1. Record Nr. UNISA996205196503316

Autore	Donaldson Erle C
Titolo	Wettability [[electronic resource]]
Pubbl/distr/stampa	Burlington, : Elsevier Science, 2013
ISBN	0-12-799990-6 1-60119-631-8
Descrizione fisica	1 online resource (295 p.)
Altri autori (Persone)	AlamWaqi
Disciplina	547.83 547/.83
Soggetti	Wetting Chemistry Physical Sciences & Mathematics Physical & Theoretical Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Front Cover; The Fundamentals of Corrosion and Scaling for Petroleum and Environmental Engineers; Copyright Page; DEDICATION; Table of Contents; ACKNOWLEDGMENTS; PREFACE; FOREWORD; CHAPTER 1. INTRODUCTION TO CORROSION; 1.1 INTRODUCTION; 1.2 DEFINITION OF CORROSION; 1.3 INTRODUCTION TO ELECTROCHEMISTRY; 1.4 CORROSION AGENTS IN DRILLING AND PRODUCING OPERATIONS; 1.5 REQUIREMENTS FOR ELECTROCHEMICAL CORROSION; 1.6 CHEMISTRY OF CORROSION AND ELECTROMOTIVE FORCE SERIES; 1.7 GALVANIC SERIES; 1.8 CORROSION OF STEEL; 1.9 GASEOUS CORRODANTS; 1.10 CATHODIC PROTECTION; 1.11 ROLE OF BACTERIA IN CORROSION 1.12 CORROSION IN GAS-CONDENSATE WELLS1.13 CORROSION RATE MEASUREMENT UNITS; REFERENCES AND BIBLIOGRAPHY; CHAPTER 2. TYPES OF CORROSION; 2.1 INTRODUCTION; 2.2 SWEET CORROSION; 2.3 SOUR CORROSION; 2.4 CLASSES OF CORROSION; 2.5 TYPES OF CRACKING IN DRILLING AND PRODUCING ENVIRONMENTS; REFERENCES AND BIBLIOGRAPHY; CHAPTER 3. MICROBIAL CORROSION; 3.1 INTRODUCTION; 3.2 MICROBES ASSOCIATED WITH OILFIELD CORROSION; 3.3 MICROBIAL INTERACTION WITH PRODUCED OIL; 3.4 MICROORGANISMS IN CORROSION; 3.5 DIFFERENT MECHANISMS OF

MICROBIAL CORROSION; 3.6 CORROSION INHIBITION BY BACTERIA
3.7 MICROBIAL CORROSION CONTROLREFERENCES 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 BIBLIOGRAPHYCHAPTER 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 OPERATIONS7.8 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, providinga profound effect on petroleum production. The petroleum industry has increased the research effort onwettability, but, so far, there has never been a comprehensive book on the topic. This is the first book to gothrough 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 forcessuch as van der Waals equation of state