Contents

1 Getting A Handle On Calculations 1
Things You Will Need 4
Setting the Learning Habit. 6
How to Use This Book 10
Introduction to Your Calculator. 12
Fractions and Decimals 24
Squaring Number 27
Percentages 28
Symbols Used in Calculations 45
Figuring out the Order of a Calculation. 46
Formulas 52
Messing with Formulas 58
Converting Units 70
Chapter Test Time. 74
Last Word 84

2 Volume Calculations 87
A Quick Refresher. 89
Pit Volume 92
String & Hole Volume 98
Annular Volumes 113
Pump Output 124
Stroke & Time Calculations 128
Annular Velocity 132
Capacities and Displacements 136
Trip Sheet Calculations 140
Kill Sheet Volume Calculations. 147
Chapter Test 150
Last Word 158

3 Pressure Calculations 161
A Quick Refresher. 163
Pressure Gradient 166
Hydrostatic Pressure 171
Circulating Pressures 184
Change of Pump Speed 194
Change of Mud Weight. 195
Formation Strength 198
Tripping Pressure Calculations 212

Chapter Test 222
Last Word 230

4 Well Control 233
A Quick Refresher 235
Formation Pressure 237
Balance 239
Overbalance 240
Underbalance 244
Formation Pressure - Again 246
Kill Mud Weight 251
ICP 256
FCP 258
Influx Height 264
Influx Gradient 270
Kill Sheet - Pressure Calculations 276
Chapter Test 289
Last Word 298

http://www.springer.com/978-3-319-63189-9

An Introduction to Well Control Calculations for Drilling Operations

Cormack, D.

2017, IX, 299 p. 1 illus. in color., Hardcover
ISBN: 978-3-319-63189-9