

European Engineering Geology Directory

Edited by T.W. Spink (Mott MacDonald Consultants, UK)

The *European Engineering Geology Directory* is an indispensable reference manual for anyone whose business involves engineering geology. This first edition has been prepared by the Engineering Group of the Geological Society.

The *European Engineering Geology Directory* is a factual record of highly usable information which would otherwise only be available from a wide range of disparate, scattered and often inaccessible sources.

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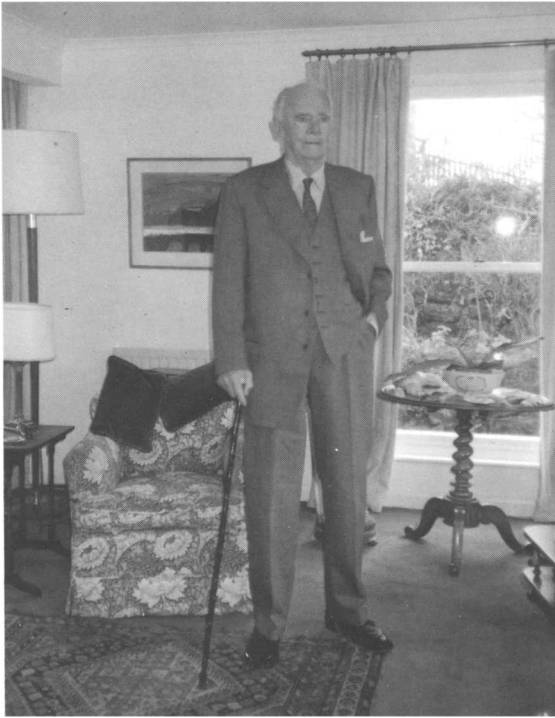
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Rudolph Glossop (Silas to his many friends), seen here on the left just before his ninetieth birthday, probably played a greater role than anyone else in Britain in establishing engineering geology. The driving force behind the setting up of Soil Mechanics Ltd and of Engineering Laboratory Equipment Ltd, he was conscious of the importance of bringing together the academic and the practical aspects in both geology and soil mechanics. He was a close personal friend of Terzaghi, seen between Glossop and Skempton in the photograph below, taken by Mrs Glossop and referred to by her as "The Three Musketeers". With colleagues he set up *Géotechnique* and, as reported here, was responsible for both the Engineering Group and QJEG during their formative years. It was therefore very apposite that he should be asked to prepare a foreword for this twenty-fifth anniversary of the publication of the Journal.



Foreword

R. Glossop

To date, there is no detailed published history of the origin of the Engineering Group or the discussions which led to the publication of *The Quarterly Journal of Engineering Geology*. To mark the twenty-fifth volume of QJEG, therefore, the current editor has asked me to record the early events as I recall them. In addition to my own memories and records, including correspondence with Peter Sabine in the 1980s, I have drawn on minutes and other documents held by the Geological Society. For completeness, I have also included comments on more recent developments and am grateful to Dr. A. B. Hawkins and those others currently involved for their help.

The early 1960s were a difficult period for the Geological Society. A number of subject specializations were developing within the sphere of geological science and it seemed that unless some action was taken the Society was in danger of losing its reputation as one of the world's most prestigious learned societies. Indeed, it was becoming increasingly clear to the Officers that if a gradual splintering and disintegration was to be avoided, the future role of the Society was most likely to be as a parent or umbrella organization for these new disciplines.

At this time the Officers of the Geological Society were Professor Bulman (President), Drs Sabine and Harland (Honorary Secretaries), Dr Bullerwell (Honorary Treasurer) and Mr Bruce Wilcock (Executive Secretary). Despite the fact that in 1963 the Society membership was only about 3000 Fellows, these far-sighted gentlemen recognized the necessity to set up independent specialist groups to further the Society's development. A circular was sent out to the Fellows to ascertain the interest in the creation of such groups; 50 replies were received from abroad in addition to 150 from the British Isles. Seventy of the returned forms contained suggestions for meetings and discussions, from which it was clear that the topics now considered as 'engineering geology' were of particular interest.

As a result, a formal proposal that an Engineering Group should be created was put to the Geological Society. This was approved, subject to two important conditions; firstly that this and any subsequent Groups should not form splinter organizations and secondly that they should be financially self-supporting. The report for Council for 1963, under the heading *Formation of specialist groups* states:

A decision to go ahead with the formation of specialist groups was taken by the Council during

the year, and the formation of an Engineering Group was initiated, with Mr J. E. Farnaby acting as Honorary Secretary. Other groups are planned.

