

BERKSHIRE (comprising West Berkshire, Reading, Wokingham, Windsor & Maidenhead, Bracknell Forest and Slough)

Mineral Resource Information in Support of National, Regional and Local Planning

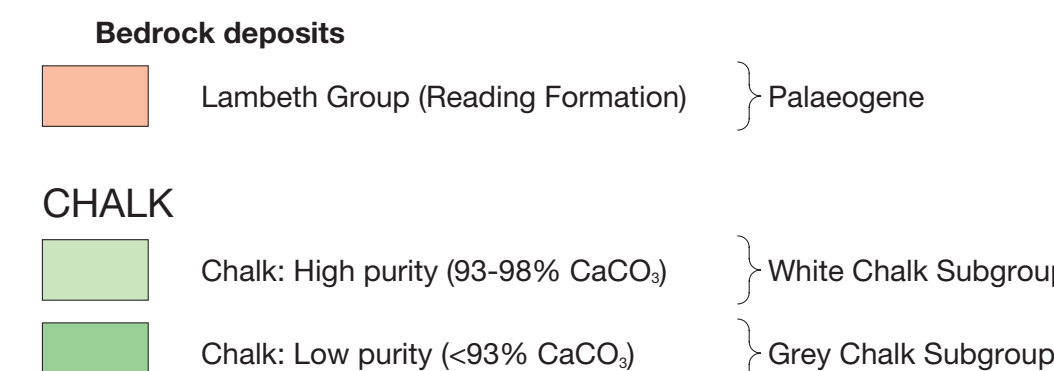
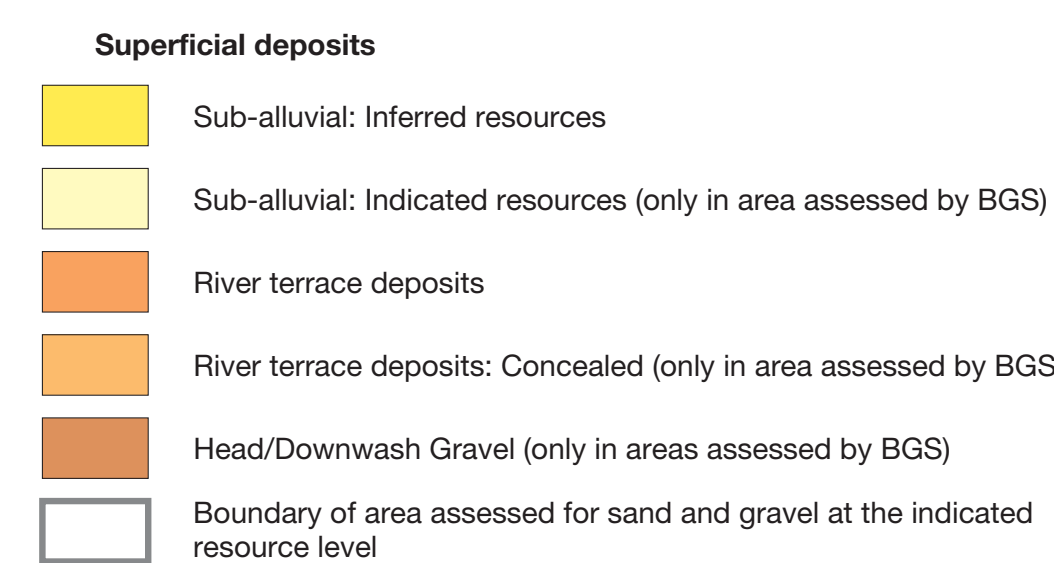
Mineral Resources Scale 1:100 000

Compiled by F.M. McEvoy, A.J. Bloodworth, S.J. Mathers, D.G. Cameron, S.F. Hobbs, D.J. Evans, G.K. Lutt and D.E. Highley. Project Leader: D.E. Highley. Digital cartography by N.A. Spencer, British Geological Survey, Published 2003. This map comprises part of a summary of the Mineral Resources of the South East England Region. For further information see www.mineralsUK.com

