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of Well Production; 7.1 Introduction; 7.2 Oil Production during Transient Flow Period; 7.3 Oil Production during Pseudo-Steady Flow Period; 7.4 Gas Production during Transient Flow Period; 7.5 Gas Production during Pseudo-Steady-State Flow Period; Summary; References; Problems; Chapter 8: Production Decline Analysis; 8.1 Introduction; 8.2 Exponential Decline; 8.3 Harmonic Decline 8.4 Hyperbolic Decline 8.5 Model Identification; 8.6 Determination of Model Parameters; 8.7 Illustrative Examples; Summary; References; Problems; Part II: Equipment Design and Selection; Chapter 9: Well Tubing; 9.1 Introduction; 9.2 Strength of Tubing; 9.3 Tubing Design; Summary; References; Problems; Chapter 10: Separation Systems; 10.1 Introduction; 10.2 Separation System; 10.3 Dehydration System; Summary; References; Problems; Chapter 11: Transportation Systems; 11.1 Introduction; 11.2 Pumps; 11.3 Compressors; 11.4 Pipelines; Summary; References; Problems; Part III: Artificial Lift Methods Chapter 12: Sucker Rod Pumping 12.1 Introduction; 12.2 Pumping System; 12.3 Polished Rod Motion; 12.4 Load to the Pumping Unit; 12.5 Pump Deliverability and Power Requirements; 12.6 Procedure for Pumping Unit Selection; 12.7 Principles of Pump Performance Analysis; Summary; References; Problems; Chapter 13: Gas Lift; 13.1 Introduction; 13.2 Gas Lift System; 13.3 Evaluation of Gas Lift Potential; 13.4 Gas Lift Gas Compression Requirements; 13.5 Selection of Gas Lift Valves; 13.6 Special Issues in Intermittent-Flow Gas Lift; 13.7 Design of Gas Lift Installations; Summary; References; Problems Chapter 14: Other Artificial Lift Methods

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Sommario/riassunto

Petroleum Production Engineering, A Computer-Assisted Approach provides handy guidelines to designing, analyzing and optimizing petroleum production systems. Broken into four parts, this book covers the full scope of petroleum production engineering, featuring stepwise calculations and computer-based spreadsheet programs. Part one contains discussions of petroleum production engineering fundamentals, empirical models for production decline analysis, and the performance of oil and natural gas wells. Part two presents principles of designing and selecting the main components of petroleum product

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