

## CONTENTS

Page	
ix	FOREWORD <b>A.G. Darnley</b>
xi	INTRODUCTION <b>Peter J. Hood</b>
1	GEOLOGY AND ORE DEPOSITS <b>Duncan R. Derry (1)*</b>
7	AN OVERVIEW OF MINING GEOPHYSICS <b>Harold O. Seigel (2)</b>
25	GEOCHEMISTRY OVERVIEW <b>R.W. Boyle (3)</b>
33	AIRBORNE ELECTROMAGNETIC METHODS <b>A. Becker (4)</b>
45	GROUND ELECTROMAGNETIC METHODS AND BASE METALS <b>Stanley H. Ward (5)</b>
63	RECENT DEVELOPMENTS IN THE USE AND INTERPRETATION OF DIRECT-CURRENT RESISTIVITY SURVEYS <b>George V. Keller (6)</b>
77	MAGNETIC METHODS APPLIED TO BASE METAL EXPLORATION <b>Peter J. Hood, M.T. Holroyd and P.H. McGrath (7)</b>
105	GRAVITY METHOD APPLIED TO BASE METAL EXPLORATION <b>J.G. Tanner and R.A. Gibb (8)</b>
123	THE INDUCED-POLARIZATION EXPLORATION METHOD <b>John S. Sumner (9)</b>
135	GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION – AIRBORNE INSTRUMENTATION <b>Q. Bristow (10A)</b>
147	GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION – THEORY AND OPERATIONAL PROCEDURES <b>R.L. Grasty (10B)</b>
163	GAMMA RAY SPECTROMETRIC METHODS IN URANIUM EXPLORATION – APPLICATION AND INTERPRETATION <b>P.G. Killeen (10C)</b>
231	MODERN TRENDS IN MINING GEOPHYSICS AND NUCLEAR BOREHOLE LOGGING METHODS FOR MINERAL EXPLORATION <b>Jan A. Czubek (11)</b>

\*Bracketed numbers refer to the Paper numbers

- 273 BOREHOLE LOGGING TECHNIQUES APPLIED TO BASE METAL ORE DEPOSITS  
**W.E. Glenn and P.H. Nelson (12)**
- 295 FOCUS ON THE USE OF SOILS FOR GEOCHEMICAL EXPLORATION  
IN GLACIATED TERRANE  
**B. Bølviken and C.F. Gleeson (13)**
- 327 THE APPLICATION OF SOIL SAMPLING TO GEOCHEMICAL EXPLORATION  
IN NONGLACIATED REGIONS OF THE WORLD  
**P.M.D. Bradshaw and I. Thomson (14)**
- 339 LITHOGEOCHEMISTRY IN MINERAL EXPLORATION  
**G.J.S. Govett and Ian Nichol (15)**
- 363 THE APPLICATION OF ATMOSPHERIC PARTICULATE GEOCHEMISTRY  
IN MINERAL EXPLORATION  
**A.R. Barringer (16)**
- 365 ANALYTICAL METHODOLOGY IN THE SEARCH FOR METALLIC ORES  
**F.N. Ward and W.F. Bondar (17)**
- 385 ADVANCES IN BOTANICAL METHODS OF PROSPECTING FOR MINERALS  
PART I – ADVANCES IN GEBOTANICAL METHODS  
**Helen L. Cannon (18A)**
- 397 ADVANCES IN BOTANICAL METHODS OF PROSPECTING FOR MINERALS  
PART II – ADVANCES IN BIOGEOCHEMICAL METHODS OF PROSPECTING  
**Robert R. Brooks (18B)**
- 411 STREAM SEDIMENT GEOCHEMISTRY  
**W.T. Meyer, P.K. Theobald, Jr., and H. Bloom (19)**
- 435 LAKE SEDIMENT GEOCHEMISTRY APPLIED TO MINERAL EXPLORATION  
**W.B. Coker, E.H.W. Hornbrook, and E.M. Cameron (20)**
- 479 APPLICATION OF HYDROGEOCHEMISTRY TO THE SEARCH FOR BASE METALS  
**W.R. Miller (21A)**
- 489 APPLICATION OF HYDROGEOCHEMISTRY TO THE SEARCH FOR URANIUM  
**W. Dyck (21B)**
- 511 REMOTE SENSING IN THE SEARCH FOR METALLIC ORES:  
A REVIEW OF CURRENT PRACTICE AND FUTURE POTENTIAL  
**Alan F. Gregory (22)**
- 527 COMPUTER COMPILATION AND INTERPRETATION OF GEOPHYSICAL DATA  
**Allan Spector and Wilf Parker (23)**
- 545 COMPUTER-BASED TECHNIQUES IN THE COMPILATION, MAPPING  
AND INTERPRETATION OF EXPLORATION GEOCHEMICAL DATA  
**R.J. Howarth and L. Martin (24)**
- 575 SOME ASPECTS OF INTEGRATED EXPLORATION  
**J.A. Coope and M.J. Davidson (25)**

