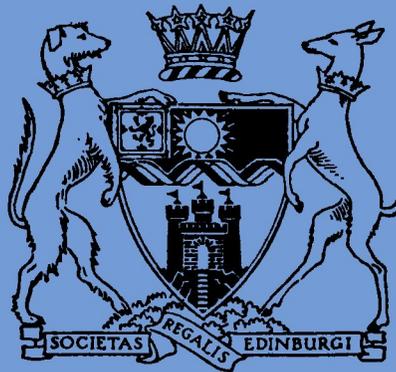


TRANSACTIONS  
OF  
THE ROYAL SOCIETY  
OF  
EDINBURGH



EARTH SCIENCES

Volume 77 Part 2

PUBLISHED BY THE ROYAL SOCIETY OF EDINBURGH

22 GEORGE STREET · EDINBURGH · EH2 2PQ

1986

## Editorial Board

B. J. BLUCK  
University of Glasgow  
(*Executive Editor*)

P. E. BROWN  
University of Aberdeen  
(*Chairman*)

E. N. K. CLARKSON  
University of Edinburgh  
(*Executive Editor*)

E. H. FRANCIS  
University of Leeds  
(*Executive Editor*)

R. M. S. SMELLIE  
*General Secretary*  
Royal Society of Edinburgh

V. R. S. HUTTON  
University of Edinburgh

I. PARSONS  
University of Aberdeen

J. D. PEACOCK  
British Geological Survey, Edinburgh

W. RITCHIE  
University of Aberdeen

W. D. I. ROLFE  
University of Glasgow

B. G. J. UPTON  
University of Edinburgh

W. DUNCAN  
*Executive Secretary*  
Royal Society of Edinburgh

## Consulting Editors

H. P. BANKS  
Cornell University, Ithaca

R. G. C. BATHURST  
University of Liverpool

J. M. COLEMAN  
Louisiana State University, Baton Rouge

J. F. DEWEY  
University of Durham

R. W. HUTCHINSON  
Colorado School of Mines

E. JÄGER  
Universität Bern

J. KONTA  
Charles University, Prague

K. J. MÜLLER  
Rhein. Friedrich-Wilhelms-Universität

J. V. SMITH  
University of Chicago

D. F. STRONG  
Memorial University, St Johns

V. C. THAKUR  
Wadia Institute of Himalayan Geology

S. UYEDA  
University of Tokyo

O. VAN BREEMEN  
Geological Survey of Canada, Ottawa

D. E. WHITE  
U.S. Geological Survey, Menlo Park

R. WOODALL  
Western Mining Co., Adelaide

*Publications Secretary*, Royal Society of Edinburgh: E. A. Inghen

**COPYRIGHT:** It is the policy of the Royal Society of Edinburgh not to charge any royalty for the production of a single copy of any one article made for private study or research. Requests for the copying or reprinting of any article for any other purpose should be sent to the Royal Society of Edinburgh.

© 1986 The Royal Society of Edinburgh and the authors of individual papers.