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MICROORGANISMS IN CORROSION; 3.5 DIFFERENT MECHANISMS OF MICROBIAL CORROSION; 3.6 CORROSION INHIBITION BY BACTERIA 3.7 MICROBIAL CORROSION CONTROL REFERENCES AND BIBLIOGRAPHY; CHAPTER 4. CORROSION CONTROL AND DETECTION; 4.1 INTRODUCTION TO CORROSION CONTROL; 4.2 CATHODIC PROTECTION; 4.3 CONDITIONS FOR THE STEADY STATE OR LIMITING CORROSION RATE; 4.4 INHIBITORS AND PASSIVATORS; 4.5 COATING; 4.6 DETECTION OF CORROSION; 4.7 MEASUREMENT OF CORROSION; 4.8 NONDESTRUCTIVE TEST METHODS; REFERENCES AND BIBLIOGRAPHY; CHAPTER 5. CASING AND PIPELINE CORROSION; 5.1 INTRODUCTION; 5.2 TYPES OF CASING; 5.3 CORROSION OF STEEL; 5.4 PROTECTION OF CASING FROM CORROSION; 5.5 INTERACTION OF OLD WITH NEW PIPELINE REFERENCES AND BIBLIOGRAPHY CHAPTER 6. SCALING; 6.1 HARDNESS AND ALKALINITY; 6.2 MINERAL SCALES; 6.3 PREDICTION OF SCALE FORMATION; 6.4 SOLUBILITIES OF VARIOUS SULFATES AND CARBONATES; 6.5 SOLUBILITY OF CALCITE, DOLOMITE, AND MAGNESITE AND MIXTURE OF THESE CARBONATES; 6.6 RELATIVE PERMEABILITY CONCEPTS; 6.7 SCALE INHIBITION; REFERENCES AND BIBLIOGRAPHY; CHAPTER 7. WATER QUALITY CONTROL; 7.1 INTRODUCTION; 7.2 INJECTION SUITABILITY; 7.3 CORROSION; 7.4 USE OF SEAWATER FOR INJECTION PURPOSES; 7.5 SELECTION OF WATER INTAKE LOCATION; 7.6 DESIGN OF WATER INTAKE 7.7 TEST METHODS USED IN WATERFLOODING OPERATIONS 7.8 COPRA CORRELATION; 7.9 PREPARATION OF WATER FOR SUBSURFACE INJECTION; 7.10 REMOVAL OF DISSOLVED GASES; 7.11 EQUIPMENT CONSIDERATIONS; 7.12 DEGASSING EQUIPMENT; 7.13 CHEMICAL MIXING AND FEED EQUIPMENT; REFERENCES AND BIBLIOGRAPHY; CHAPTER 8. ECONOMICS OF CORROSION; 8.1 INTRODUCTION; 8.2 DIRECT AND INDIRECT COST OF CORROSION; 8.3 MAJOR INDUSTRIAL CATEGORIES OF CORROSION COSTS; 8.4 CORROSION-CONTROL ECONOMICS AND PREVENTIVE METHODS; 8.5 GALVANIC VERSUS IMPOSED DIRECT ELECTRICAL CURRENT IN CATHODIC PROTECTION; REFERENCES AND BIBLIOGRAPHY APPENDIX A: SAMPLE PROBLEMS AND QUESTIONS

Sommario/riassunto

The wettability of oil reservoirs is the most important factor controlling the rate of oil recovery, providing a profound effect on petroleum production. The petroleum industry has increased the research effort on wettability, but, so far, there has never been a comprehensive book on the topic. This is the first book to go through all of the major research and applications on wettability, capillary pressure and improved recovery. Critical topics including core preservation, the effect of wettability on relative permeability, surface forces such as van der Waals equation of state