

## Trouble Free Drilling - Table of Contents

Chapter 1 Stuck Pipe and Other Unscheduled Events

Chapter 2 Saving Money<sup>¾</sup>The Root of all Evil

Chapter 3 Communication and Morale

Chapter 4 Problem Solving

Chapter 5 Well Planning

Chapter 6 Stuck Pipe Mechanisms

Chapter 7 Hole Cleaning

Hole Cleaning Efficiency in Vertical Wells

Hole Cleaning Efficiency in Directional Wells

Air and Foam Drilling

Summary

When to Expect Hole Cleaning Problems

Preventive Measures

Warning Signs

Freeing Procedures

Test your understanding of Hole Cleaning

Chapter 8 Well Bore Instability

Rock Mechanics Terminology

Stresses Around the Well Bore

Factors Affecting Stability

Types of Failures

Determination of Stresses

Summary

When to Expect Shale Instability Problems

Preventive Measures

Warning Signs

Freeing Procedures

Test your understanding of Wellbore Instability

Chapter 9 Differential Sticking

The Mechanisms of Differential Sticking

Factors Influencing Differential Sticking

Summary

When to Expect Differential Sticking

Preventive Measures  
Warning Signs  
Freeing Procedures  
Test your knowledge of Differential Sticking  
Chapter 10 Well Bore Geometry  
Doglegs  
Keystats  
Stiff Assembly  
Micro-Doglegs  
Ledges  
Squeezing Formations  
Under-gauge Hole  
Warning Signs, Prevention, and freeing procedures  
Chapter 11 Drilling Trends and Recorders  
Trends  
Mechanical vs. Computerized Charts  
Trend Analysis and Pattern Recognition  
Chapter 12 Problems Associated with Stuck Pipe  
Chapter 13 Tripping Practices  
Conclusion  
Appendix A Hole Cleaning Charts (for wells with full pipe rotation)  
Appendix B Equations  
Appendix C Volume of fluid in a horizontal tank  
Appendix D Conversion Factors  
Table of Figures  
Index