

Hydrothermal Processes And Mineral Systems

[DOWNLOAD HERE](#)

1;Foreword;6 2;Acknowledgments;8 3;Contents;9 4;Introduction;19 4.1;Definitions and Classifications of Ore Deposits;19 4.2;Classifications and Models;21 4.3;This Book;25 4.4;References;29 5;1 Water and Hydrothermal Fluids on Earth;31 5.1;1.1 Introduction;31 5.2;1.2 Origin of Water; Sea and Surface Waters;35 5.2.1;1.2.1 Seawater;39 5.2.2;1.2.2 Surface Water;43 5.2.3;1.2.3 Groundwater;45 5.3;1.3 Structure and Properties of Water; Hydration and Hydrolysis;47 5.4;1.4 Hydrothermal Fluids;48 5.4.1;1.4.1 Solubility and Boiling;52 5.4.2;1.4.2 Acid-Base Nomenclature;53 5.4.3;1.4.3 Redox Potential;54 5.4.4;1.4.4 Chemical Potential, Chemical Activity, Fugacity, Oxygen Fugacity;56 5.4.5;1.4.5 Hot Springs;60 5.4.6;1.4.6 Fluid Inclusions;68 5.4.7;1.4.7 Dissolved Constituents and Metals Partitioning in Hydrothermal Solutions;72 5.4.8;1.4.8 The Role of Complex Ions and Ligands in Hydrothermal Fluids;74 5.4.9;1.4.9 Complex Ions in Hydrothermal Solutions;77 5.4.10;1.4.10 Precipitation of Solutes and Metal Deposition;80 5.4.11;1.4.11 Isotopic Tracers;81 5.5;1.5 Concluding Remarks;94 5.6;References;95 6;2 Hydrothermal Processes and Wall Rock Alteration;102 6.1;2.1 Introduction;102 6.2;2.3 Hydrothermal Alteration;119 6.3;2.4 Intrusion-Related Alkali Metasomatism;133 6.4;2.5 Alkali Metasomatism (Fenites) in Anorogenic Ring Complexes;135 6.5;2.6 Alteration in Porphyry Systems;140 6.6;2.7 Skarns;148 6.7;2.8 Alteration in Epithermal Systems;149 6.8;2.9 Hydrothermal Alteration in Submarine Mineral Systems;153 6.9;2.10 Other Types of Alteration;160 6.10;2.11 Metamorphism of Hydrothermally Altered Rock;166 6.11;2.12 Geochemical Signatures and Isotopic Tracers;172 6.12;2.13 Detection of Hydrothermal Alteration from Spectral Remote Sensing;182 6.13;2.14 Concluding Remarks;185 6.14;References;186 7;3 Tectonic Settings, Geodynamics and Temporal Evolution of Hydrothermal Mineral Systems;194 7.1;3.1 Introduction;194 7.2;3.2 Tectonic Settings and Geodynamics of Mineral Systems;195 7.2.1;3.2.1 Convergent Plate Boundaries; Arc and Back-Arc Settings, Collision Tectonics;200 7.2.2;3.2.2 Divergent Plate Boundaries; Mid-Oceanic Ridges, Passive Margins and Continental Rifting;207 7.2.3;3.2.3 Mantle Plumes Tectonics and Hydrothermal Systems;216 7.3;3.3 Metallogeny and Geodynamics;217 7.4;3.4 Temporal Evolution of Ore Systems, Supercontinent Cycles and Global Metallogeny;221 7.5;3.5 Concluding Remarks;228 7.6;References;228 8;4 Intrusion-Related

Hydrothermal Mineral Systems;233 8.1;4.1 Introduction;233 8.2;4.2 Intrusion-Related Hydrothermal Mineral Systems and Granitic Magmatism;235 8.3;4.3 Greisen Ore Systems;246 8.3.1;4.3.1 Greisenisation Processes;248 8.3.2;4.3.2 Geochemistry;255 8.3.3;4.3.3 Greisen-Style Mineral Systems;255 8.3.4;4.3.4 Sn and W Geochemistry in the Greisen System and Deposition of Cassiterite and Wolframite;256 8.3.5;4.3.5 Tin Deposits Associated with the Felsic Phase of the Bushveld Igneous Complex, South Africa;258 8.3.6;4.3.6 The Sn-W Deposits of Southwest England, Cornwall and Portugal;266 8.3.7;4.3.7 The Greisen Systems of the Tasman Fold Belt System;272 8.3.8;4.3.8 The East Kemptville Sn Greisen, Nova Scotia, Canada;276 8.3.9;4.3.9 The Brandberg West Greisen Vein Systems, Namibia;278 8.3.10;4.3.10 The Kalguta Mo-W-Be-Bi Greisen System, Southeastern Altai (Russia);286 8.4;4.4 Intrusion-Related Gold, Polymetallic and Uraniferous Vein Systems and Breccia Pipes;288 8.4.1;4.4.1 Scheelite Dome, an Intrusion-Related Au Deposit, Yukon, Canada;290 8.4.2;4.4.2 The Kidston Breccia Pipe, Queensland, Australia;297 8.4.3;4.4.3 Uraniferous Vein Systems;300 8.4.4;4.4.4 Sabie-Pilgrim's Rest, South Africa;301 8.4.5;4.4.5 Capricorn Orogen Structurally Controlled Hydrothermal Vein (Base and Precious Metals), Western Australia;303 8.4.6;4.4.6 Polymetallic Vein Systems of the Altai (Siberia) and Northwestern Mongolia (Yustid Rift Zone);305 8.5;4.5 Hydrothermal Systems Associated with Alkaline

EAN/ISBN : 9781402086137 Publisher(s): Springer Netherlands

Discussed keywords: Palontology Format: ePub/PDF Author(s): Pirajno, Franco

[DOWNLOAD HERE](#)

Similar manuals: