TABLE OF CONTENTS

COVER

PREFACE

FOREWORD

INTRODUCTION

CONTENTS

PLATES

1. GEOLOGY AND ORE DEPOSITS Duncan R. Derry

- 2. AN OVERVIEW OF MINING GEOPHYSICS Harold O. Seigel
- 3. GEOCHEMISTRY OVERVIEW R.W. Boyle
- 4. AIRBORNE ELECTROMAGNETIC METHODS

 A. Becker
- 5. GROUND ELECTROMAGNETIC METHODS AND BASE METALS Stanley H. Ward
- 6. RECENT DEVELOPMENTS IN THE USE AND INTERPRETATION OF DIRECT-CURRENT RESISTIVITY SURVEYS George V. Keller
- 7. MAGNETIC METHODS APPLIED TO BASE METAL EXPLORATION Peter J. Hood, M.T. Holroyd, and P.H. McGrath
- 8. GRAVITY METHOD APPLIED TO BASE METAL EXPLORATION J.G. Tanner and R.A. Gibb
- 9. THE INDUCED-POLARIZATION EXPLORATION METHOD John S. Sumner
- 10a. GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION -AIRBORNE INSTRUMENTATION Q. Bristow
- 10b. GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION -THEORY AND OPERATIONAL PROCEDURES R.L. Grastv
- 10c. GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION -APPLICATION AND INTERPRETATION P.G. Killeen
- 11. MODERN TRENDS IN MINING GEOPHYSICS AND NUCLEAR BOREHOLE LOGGING METHODS FOR MINERAL EXPLORATION Jan A. Czubek
- 12. BOREHOLE LOGGING TECHNIQUES APPLIED TO BASE METAL ORE DEPOSITS

 W.E. Glenn and P.H. Nelson
- FOCUS ON THE USE OF SOILS FOR GEOCHEMICAL EXPLORATION IN GLACIATED TERRANE
 B. Bølviken and C.F. Gleeson
- 14. THE APPLICATION OF S OIL SAMPLING TO GEOCHEMICAL EXPLORATION IN NONGLACIATED REGIONS OF THE WORLD *P.M.D. Bradshaw and I. Thomson*
- 15. LITHOGEOCHEMISTRY IN MINERAL EXPLORATION G.J.S. Govett and lan Nichol
- 16. THE APPLICATION OF ATMOSPHERIC PARTICULATE GEOCHEMISTRY IN MINERAL EXPLORATION A.R. Barringer
- 17. ANALYTICAL METHODOLOGY IN THE SEARCH FOR METALLIC ORES F.N. Ward and W.F. Bondar
- 18a. ADVANCES IN BOTANICAL METHODS OF PROSPECTING FOR MINERALS PART I ADVANCES IN GEOBOTANICAL METHODS Helen L. Cannon
- 18b. ADVANCES IN BOTANICAL METHODS OF PROSPECTING FOR MINERALS PART II ADVANCES IN BIOGEOCHEMICAL METHODS OF PROSPECTING Robert R. Brooks
- 19. STREAM SEDIMENT GEOCHEMISTRY W.T. Meyer, P.K. Theobald, Jr., and H. Bloom

- 20. LAKE SEDIMENT GEOCHEMISTRY APPLIED TO MINERAL EXPLORATION W.B. Coker, E.H.W. Hornbrook, and E.M. Cameron
- 21a. APPLICATION OF HYDROGEOCHEMISTRY TO THE SEARCH FOR BASE METALS

 W.R. Miller
- 21b. APPLICATION OF HYDROGEOCHEMISTRY TO THE SEARCH FOR URANIUM $\it W.\ Dyck$
- 22. REMOTE SENSING IN THE SEARCH FOR METALLIC ORES: A REVIEW OF CURRENT PRACTICE AND FUTURE POTENTIAL Alan F. Gregory
- 23. COMPUTER COMPILATION AND INTERPRETATION OF GEOPHYSICAL DATA Allan Spector and Wilf Parker
- 24. COMPUTER-BASED TECHNIQUES IN THE COMPILATION, MAPPING AND INTERPRETATION OF EXPLORATION GEOCHEMICAL DATA R.J. Howarth and L. Martin
- 25. SOME ASPECTS OF INTEGRATED EXPLORATION J.A. Coope and M.J. Davidson
- 26. EXPLORATION DISCOVERIES, NORANDA DISTRICT, QUEBEC $J.\ Boldy$
- 27. EXPLORATION CASE HISTORIES OF THE ISO AND NEW INSCO OREBODIES W.M. Telford and Alex Becker
- 28. THE DISCOVERY AND DEFINITION OF THE LESSARD BASE METAL DEPOSIT, QUEBEC Laurie E. Reed
- 29. IZOK LAKE DEPOSIT, NORTHWEST TERRITORIES, CANADA: A GEOPHYSICAL CASE HISTORY George Podolsky and John Slankis
- 30. GEOPHYSICAL EXPLORATION AT THE PINE POINT MINES LTD. ZINC-LEAD PROPERTY, NORTHWEST TERRITORIES, CANADA Jules J. Lajoie and Jan Klein
- 31. ON THE APPLICATION OF GEOPHYSICS IN THE INDIRECT EXPLORATION FOR COPPER SULPHIDE ORES IN FINLAND M. Ketola
- 32. GEOPHYSICAL AND GEOCHEMICAL METHODS USED IN THE DISCOVERY OF THE ISLAND COPPER DEPOSIT, VANCOUVER ISLAND, BRITISH COLUMBIA K.E. Witherly
- 33. GEOPHYSICAL AND GEOCHEMICAL CASE HISTORY OF THE QUE RIVER DEPOSIT, TASMANIA, AUSTRALIA S.S. Webster and E.H. Skey
- 34. GEOPHYSICS AND GEOCHEMISTRY IN THE DISCOVERY AND DEVELOPMENT OF THE LA CARIDAD PORPHYRY COPPER DEPOSIT, SONORA, MEXICO D.F. Coolbaugh
- 35. EXPLORATION OF THE REAL DE ANGELES SILVER-LEAD-ZINC SULPHIDE DEPOSIT, ZACATECAS, MEXICO Lee R. Stoiser and José Bravo Nieto
- 36. APPLICATION OF X-RAY DIFFRACTION ALTERATION AND GEOCHEMICAL TECHNIQUES AT SAN MANUEL, ARIZONA

 D.M. Hausen
- 37. EXPLORATION FOR MASSIVE SULPHIDES IN DESERT AREAS USING THE GROUND PULSE ELECTROMAGNETIC METHOD Duncan Crone
- 38. THE APPLICATION OF AIRBORNE AND GROUND GEOPHYSICAL TECHNIQUES TO THE SEARCH FOR MAGNETITE-QUARTZITE ASSOCIATED BASE-METAL DEPOSITS IN SOUTHERN AFRICA Geoff Campbell and R. Mason
- 39. GEOPHYSICAL AND GEOCHEMICAL METHODS FOR MAPPING GOLD-BEARING STRUCTURES IN NICARAGUA R.S. Middleton and E.E. Campbell
- 40. AN OUTLINE OF MINING GEOPHYSICS AND GEOCHEMISTRY IN CHINA Hsia Kuo-chih et. al.