



**British
Geological Survey**
NATURAL ENVIRONMENT RESEARCH COUNCIL



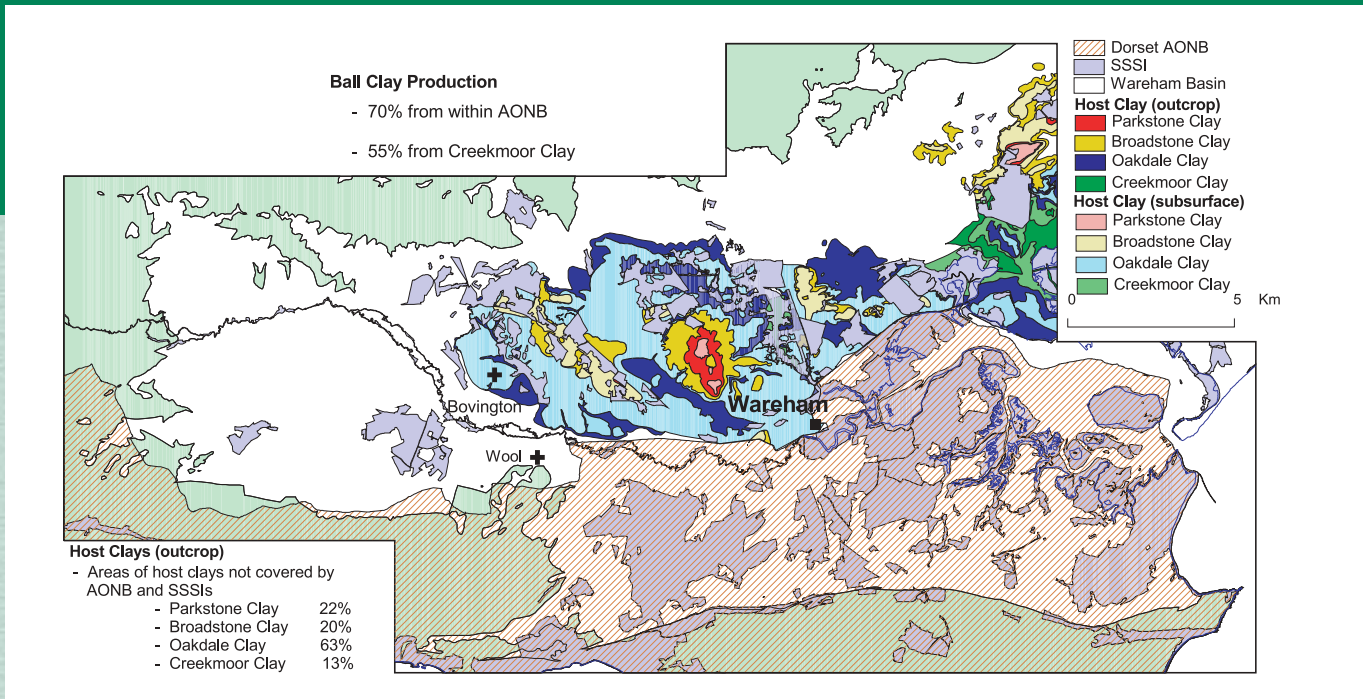
Results of a survey commissioned by the Minerals and Waste Planning Division
of the Department for Transport, Local Government and the Regions



Sustainable Development Issues for Mineral Extraction in the Wareham Basin of East Dorset

Ball clay-bearing host clays not constrained by SSSIs and AONB.

The Wareham Basin of East Dorset contains internationally important but scarce deposits of ball clay — a clay used in the manufacture of high quality ceramics — together with important sand and gravel resources. Elsewhere in the UK, ball clay is confined to only two small areas in Devon. The Wareham Basin is also subject to very extensive landscape, and international and national nature-conservation designations. These include the Dorset Area of Outstanding Natural Beauty, and numerous Special Areas of



Conservation and Special Protection Areas designated in accordance with the European 'Habitats' and 'Birds' directives, respectively. The constraints on mineral extraction are, therefore, very severe and it is becoming increasingly difficult to identify acceptable sites for future mineral working.

The Department for Transport, Local Government and the Regions wished to examine mineral resource and policy issues in the area in order to identify the best means of approaching this problem. The British Geological Survey was commissioned, in association with the Centre for Ecology and Hydrology, Mineral & Resource Planning Associates and Dr E C Freshney, to undertake a detailed study of the inter-relationships of the mineral, land-use and environmental resources of the Wareham Basin and to make recommendations for the future.

The study recommends:

- that Government should take a view on the national importance of ball clay;
- the results of the study should be used to assist the identification of the extent of commercial ball clay deposits in the area, and the location of these in relation to landscape and nature conservation designations;
- the Geographical Information System and associated database developed should be maintained to provide a framework for planning, and specifically mineral planning, in the area;
- that the options for the supply of ball clay, including alternative sources and materials, should be monitored and reviewed;
- that research on the restoration of mineral workings, especially the re-creation of natural habitats in isolation and as part of an integrated resource and rehabilitation programme, should be promoted by the planning process; and
- that consideration of whether the current approach to safeguarding ball clay resources is adequate.

If these issues cannot be resolved, then it is likely that over the next ten years or so ball clay working in this area will gradually decrease.

The research included detailed geological mapping, a small borehole and pitting programme, together with associated sampling and analytical work, the creation of a large borehole database and the collation of a large amount of data on the environmental constraints. To facilitate the interaction and interpretation of the large amounts of spatially-related data collected, a Geographical Information System (GIS) has been designed and incorporates the main elements of the data to facilitate their rapid analysis. It is intended that the reports and their associated maps and databases, will deliver information that will assist sustainable resource management, planning and policy development in the Wareham Basin.



Ball clay being selectively extracted from the Creekmoor Clay, Doreys Pit.



Restored ball clay working, Squirrel Cottage pit, East Holme.

The approach and results of this research form an example of where environmental and conservation issues have a major impact on the extraction of minerals. The principles of this study may be applied to other areas where the extraction of minerals is subject to similar constraints.



Winfrith Heath.



Doreys pit working Creekmoor Clay.

