Key To Spot Casing Setting Depths and Trajectories At High Risk For Ballooning

### **Considerations for a Successful Wellbore Trajectory Design**

### **Practices for HTHP Gas Well Production Casing Cementing**

**Practices for Avoiding Differential Sticking While Drilling Depleted Sands**

**Practices in Selecting Casing Setting Depths and Common Design Pitfalls**

**Change Enables Better Fracture Pressure Prediction Via Only Seismic Data**

**Geomechanics - Pre-Drill Fracture Centroid Perspective Is Key To Design Pressure Balanced Open Hole Intervals And Avoid Costly**

## **Imbalances**

**Casing Design Process Best Practices – Order and Disorders to Avoid**

**Engineering Editorial Review Drilling Subject Matter Expert**

**IADC Drilling Manual, 12th Edition Special Operations Editor**

## **Personal**

Board Member of Local Charity in Houston

Father of four mature adult children.

Championship Tennis player and coach.

Musician.

Mentor to dozens of SPE young engineers.

Active and prolific author of petroleum engineering technical papers.

Active and prolific contributor to petroleum engineering discussions.