

THE
QUARTERLY JOURNAL
OF
ENGINEERING
GEOLOGY

Vol. 3, no. 3

December 1970

Price £1.50

The Geological Society of London

Annual subscription: £5 (\$12.50 U.S.A.); single copies all issues Vols. 1, 2, 3, £1.50.
(\$3.25 U.S.A.) postage and packing 15p (\$0.50 U.S.A.)

GEOLOGICAL SOCIETY OF LONDON

<i>President</i>	Professor W. A. Deer, M.SC. PH.D. F.R.S.
<i>Secretaries</i>	Dr. H. W. Ball; Professor W. S. Pitcher, D.SC. D.I.C. M.I.M.M.
<i>Foreign Secretary</i>	Professor D. Williams D.SC. B.ENG. D.I.C. M.I.M.M.
<i>Treasurer</i>	Dr. W. Bullerwell, F.INST.P. F.R.A.S.

ENGINEERING GROUP EDITORIAL SUB-COMMITTEE

<i>Chairman</i>	Dr. W. R. Dearman, A.R.C.S.
<i>Secretary</i>	Mr. J. E. Farnaby, M.SC. D.I.C. C.Eng. M.I.C.E. M.I.STRUCT.E. M.A.S.C.
<i>Editor</i>	Dr. G. Lees, B.SC. A.INST.H.E. Dr. P. G. Fookes, B.SC.

THE QUARTERLY JOURNAL OF ENGINEERING GEOLOGY

The scope of the journal, within the field of engineering geology, will be widely drawn. The journal is open to contributions from Fellows and non-Fellows of the Society, in this country and overseas. Papers will be considered which deal with any of the subjects within the field of geology as applied to civil engineering and mining practice, including rock mechanics, soil mechanics and geotechnics; applied sedimentology, pedology, mineralogy and petrology; geohydrology and hydrogeology; and engineering application of geophysics and photogeology.

Case histories and review articles of a more general character will also be considered, particularly if these are of a timely nature. It will be editorial policy occasionally to group several related papers together in the same issue.

Submission of papers

Authors proposing to submit papers for publication in the Quarterly Journal of Engineering Geology should follow the format established in previous issues, noting particularly the manner of sub-division into sections and the manner of presentation of references. References must follow abbreviations recommended in the World List. Scripts should be submitted in double space typing. Drawings should be in black Indian ink on white paper or a tracing medium. A metric scale should be included in each diagram and co-ordinates of latitude and longitude or a National Grid reference on all maps. Figures should be drawn with a view to a reduction of about $\times \frac{1}{2}$. After reduction no lettering should be less than 1 mm high. Copies of figures should have the "Top" clearly marked and also the author's name and the figure number. Originals of figures and plates may be sent if desired or copies sent and the originals retained until requested. Tables and captions for figures and plates should be typed on separate sheets at the end of the paper. All pages should be numbered serially. Full names of authors are required. S.I. units of measurement should be used where possible. During the period of change over to S.I. units, papers will be accepted with Imperial units of measurement. Where practicable these should have the S.I. equivalents in parentheses after the Imperial Units.

Twenty-five reprints of each paper will be supplied free—additional copies may be purchased.

Typescripts should be submitted in duplicate to the Editor, Dr. G. Lees, Department of Transportation and Environmental Planning, P.O. Box 363, University of Birmingham, Birmingham, B15 2TT, Tel. 021-472 1301 Ext. 589.

Discussion

The pages of the Quarterly Journal of Engineering Geology are open for the discussion of papers that have already appeared therein. Contributions to such discussion should not as a rule exceed 250 words, and will be subject to editing. They should be typewritten, in double spacing, and the author and full title of the paper discussed should appear plainly at the top of the typescript. No correspondence can be entered into about contributions to discussion, neither can proofs of discussions be submitted to the contributors.

Notice

The authors alone are responsible for the accuracy of the facts and for the opinions contained in their respective papers, and for the correctness of the references.

Contents

HUGH HUME DIXON & ROBERT HUGH STANNUS ROBERTSON: Some engineering experiences in tropical soils. 137

JOHN NEWBERY: Engineering geology in the investigation and construction of the Batang Padang hydro-electric scheme, Malaysia. 151

Technical Notes

JOHN BRIAN SISSONS: Geomorphology and foundation conditions around Grangemouth 183

MERVYN DAVID WATKINS: Terminology for describing the spacing of discontinuities of rock masses 193

Published for

THE GEOLOGICAL SOCIETY OF LONDON

by

SCOTTISH ACADEMIC PRESS LIMITED

LONDON AND EDINBURGH

Printed by

J. W. ARROWSMITH LIMITED

Winterstoke Road, Bristol BS3 2NT