

Gold Metallogeny and Exploration; edited by R. P. FOSTER. P. 432, Glasgow, 1991 (Blackie and Sons Ltd., \$149.00 plus \$14 for shipping).—In the past decade, the continuing demand for gold has led to development of a diversity of genetic models for many types of gold deposits and to innovation and improvement in exploration techniques. Several major volumes have been published on individual gold deposits and specific aspects of gold deposition (for example, Proceedings volumes of the Gold '86 meeting in Toronto; the Pacific Rim Congress '87 in Gold Coast, Australia; the Gold '88 symposium in Melbourne). The proliferation of new data on gold has inundated the literature and has presented more than a small challenge for explorationists and researchers alike to wade through more than a small fraction of the accumulating knowledge.

The thirteen chapters that comprise this new book attempt to address this problem by providing syntheses of many major aspects of gold metallogeny and exploration. The first two chapters concern "Distribution of gold in the Earth's crust" (J. H. Crocket) and "The hydrothermal geochemistry of gold" (T. M. Seward). The next seven chapters present summaries of gold depositional environments and deposits including: Archean lode gold deposits (D. I. Groves and R. P. Foster); Phanerozoic gold deposits in tectonically active continental margins (B. E. Nesbitt); Epithermal gold deposits in volcanic terranes (R. W. Henley); Intrusion-related gold deposits (R. H. Sillitoe); The geology and origin of Carlin-type gold deposits (B. R. Berger and W. C. Bagby); Auriferous hydrothermal precipitates on the modern seafloor (M. D. Hannington, P. M. Herzig, and S. D. Scott); Ancient placer gold deposits (W. E. L. Minter). The next three chapters concern exploration techniques for gold: Geochemical exploration for gold in temperate, arid, semi-arid, and rain forest terrains (H. Zeegers and C. Leduc); Geochemical explo-

ration for gold in glaciated terrain (W. B. Coker and W. W. Shilts); Geophysical exploration for gold (N. R. Paterson and P. G. Hallof). The final chapter discusses "The economics of gold deposits" (B. W. MacKenzie).

The chapters are well written and profusely illustrated and referenced. I was particularly impressed by the balanced treatment of topics that have recently been the subjects of debate and confusion in the published literature: Phanerozoic gold deposits in tectonically active continental margins (chapter 3, Metamorphic versus meteoric fluid origins) and Carlin-type gold deposits (chapter 6, Epithermal versus sediment-hosted precious metal classifications). The even-handed treatment of opposing viewpoints in these chapters is representative of the editorial care this book received.

My only perceived weakness in the book is that I wish there had been small chapters that tied sets of related chapters together (for example, Gold Geochemistry; Gold Depositional Environments; Gold Exploration Techniques).

As the editor of the book admits in the Preface, this book is clearly not intended to be the ultimate authoritative statement on gold metallogeny and exploration, nor does it hope to embrace all aspects of gold mineralization. It does, however, succeed at its intended purpose: to provide a useful review and insight into the scientific and industrial excitement inspired by the 1980's gold rush. I recommend it to any geologist interested in precious metal deposits.

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