

'NEW BOREHOLES FOR OLD' THE EXCHANGE OF BOREHOLE INFORMATION WITH BGS

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THERE is little doubt that anybody remotely involved in the earth sciences in UK makes use of the published maps of the British Geological Survey. A common criticism of some of these maps is that they do not provide enough detail or that they have not been recently updated. The next step may be to telephone the Survey at Keyworth and see what else they can provide. The information, whether it comes from the published works, or as supplemented from the telephone enquiry, is based solely on data held by the Survey. Although the argument that the resolution of published information is insufficient may be partly due to the scale and type of map available, this is not necessarily the case where enquiry is made directly to the Survey.

THE PROBLEM

The traditional view of the Survey is of geologists tramping across remote hillsides hitting at rocks with hammers. In practice, in areas of soft rock, urban areas and those covered by superficial materials the Survey relies very much on borehole information to develop its understanding of the local geology. Indeed in the absence of outcrop this may be the only information available to its geologists. Therefore, if a meaningful appreciation of these areas is to be had, and this appreciation is to be improved upon, it is necessary for the Survey to have access to such borehole information.

Although the Survey does undertake drilling as part of its investigations, there is a vast number of boreholes put down by the private sector which could also be used with great advantage by them. Legislation already exists which requires that boreholes over 100 feet deep for mineral exploration and over 50 feet for water wells must be notified to the Survey. This enables the Survey to take copies of the logs and to select specimens of borehole material for examination. However, these requirements are only poorly respected by industry. The Survey estimate that they obtain details from perhaps only 10% of the boreholes to which they are legally entitled. This is perhaps understandable when one considers the commercial value which may be attributed to such information. The difficulty is further compounded by occasional ignorance of the legislation or even the pure administrative difficulty of finding the time in a commercial set up to pass the information on.

The information available in urban areas is often more restricted since it is unusual for water wells or mineral exploration to be going on. The only source of data here is generally from temporary exposures during construction and that obtained from civil engineering site investigation boreholes. Unfortunately, there is no comparable legislation that requires the Survey to be informed of, or supplied with, information from excavations or boreholes put down for civil engineering purposes.

There have been attempts in the past to develop local archives of ground information. These range from an interested individual maintaining an annotated map, to structured attempts to collate and interpret the data such as Newcastle University's Tyne and Wear Databank and the London Docklands Development Corporation's computer database. An attempt was made in the 1970's to stimulate interest in a national archive of information by CIRIA. However, this floundered because of the uncertainty within the private sector over the implications of copyright and confidentiality of the data. This resulted in a very limited interest in the development of such a facility.

THE SOLUTIONS?

As a practitioner who makes use of the British Geological Survey as a source of information I feel that it is perhaps time to re-consider the problem of providing a coordinated approach to data accumulation for the national good. It can not be doubted that there has been an increasing need for effective geological input in many decision processes in the latter part of the twentieth century. This need is only likely to increase as engineering projects become larger and more ambitious and the concerns over the environment increase. Unfortunately, this is occurring at a time when increasing government restrictions on the Survey are affecting the continuing improvement of the mapping of the country, which is perhaps the single most important duty of the Survey.

If restrictions eventually prevent the Survey from collecting their own data from which they would improve their understanding of the nation's geology it would cause a stagnation. Such a stagnation could weaken any argument for even their continued existence and might see the Survey reduced to no more than a bookshop selling maps of varying vintage. Yet it is the very organisations within the private sector who use the Survey with most effect which isolate them from a major data source from which significant improvements in their understanding might otherwise be made.

Statutory requirements are themselves unlikely to change this situation. It is only by developing an understanding between the Survey and the private sector that the interchange of information will be two way and effective. It may also be necessary for the Survey to re-evaluate their perceived rôle since at present, their commercial aspirations mean that many in the private sector view the Survey as competition, and as such, even the most stringent confidentiality arrangements will not gain the confidence that will ensure that information is passed on. Similarly, it may be necessary for the Survey to take a stronger lead in the collection process. At present they will visit offices and review any available information and even undertake its copying. However, this is a loose arrangement which needs

to be specifically initiated. It may be that this could be regularised so that the Survey arrive with the milkman and everybody knows what is expected. This would perhaps make the process less time consuming for the private sector and more cost effective for the Survey.

It is most practical for large amounts of data to be managed by computer systems, therefore the increasing use of computers over the last decade within the private sector opens up a further opportunity for the Survey. Many companies carrying out civil engineering site investigation now produce their borehole logs by computer. A good number also retain the information in a computer database. If the principle of free exchange of data is established the data could be readily passed to the Survey in electronic format. Although a limited number of compatibility and conversion procedures may need to be developed initially, once these have been set up, vast quantities of data could be made directly available with all associated savings in data processing and data entry. Indeed, it would now be opportune to take this advantage further and develop cross industry agreements on file content and data transfer standards which can be utilised by systems in the future so that data can be passed more readily between systems and interested parties.

Although little of the borehole data collected each year within the private sector makes its way to the Survey, this is perhaps not just because of a lack of legislation but more probably reflects a general attitude. I hope that by raising these points in open forum that some discussion may be stimulated. There can be little doubt that an improved interchange of information would ultimately benefit both the British Geological Survey and the increasing number of users of geological information with the geological, hydrogeological, engineering, planning, mineral, water and environmental industries.