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2.8 Future Trend in Drilling Methods2.9 Summary; 2.10 Nomenclature; 2.11 Exercise; Appendix 2A; Rig Floor (Conventional Rotary Rig); Rig Floor (Top Drive); Blowout Preventer Stack And Wellhead; Drilling Fluid Equipment; References; 3 Drilling Fluids; 3.1 Introduction; 3.2 Drilling Fluid Circulating System; 3.3 Classification of Drilling Fluids; 3.3.1 Water-base Mud; 3.3.2 Oil-based Mud; 3.3.3 Air or Gas-base Mud; 3.3.4 Foam; 3.3.5 Special Types of Muds; 3.4 Composition of Drilling Fluids; 3.5 Mud Additives; 3.5.1 Chemical Additives; 3.5.2 Additives for Water-based Mud
3.5.3 Additives for Oil-based Mud3.6 Measurement of Drilling Fluids Properties; 3.6.1 Mud Density; 3.6.2 Mud Viscosity; 3.6.3 Gel Strength; 3.6.4 pH Determination; 3.6.5 Filtration Tests; 3.6.6 Sand Content; 3.6.7 Determination of Liquid and Solids Content; 3.6.8 Alkalinity; 3.6.9 Water Hardness; 3.6.10 Water Analysis; 3.6.11 Chemical Analysis; 3.6.12 Chloride Concentration; 3.6.13 Cation Exchange Capacity of Clays; 3.6.14 Electrical Properties; 3.7 New Drilling Mud Calculations; 3.8 Design of Mud Weight; 3.9 Current Developments in Drilling Fluids; 3.9.1 Formulation of WBM
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4.3.2 Turbulent Flow

Sommario/riassunto

The book clearly explains the concepts of the drilling engineering and presents the existing knowledge ranging from the history of drilling technology to well completion. This textbook takes on the difficult issue of sustainability in drilling engineering and tries to present the engineering terminologies in a clear manner so that the new hire, as well as the veteran driller, will be able to understand the drilling concepts with minimum effort. This textbook is an excellent resource for petroleum engineering students, drilling engineers, supervisors & managers, researchers and environmental en