- 593 EXPLORATION DISCOVERIES, NORANDA DISTRICT, QUEBEC  
**J. Boldy (26)**
- 605 EXPLORATION CASE HISTORIES OF THE ISO AND NEW INSCO OREBODIES  
**W.M. Telford and Alex Becker (27)**
- 631 THE DISCOVERY AND DEFINITION OF THE LESSARD BASE METAL DEPOSIT, QUEBEC  
**Laurie E. Reed (28)**
- 641 IZOK LAKE DEPOSIT, NORTHWEST TERRITORIES, CANADA:  
A GEOPHYSICAL CASE HISTORY  
**George Podolsky and John Slankis (29)**
- 653 GEOPHYSICAL EXPLORATION AT THE PINE POINT MINES LTD. ZINC-LEAD PROPERTY,  
NORTHWEST TERRITORIES, CANADA  
**Jules J. Lajoie and Jan Klein (30)**
- 665 ON THE APPLICATION OF GEOPHYSICS IN THE INDIRECT EXPLORATION  
FOR COPPER SULPHIDE ORES IN FINLAND  
**M. Ketola (31)**
- 685 GEOPHYSICAL AND GEOCHEMICAL METHODS USED IN THE DISCOVERY  
OF THE ISLAND COPPER DEPOSIT, VANCOUVER ISLAND, BRITISH COLUMBIA  
**K.E. Witherly (32)**
- 697 GEOPHYSICAL AND GEOCHEMICAL CASE HISTORY OF THE QUE RIVER DEPOSIT,  
TASMANIA, AUSTRALIA  
**S.S. Webster and E.H. Skey (33)**
- 721 GEOPHYSICS AND GEOCHEMISTRY IN THE DISCOVERY AND DEVELOPMENT  
OF THE LA CARIDAD PORPHYRY COPPER DEPOSIT, SONORA, MEXICO  
**D.F. Coolbaugh (34)**
- 727 EXPLORATION OF THE REAL DE ANGELES SILVER-LEAD-ZINC SULPHIDE DEPOSIT,  
ZACATECAS, MEXICO  
**Lee R. Stoiser and José Bravo Nieto (35)**
- 735 APPLICATION OF X-RAY DIFFRACTION ALTERATION AND GEOCHEMICAL TECHNIQUES  
AT SAN MANUEL, ARIZONA  
**D.M. Hausen (36)**
- 745 EXPLORATION FOR MASSIVE SULPHIDES IN DESERT AREAS USING  
THE GROUND PULSE ELECTROMAGNETIC METHOD  
**Duncan Crone (37)**
- 757 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 (38)**
- 779 GEOPHYSICAL AND GEOCHEMICAL METHODS FOR MAPPING  
GOLD-BEARING STRUCTURES IN NICARAGUA  
**R.S. Middleton and E.E. Campbell (39)**
- 799 AN OUTLINE OF MINING GEOPHYSICS AND GEOCHEMISTRY IN CHINA  
**Hsia Kuo-chih et. al. (40)**
- 811 AUTHOR INDEX
- xii PLATES 1-4