The 22nd International Geological Congress held in Delhi in 1963 provided an opportunity for further discussion and following a formal announcement in Circular 113 dated 29th January 1964 a Steering Committee was set up under the chairmanship of Professor S. E. Hollingworth, other members being Mr J. E. Farnaby (Secretary), Professor J. G. C. Anderson, Dr W. Davies, Dr L. V. Illing, Dr J. Ineson, Mr D. Taylor Smith and myself. The aims and objects of the Group were discussed and it was proposed that six meetings per year should be held together with an annual regional meeting.

It is interesting to look back on Circular 114 issued on 6th February 1964. Under the sub-heading *Specialist groups* it states:

As announced above, Council is experimenting with a new committee structure. One of the main functions of the *Education and Specialist Groups Committee* is intended to assist in the formation and co-ordination of specialist groups which could be regarded in some cases as subcommittees with dominant non-Council membership including secretaryship. Three examples already illustrate different ways in which this can work.

- (1) The *Engineering Geology Group* announced in Circular 113 (Secretary Mr J. E. Farnaby).
- (2) A *Volcanological Group* is being considered.
- (3) A *Radiometric Age Subcommittee* may be formed, in the first instance to continue the Phanerozoic time-scale symposium project by subsequent supplements in the *Quarterly Journal* and also possibly to compile a register of radiometric ages from the British Isles as an annual or occasional paper in the *Quarterly Journal*.

While not wishing to multiply committees unnecessarily Council encourages those who feel the need to form a specialist group to consult with the Officers. Short-term projects as well as long-term interest may be catered for in some way through the Society. The Society premises may be available in such cases. Any public action in the name of the Society must be by Council on a recommendation channelled through the appropriate committee.

On 4th December 1963, at the instigation of Dr A. T. J.

Dollar and Dr G. P. L. Walker, a Volcanic Studies Group had been set up at Birkbeck College (Proceedings of the Geological Society, No 1620, April 1965). This group was subsequently affiliated to the Society and held its first meeting at Burlington House on 18th March 1964.

The inaugural meeting of the Engineering Group, the first specialist group initiated by the Geological Society, was held on 24th June 1964. The five short papers presented covered a range of topics and the good attendance aided discussion on each. Four symposia followed before the first Regional Meeting, held at Sheffield from 22nd to 24th September 1965. In addition to the lectures this included a field excursion to an opencast coal workings and to the rock excavation trials on the Yorks/Lancs (M62) motorway.

Although, as stated in Circular 114 above, the *Education and Specialist Groups Committee* was expected to assist in the formation and co-ordination of specialist groups, it soon became clear that some internal Group administrative structure was required, particularly in view of the enthusiasm and the imaginative ideas which were emerging. Professor Hollingworth's Committee therefore became a virtual Working Party and Dr Peter Sabine (Honorary Secretary of the Geological Society) and I were asked to draw up a draft Constitution and set of Rules for the Engineering Group. These were accepted by the Committee, approved by Council and, as far as I know, have remained virtually unchanged since.

It is with sadness that I recall the death of Professor Hollingworth in the late summer of 1966. Shortly after delivering his retiring lecture as Head of the Department of Geology at University College, London, he died quite suddenly and unexpectedly before the end of that academic year. His contribution to the setting up of the Engineering Group was considerable and the ideas and guidance he gave as its first Chairman invaluable. He was greatly missed.

Following the death of Professor Hollingworth I was appointed to take over the Chair of the Engineering Group. Shortly after doing so I was asked to attend a meeting of Council when I was told by the President that it was the wish of Council that the Society should publish a Journal devoted to Engineering Geology. At that stage they considered it appropriate that the editing should be entrusted to the Committee of the Engineering Group and I was asked if I regarded this as feasible. I replied that I was sure that we could undertake it as part of our duties but I was uneasy on one point—whether suitable contributors would be forthcoming, in sufficient numbers to ensure the regular issue of a Journal. I remembered only too well that a few of us had got together to set up *Géotechnique* and how a crisis had only narrowly been averted over the publication of Volume 2, No. 1, due to shortage of material.

