

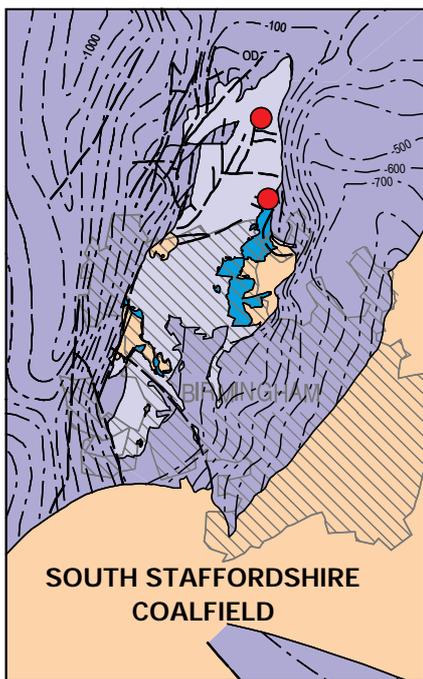
Coal and the Geological Survey

New research perspectives on an historical resource

by Greg Chapman, *Keyworth*

The recent publication of the Coal Resources Map of Britain has been seen as the beginning of an era of co-operation between the BGS and the Coal Authority. However, this is by no means the first time that the Survey has been actively concerned with the country's coal resources

The question of their size, extent and expected lifetime has been a major topic



Coal Resources Map of Britain: detail. Purple, deep coal; mauve, shallow coal; blue, defunct coalfield; red circles, opencast coal mines; contours on the top of the Coal Measures.

of national concern for the past one hundred and fifty years. In the era of the nationalised industry responsibility for these questions lay entirely with the National Coal Board and its successor, British Coal, but before the 1947 nationalisation, coalfield mapping was one of the main aims of the Geological Survey. The Mining Records Office, which was part of the Survey from 1839 to 1883, established for the first time a census of production for the coal industry and this, coupled with the assessment of the total resource, also carried out by the Survey in the 1860s, opened a debate about the adequacy of the resource to meet demand. This led to the establishment of two Coal Commissions, in 1871 and 1905. After the 1905 Coal Commission, the Survey's work on the coalfields was stepped up, as it was again after the First World War. Mapping in the twenties and thirties was increasingly directed towards the coalfields to the extent that four regional offices were established in northern England. The outcome of this work can be seen both in the published 1:50 000 geological series and in the form of the 1:625 000 map of coalfields and iron-ore fields, compiled by the Ministry of Town and Country Planning and published in 1945, which was based on, among other sources, the maps of the Geological Survey. That map was the immediate official predecessor, by 54 years, to the Coal Resources Map of 1999.

In recent years the BGS has returned to field work in the coalfields: mapping in urban areas, in advance of redevelopment, has become an important aspect



Steve Dumbleton, BGS © NERC

Minewater discharge into Brickhouses Brook, Limb Valley, Sheffield, February 1999. Jayne Walker of Sheffield University is seen sampling the discharge.

of the BGS's work. This is often undertaken in areas of old coal workings, where remaining coal may still be recoverable and where, equally, the old workings can present a significant hazard in the form of voids at a relatively shallow depth. The BGS also has a number of other practical research initiatives. Modern technology is being applied to the problems of tracing and predicting minewater movement in a project in the East Midlands Coalfield and significant progress has been made in the detection of old shafts by thermal imaging. The BGS is well placed to participate in future research into *in situ* gasification of coal, which could be combined with the underground storage of carbon dioxide as a way of dealing with greenhouse gas problems. In the area of resources, collaboration with the Coal Authority continues on the development of the digital Coal Resources Map product. A BGS report on possible coalbed methane resources in the UK is the most comprehensive work on this topic. The BGS is also receiving most of the paper borehole records and tapes of seismic data from the Coal Authority for curation in a new building on the Keyworth site, thus restoring to the Survey the important archival role for coal records that it held in the nineteenth century.