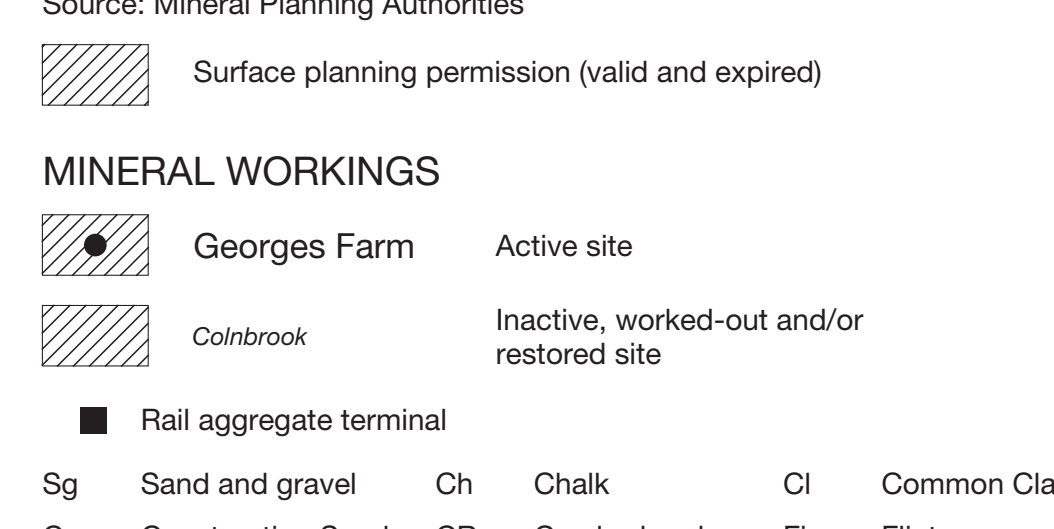
BIBLIOGRAPHIC REFERENCE McEvoy, F.M. and 7 others, 2003. Mineral Resource Information in Support of National, Regional and Local Planning: Berkshire (comprising West Berkshire, Reading, Wokingham, Windsor & Maidenhead, Bracknell Forest and Slough). British Geological Survey Commissioned Report GR030704W.

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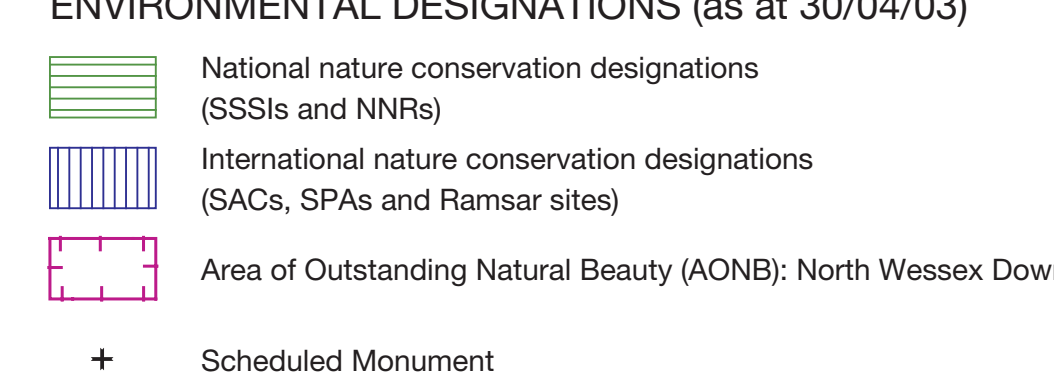
SAND & GRAVEL



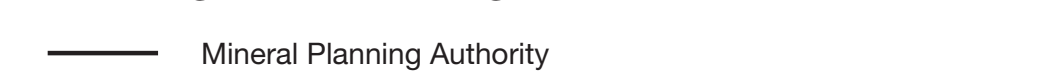
MINERAL PLANNING PERMISSIONS (as at 01/09/03)



ENVIRONMENTAL DESIGNATIONS (as at 30/04/03)



