



# Mineral Exploration: Principles and Applications

By Swapna Kumar Haldar

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Globally, mineral exploration has grown significantly in recent years, driven by the rapid acceleration in prices for gold and diamonds since 2004 and the emergence of a middle class in both China and India?aggressively increased demand. Despite this resurgence, no single book has been published that takes an interdisciplinary approach in addressing the full scope of mineral exploration?from mining and extraction to economic evaluation, policies, sustainability, and environmental impacts. *Mineral Exploration: Principles and Applications* accomplishes this by presenting each topic with theoretical approaches first followed by specific applications that can be immediately implemented in the field.

- Presents 16 case studies that allow readers to quickly apply exploration concepts to real-life scenarios in the field
- Includes more than 200 illustrations and full-color photographs that aid the reader in retaining key procedures and applications
- Each chapter is structured so that its topic is discussed theoretically first followed by specific applications
- Combines both theory and application in a multidisciplinary reference that thoroughly addresses the full scope of mineral exploration
- Authored by an instructor with more than 30 years of experience in the field and a decade as a consultant for commercial mining companies

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# Mineral Exploration: Principles and Applications

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### Editorial Review

#### Review

*"The book is technically skillful and a laudable effort to create a comprehensive practical survey text written by someone who knows the territory in more than an academic way. There are also many useful diagrams."*--**Reference and Research Book News, August 2013**

#### About the Author

1. Academic qualification: B. Sc (Hons) 1963, and M. Sc (Geology) 1965, Calcutta University, D. Sc, 1983, Indian Institute of Technology, Kharagpur, India.

2. Professional Affiliation: Life Member of Mining Geological and Metallurgical Institute of India, Indian Geological Congress and Indian Society of Earth Sciences.

3. Work Experiences: 50 Yrs Professional and Academic Experience in oil and base-noble metal exploration and mining at various capacities at ESSO, Hindustan Copper Ltd, Hindustan Zinc Ltd, Anglo American (P) Ltd, Gold Stream Mining NL/ IMX Resource Ltd, Australia and BIL Infratech Ltd, Guest Faculty Sukhadia University Udaipur.

4. Exploration Projects and Mines visited abroad:

His profession has often required visits and interaction with experts of zinc, lead, gold, tin, chromium, nickel and platinum mines and exploration camps of Australia-Tasmania, Canada, USA, Germany, Portugal, UK, France, Italy, The Netherlands, Switzerland, Saudi Arabia, Egypt, Bangladesh and Nepal.

5. Research Projects as Principal Investigator

(i) DST project in Geostatistical Applications, numerical processing, software development and derivation of parameters for mine planning of base metal deposits at IIT Kharagpur (1979-80) leading to PhD Degree (1983).

(ii) DST project: HR/UR/22/2002 on "Exploration modeling for base / noble metals with special reference to sediment hosted Zn-Pb-Cu-Ag deposits in the northwestern Indian Shield" at Presidency College Kolkata (2003-06).

(iii) DST Project: HR/UR/29/2007 on "Geology of Platinum-Nickel-Chromium mineralization: Resource evaluation and future potential", at Presidency College, Kolkata (2008-2010).

6. Examination conducted:

(i) Regular question papers for Mineral Exploration, Geo-statistics and Mining Geology for M. Sc Applies Geology of Sukharia University, Udaipur, Presidency University, Calcutta University, Indian School of Mines and Institution of Engineers.

(ii) Examined 4 M. Sc Thesis of Delhi and Calcutta University.

(iii) Examined including Viva of 5 PhD Thesis in Geostatistical Applications of Mineral Deposits at Indian School of Mines, Dhanbad, IIT Mumbai and Kharagpur.

## 7. Current Assignments:

Since 2003, Emeritus Scientist, Post Graduate Applied Geology teaching of Mineral Exploration at Presidency and Calcutta University, Kolkata, and industry related teaching at Indian school of Mines, Dhanbad.

8. Recipient: Dr. J. Coggin Brown Memorial (Gold) Medal for Geological Sciences (1993-94) by Mining Geological and Metallurgical Institute of India.

## 9. Authored 3 books and 40 publications:

1. Haldar, SK. Exploration Modeling of Base Metal Deposits, Elsevier Publication; 2007, p. 227.

2. Haldar, SK, Mineral Exploration - Principles and Applications, Elsevier Publication; 2013, p. 374.

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Dr Haldar has a unique professional blend of mineral exploration, evaluation and mineral economics with an essence of classroom teaching of postgraduate students of two celebrity Universities over the last 1 decade.

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