
The World of Mineral Deposits

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A Beginner's Guide to Economic Geology

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Preface

Interest in where ore and energy resources can be found is not only relevant to geologists. This book is primarily intended for engineers, geographers, economists, chemists, mineral collectors, investors, and everyone else interested in the topic. Nevertheless, we are sure that geologists and geology students can also benefit from this book. A basic knowledge of geology is certainly helpful, although we have avoided or explained technical terms as much as possible. Background information is provided in introductory sections and boxes. Additional help is provided by a geological timescale in Sect. 1.5 and a glossary at the back of the book. Important ore minerals that are mentioned time and again throughout the book are presented in detail in Sect. 1.2, while others can be found in Chap. 2.

Our unconventional concept—a mixture of popular science, university textbook, and reference work—has obviously succeeded. The first edition of the German title quickly sold out and resulted in the authors consistently receiving very positive reviews and letters. We are pleased that the book has been translated into English and will be available to a larger audience. The translation is based on the second German edition and has been updated in a few places.

We attach particular importance to the processes that have led to the enrichment of corresponding metals. Our aim is to present them according to the current state of research in such a way that even complicated interrelationships can be understood. We show the interplay of different factors contributing to ore-forming processes. Deposits of high-tech metals such as tantalum and rare-earth elements are also explained in detail. While the main part of the book is sorted according to relevant processes, the second chapter offers an alternative starting point with an overview of individual metals. We have also explained modern applications of metals such as platinum in catalysts, which many may not think of at first glance. The chapter on fossil fuels also describes in detail increasingly important unconventional deposits including associated problems. Last but not least, non-metallic industrial rocks and minerals such as sand, gravel, limestone, and clay have not been ignored.

Some of the German deposits featured may seem exotic to readers from other continents because mining is currently pretty insignificant in Europe. However, they are well researched and serve as good examples for important deposit types found worldwide.

We thank Susanne Herting-Agthe from the Mineralogical Collections of the Technical University of Berlin for patiently digging out countless specimens from cabinets and showcases and providing us with photos from the archive. Photos of first-class mineral specimens from the Black Forest were taken with permission from a multivolume opus written by Gregor Markl. We are very happy to have been able to use them. We would like to thank Thorsten Eckardt for helping with the literature research and Lars Fischer, Walter A. Franke, Detlev Seibert, Eberhard Strehl, and Markus Hauser for helpful comments. We would also like to thank everyone who provided us with pictures, answered our questions, or otherwise supported us.

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Contents

1	Introduction	1
1.1	What Is an Ore?	2
1.2	Selected Ore Minerals	4
1.2.1	Sulfides	4
1.2.2	Oxides and Hydroxides	7
1.2.3	Carbonates	10
1.3	Resources, Reserves, and Consumption	11
1.4	Markets	14
1.5	Where to Search and How?	15
1.6	Remote Sensing	17
1.7	Geophysical Exploration	19
1.8	Geochemical Exploration	23
1.9	Drilling	24
1.10	Open-Pit Mining	27
1.11	Underground Mining	28
1.12	In Situ Leaching	32
1.13	Deep-Sea Mining	32
1.14	Environmental Degradation, Land Use, and Social Responsibility	33
1.15	Mineral Processing	35
1.16	Smelting	38
1.17	Recycling	41
1.18	Cast, Forged, and Chased	41
1.19	The Composition of the Earth	43
1.20	Geochemical Classification of Elements	47
	Literature	49
	Further Reading	50
2	The World of Metals	51
2.1	Iron and Steel Refiners	51
2.1.1	Iron (Fe)	51
2.1.2	Manganese (Mn)	54
2.1.3	Chromium (Cr)	54
2.1.4	Nickel (Ni)	55
2.1.5	Cobalt (Co)	55
2.1.6	Molybdenum (Mo)	55
2.1.7	Vanadium (V)	57
2.1.8	Tungsten (W)	57
2.1.9	Tantalum (Ta) and Niobium (Nb)	57
2.2	Non-Ferrous Metals	59
2.2.1	Copper (Cu)	59
2.2.2	Lead (Pb)	60

2.2.3	Zinc (Zn)	60
2.2.4	Cadmium (Cd)	61
2.2.5	Tin (Sn)	61
2.3	Precious Metals	62
2.3.1	Gold (Au)	62
2.3.2	Silver (Ag)	63
2.3.3	Platinum-Group Elements	64
2.4	Light Metals	65
2.4.1	Aluminum (Al)	65
2.4.2	Titanium (Ti)	65
2.4.3	Magnesium (Mg)	66
2.5	Rare-Earth Elements	66
2.6	Other Metals and Metalloids	72
2.6.1	Lithium (Li)	72
2.6.2	Boron (B)	73
2.6.3	Beryllium (Be)	73
2.6.4	Germanium (Ge)	73
2.6.5	Indium (In)	74
2.6.6	Gallium (Ga)	74
2.6.7	Selenium (Se) and Tellurium (Te)	74
2.6.8	Thallium (Tl)	74
2.6.9	Mercury (Hg)	75
2.6.10	Antimony (Sb)	75
2.6.11	Arsenic (As)	75
2.6.12	Bismuth (Bi)	75
2.6.13	Uranium (U) and Thorium (Th)	76
2.6.14	Zirconium (Zr) and Hafnium (Hf)	77
2.6.15	Silicon (Si)	79
	Literature	79
3	Magmatic Deposits	81
3.1	Diversification of Magmas (Introduction)	84
3.1.1	Generation of Magmas and Fractional Crystallization	84
3.1.2	Liquid Immiscibility	90
3.2	Podiform Chromite Deposits in Ophiolites	92
3.3	Layered Mafic Intrusions	95
3.3.1	Magmatic Layering and Its Causes	99
3.3.2	Chromium, Nickel, and Platinum in Basic Magmas	102
3.3.3	Bushveld Complex	105
3.3.4	Great Dyke	109
3.3.5	Sudbury Igneous Complex	109
3.4	Komatiite Hosted Deposits	113
3.5	Anorthosite-Hosted Deposits	115
3.6	Kiruna-Type Magnetite Apatite Iron Ore	116
3.7	Granite (Introduction)	116
3.7.1	Tin Granite	118
3.8	Pegmatite	119
3.9	Alkaline Rocks (Introduction)	123
3.10	Carbonatite	124
3.10.1	Phoscorite	129
3.11	Agpaitic Rocks	130
3.11.1	Ilimaussaq	133
3.11.2	Khibina and Lovozero	134