I therefore suggest that as a start we should call for contributions and when a sufficient number had accumulated, publish a volume of 'Occasional Papers in Engineering Geology' and continue in this manner until enough papers were in hand to justify a regular Journal. This faint-hearted proposal was turned down flat; and rightly so, as later experience was to show. I then suggested that, as in the case of *Géotechnique*, we should start with two Numbers per annum and move on to a quarterly publication when it appeared safe to do so. This proposal was also turned down and I was told that the Journal must be quarterly. I replied for the Committee that we would take on the job.

Having agreed to support the publication of the Journal, the Engineering Group first set up an Editorial Committee which was soon to become independent of the Group. The first meeting took place not at Burlington House but in a room lent by Shell-Mex in their new building on the South Bank. The committee, which I chaired, comprised Mr J. E. Farnaby (Secretary of the Engineering Group), Mr G. Lees (who was appointed Editor) and Dr J. L. Knill; Mr G. E. Satterthwaite attended as the Executive Secretary of the Geological Society.

During the planning of Volume 1 No. 1 an unexpected difficulty arose. By chance rather than appointment, I happened to meet Professor Dunham at Burlington House and he told me that at the 22nd International Geological Congress at Delhi in 1963, the Indians had undertaken to produce a Journal of Engineering Geology. Although nothing further had been heard of it, he thought it improper that we should annex that title and we should therefore find an alternative. I believe it was he who suggested QJEG; I know I did not. However, I reported back to my Editorial Committee and the title they chose, whatever its source, was *The Quarterly Journal of Engineering Geology*. Our suggestion was submitted to Council and accepted. I for one was very pleased, for I felt that the initials QJEG carried memories of the great QJGS.

The first issue of *The Quarterly Journal of Engineering Geology* was dated 20 September 1967, priced 30 shillings. From the beginning the highest quality of presentation was considered important; indeed the first paper contained plates showing the construction of Balderhead Dam and photographs to demonstrate the degradation of the Carboniferous shales after five cycles of alternating drying at 105°C and wetting. A coloured artist's sketch of Kainji Dam, Power Station and Navigation Locks appeared in Volume 1 Number 2 and coloured plates in the following issue.

Dr G. Lees was our first Editor and did an excellent job until 1972 when Professor W. R. Dearman took over. Initially Mr G. Satterthwaite, as Executive Secretary to the Geological Society, was a co-editor with responsibility for the day to day administration of the new Journal; accepting contributions, allocating

referees, receiving galley proofs, urging authors to correct and return them quickly as well as conducting all negotiations with our printers, Arrowsmith of Bristol. Despite his efforts as *de facto* Publications Secretary, we could never be sure of the date of issue and some of the early numbers were long overdue when they appeared. The second part of Volume 1 was dated 30 July 1968 and followed five months later by Number 3 while number 4 was not issued until June 1969. No doubt to some extent this was due to the increased workload the new periodical placed on the permanent staff of the Society. During 1970, however, Dr Lees became sole Editor and took over many of the duties hitherto carried out by Burlington House; the inside front cover of Volume 3 No. 3 being the first to require typescripts to be sent direct to him. In that year all four numbers were issued, albeit dated December and thereafter, thanks largely to the efforts of Dr Lees and subsequent editors, the Journal appeared regularly each quarter.

Initially, in view of the delays in publication, we felt it unwise to canvas too strongly for advertisements. We were grateful that some firms continued to take space, but as subscriptions were also slow in coming in, the Journal operated at a deficit. This angered many Fellows who felt that, as a learned body, the Geological Society should devote itself to pure science and not 'waste' money on developing QJEG. Although I understood their point of view, I was sure it would be possible to increase the circulation until the Journal paid its way and that eventually it might even make a profit and contribute to the Society's funds.

The debate continued during Professor Dearman's editorship when there was considerable pressure on the Geological Society that it should require the Journal to be taken over by others, unless it could be made financially viable. Discussions took place between the Officers of the Society, the Editor and the Chairman and Secretary of the Engineering Group. I understand that a number of possibilities were raised and that at one stage it was suggested Pergamon Press would be keen to take over the Journal.

It is fortunate that the Society was persuaded to continue its support during this difficult period and I know that the Editorial Board at that time made major efforts to increase the subscriptions to the Journal as well as encouraging more advertisements. However, it is reported that lively debates took place as to whether in a learned Journal advertisements were a good or a bad thing. No doubt an additional factor in retaining support was that the Engineering Group were by then making a small surplus from their Regional Meetings. By visiting a new part of the country each year, interest was roused in engineers and geologists working in the different regions and they joined the meetings in larger numbers than would have been the case if we had confined our activities to Burlington House. Those

who contributed were necessarily compelled to finish their texts by a definite date and the better papers were published in the QJEG. Following the formation of the Hydrogeological Group, more hydrogeological papers were being submitted to the Journal and it seemed we were never in danger of running out of steam.

