

Contents

1	Introduction to Petroleum Geology	1
	Knut Bjørlykke	
2	Introduction to Sedimentology	27
	Knut Bjørlykke	
3	Sedimentary Geochemistry	87
	Knut Bjørlykke	
4	Sandstones and Sandstone Reservoirs	113
	Knut Bjørlykke and Jens Jahren	
5	Carbonate Sediments	141
	Nils-Martin Hanken, Knut Bjørlykke, and Jesper Kresten Nielsen	
6	Shales, Silica Deposits and Evaporites	201
	Knut Bjørlykke	
7	Stratigraphy	213
	Jenø Nagy and Knut Bjørlykke	
8	Sequence Stratigraphy, Seismic Stratigraphy and Basin Analysis	235
	Knut Bjørlykke	
9	Heat Transport in Sedimentary Basins	253
	Knut Bjørlykke	
10	Subsurface Water and Fluid Flow in Sedimentary Basins	259
	Knut Bjørlykke	
11	Introduction to Geomechanics: Stress and Strain in Sedimentary Basins	281
	Knut Bjørlykke, Kaare Høeg, and Nazmul Haque Mondol	
12	The Structure and Hydrocarbon Traps of Sedimentary Basins	299
	Roy H. Gabrielsen	
13	Compaction of Sedimentary Rocks Including Shales, Sandstones and Carbonates	329
	Knut Bjørlykke	
14	Source Rocks and Petroleum Geochemistry	339
	Knut Bjørlykke	

15	Petroleum Migration	349
	Knut Bjørlykke	
16	Well Logs: A Brief Introduction	361
	Knut Bjørlykke	
17	Seismic Exploration	375
	Nazmul Haque Mondol	
18	Explorational Rock Physics – The Link Between Geological Processes and Geophysical Observables	403
	Per Avseth	
19	4D Seismic	427
	Martin Landrø	
20	Production Geology	445
	Knut Bjørlykke	
21	Unconventional Hydrocarbons: Oil Shales, Heavy Oil, Tar Sands, Shale Gas and Gas Hydrates	459
	Knut Bjørlykke	
22	Geology of the Norwegian Continental Shelf	467
	Jan Inge Faleide, Knut Bjørlykke, and Roy H. Gabrielsen	
	Subject Index	501