3.12	Ivigtut	137
	Literature	138
	Further Reading	142
4	Hydrothermal Deposits	143
4.1	Hydrothermal Veins	148
4.1.1	Veins in the Black Forest	151
4.1.2	Polymetallic Veins in the Ore Mountains	154
4.2	Orogenic Gold Veins	158
4.3	Epithermal Gold and Gold–Silver Deposits	162
4.4	Porphyry Copper Deposits	168
4.4.1	Porphyry Molybdenum Deposits (Climax Type)	181
4.4.2	Porphyry Gold (Intrusion-Related Gold)	182
4.5	Tin–Tungsten Deposits	182
4.6	Greisen	188
4.7	Iron Oxide Copper Gold Deposits	189
4.8	Chimneys and Mantos	191
4.9	Skarn	192
4.10	Metasomatic Siderite Deposits	194
4.11	Carlin-Type Gold	195
4.12	Mississippi Valley Type	196
4.13	Sandstone-Hosted Copper and Lead–Zinc Deposits	201
4.14	Unconformity-Related and Sandstone-Hosted Uranium Deposits	201
4.15	Hydrothermal Systems on the Seafloor (Introduction)	203
4.15.1	Black Smokers	203
4.15.2	Marine Brine Pools and Atlantis II Deep	207
4.16	Volcanogenic Massive Sulfide Deposits	208
4.16.1	Cyprus-Type Volcanogenic Massive Sulfide Deposits in the Troodos Ophiolite	211
4.16.2	Besshi (Japan)	214
4.16.3	Kuroko (Japan)	215
4.16.4	Iberian Pyrite Belt	216
4.17	Sedimentary Exhalative Deposits	219
4.18	Lahn–Dill-Type Iron Deposits	224
	Literature	224
	Further Reading	230
5	Deposits Formed by Sedimentation and Weathering	231
5.1	Stratiform Sediment-Hosted Copper Deposits	231
5.1.1	Kupferschiefer in Europe	232
5.1.2	Central African Copper Belt	236
5.2	Banded Iron Formation	236
5.3	Iron Oolite	244
5.4	Bean Ore	246
5.5	Sedimentary Manganese Deposits	246
5.6	Manganese Nodules	246
5.7	Evaporites	248
5.7.1	Marine Evaporites	254
5.7.2	Salt Lakes and Salt Pans	257
5.8	Phosphorite	261
5.9	Placer Deposits	264
5.10	Weathering (Introduction)	268
5.11	Laterite and Bauxite	270

5.11.1	Bauxite	271
5.11.2	Lateritic Nickel Deposits	273
5.11.3	Lateritic Gold Deposits	275
5.11.4	Lateritic Rare-Earth Element Deposits (Ion Adsorption Clay)	275
5.12	Duricrusts	276
	Literature	277
	Further Reading	281
6	Fossil Fuels	283
6.1	From Peat to Coal	285
6.2	From Algae to Petroleum	292
6.3	Petroleum and Natural Gas: Migration into Traps	297
6.4	Oil from the Persian Gulf	302
6.5	Production of Petroleum and Natural Gas	304
6.6	Peak Oil	309
6.7	Fracking: Shale Gas and Tight Oil	311
6.8	Oil Shale	316
6.9	Tar Sand and Heavy Crude Oil	317
6.10	Methane Hydrates	319
	Literature	321
	Further Reading	323
7	Industrial Minerals and Rocks	325
7.1	Sand, Gravel, and Natural Stones	325
7.2	Lime, Marl, and Dolomite	325
7.3	Tuff, Pumice, Perlite, Pozzulan, and Trass	326
7.4	Feldspar, Quartz, and Mica	327
7.5	Clay and Kaolin	329
7.6	Aluminium Silicates	332
7.7	Wollastonite	333
7.8	Garnet	333
7.9	Olivine (Forsterite)	333
7.10	Magnesite, Talc, and Soapstone	333
7.11	Corundum	335
7.12	Diamond	335
7.13	Diatomite (Diatomaceous Earth)	335
7.14	Fluorite and Baryte	336
7.15	Zeolites	337
7.16	Graphite	337
7.17	Sulfur	338
	Literature	340
	Further Reading	340
	Glossary	341
	Index	353

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