Despite the early production difficulties, Volume 1 comprised 324 pages; Volume 2 spanned 1969/70 but contained 316 pages and all four parts (260 pages) of Volume 3 appeared in 1970. Part 1 of Volume 3 marked a departure from the previous issues of the Journal in that it contained the Engineering Group's Working Party Report on *The Logging of Rock Cores for Engineering Purposes*. In Volume 5 the second Working Party Report was published, on the *Preparation of Maps and Plans in Terms of Engineering Geology*. These reports had a considerable influence on establishing the reputation of QJEG in engineering circles and formed the basis of a number of sections in the British Standard 5930 (*A Code of Practice for Site Investigation*) published in 1981.

QJEG has provided a useful vehicle for the wide dissemination of a number of other reports. In 1978 Volume 11, No 1, the first issue to use the double column format was produced with two different covers so that it could be sold separately as a report on *Engineering Problems Associated with Ground Conditions in the Middle East*. No doubt these sales helped transform the 1977 deficit of £4,500 into a profit of £4,000 that year. Volume 21 included the Working Party Report on *Engineering Geophysics* and sold so rapidly it had to be reprinted; it is hoped that the most recent Working Party Report on *Tropical Residual Soils*, Volume 23 No 1, will be equally successful.

The only Working Party Report not published in QJEG was that on *Sand, Gravel and Crushed Rock Aggregates* (1985) which formed the main theme of the 1981 Engineering Group Regional Meeting held at Bangor. It was expected to be a large volume and in discussion with the Society it was decided that the 220-page report should be produced as Engineering Geology Special Publication No 1. Dr French, as Publications Secretary of the Society, recommended that in future the Proceedings of the Engineering Group Regional Meetings should be produced as Engineering Geology Special Publications and the Proceedings of the very successful 1984 meeting at Surrey University on *Site Investigation Practice: Assessing BS 5930* appeared as Special Publication No 2.

Although the loss of papers from the Regional Meetings clearly had some effect on QJEG, this was not as great as might be thought. The Bristol meeting in 1973 had contributed 263 pages (Vol. 6, Nos 3 & 4) but thereafter the Regional Meetings had not been a major source of papers whereas, as mentioned above, an increasing number of hydrogeological manuscripts were being received. As explained by Dr Chandler in

an editorial in Volume 12, No 1, discussions took place in the late 1970s as to whether the title of the Journal should change to reflect this, but it was decided to retain QJEG's established and much respected title. As from Volume 12, however, the cover has carried the sub-title 'Encompassing Engineering Geology and Hydrogeology'.

On the inside cover of the very first Number of QJEG readers were encouraged to submit papers

"which deal with any of the subjects within the field of geology as applied to civil engineering and mining practice. Case histories and review articles of more general character will also be considered, particularly if these are of a timely nature."

It is interesting to note that in addition to major papers, a recent editorial (Volume 23 No 4) has drawn attention to the fact that the Journal is still keen to receive not only short papers which can be published very quickly but also case histories and technical notes.

The first Number of QJEG also pointed out "It will be editorial policy occasionally to group several related papers together in the same issue". There were considerable editorial problems with organizing such sets of papers, however, hence I note with interest the last Number of Volume 24 includes a thematic set of

papers on the influence of faults on engineering construction and hydrogeology; many of which were read at a joint meeting of the Engineering/Hydrogeology Groups on 4th December 1991.

Before I close I should like to comment particularly on Volume 21, Number 1 which contains the five papers related to weathering read at a meeting at Burlington House to mark the 21st Anniversary of the formation of the Engineering Group. In keeping with the occasion, the President attended the lectures and buffet supper and Mr Farnaby spoke of the formation and early years of the Group. The theme of weathering was chosen for this meeting as it coincided with the retirement from academia of Professor Bill Dearman. It seems most apposite that, having done so much for the Group and the Journal, his contribution should have been thus recognized at this special meeting.

It was my privilege to have been involved in the setting up of both the Engineering Group and QJEG. I am delighted to see the Group is still flourishing and take this opportunity to wish it continued success. Twenty-five years ago I was concerned whether there would be sufficient copy and money to produce a quarterly journal. This is one of the very few occasions on which one is delighted to be proved wrong and I wish the Journal continuing success.