ADMINISTRATIVE AREAS



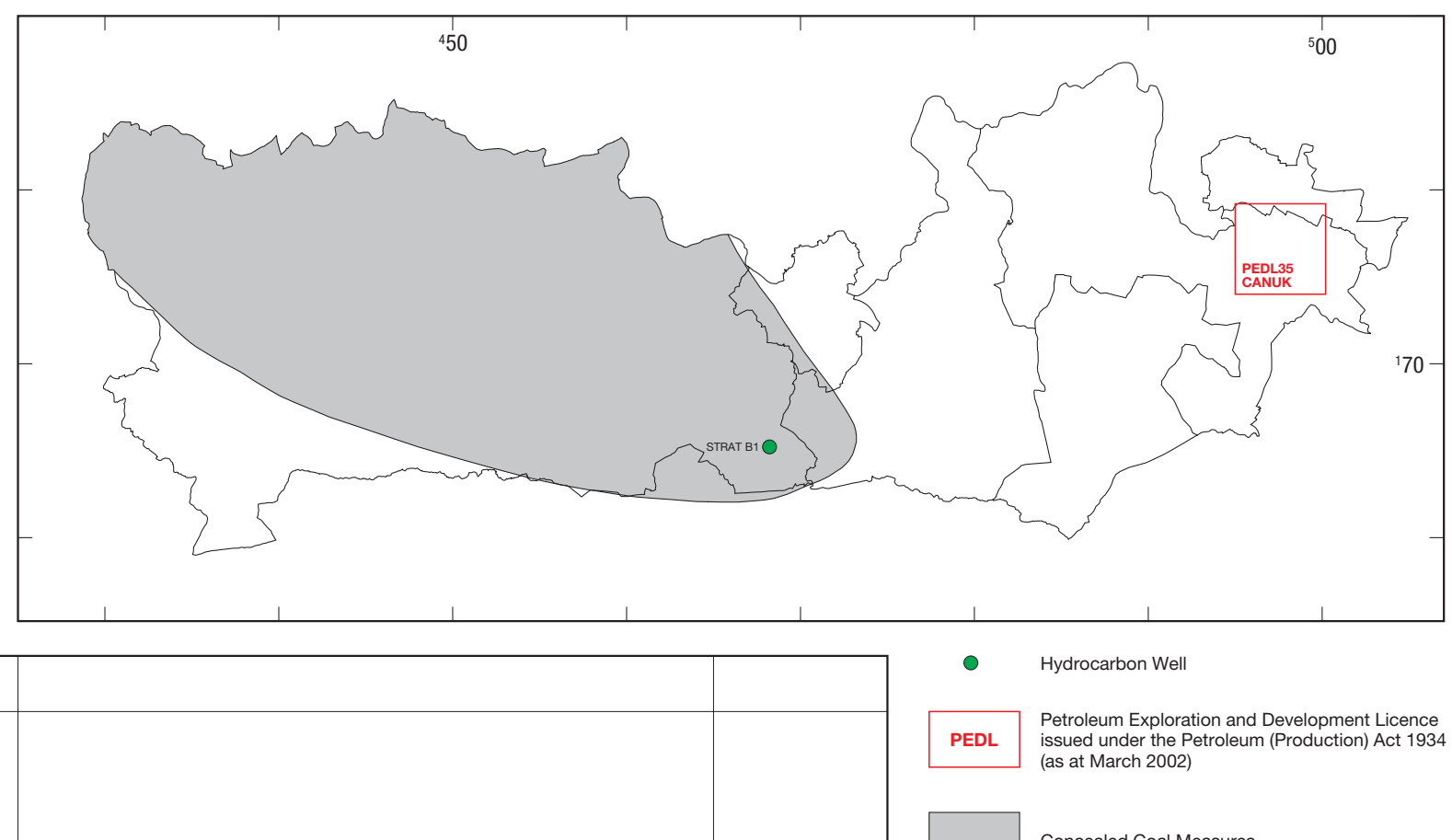
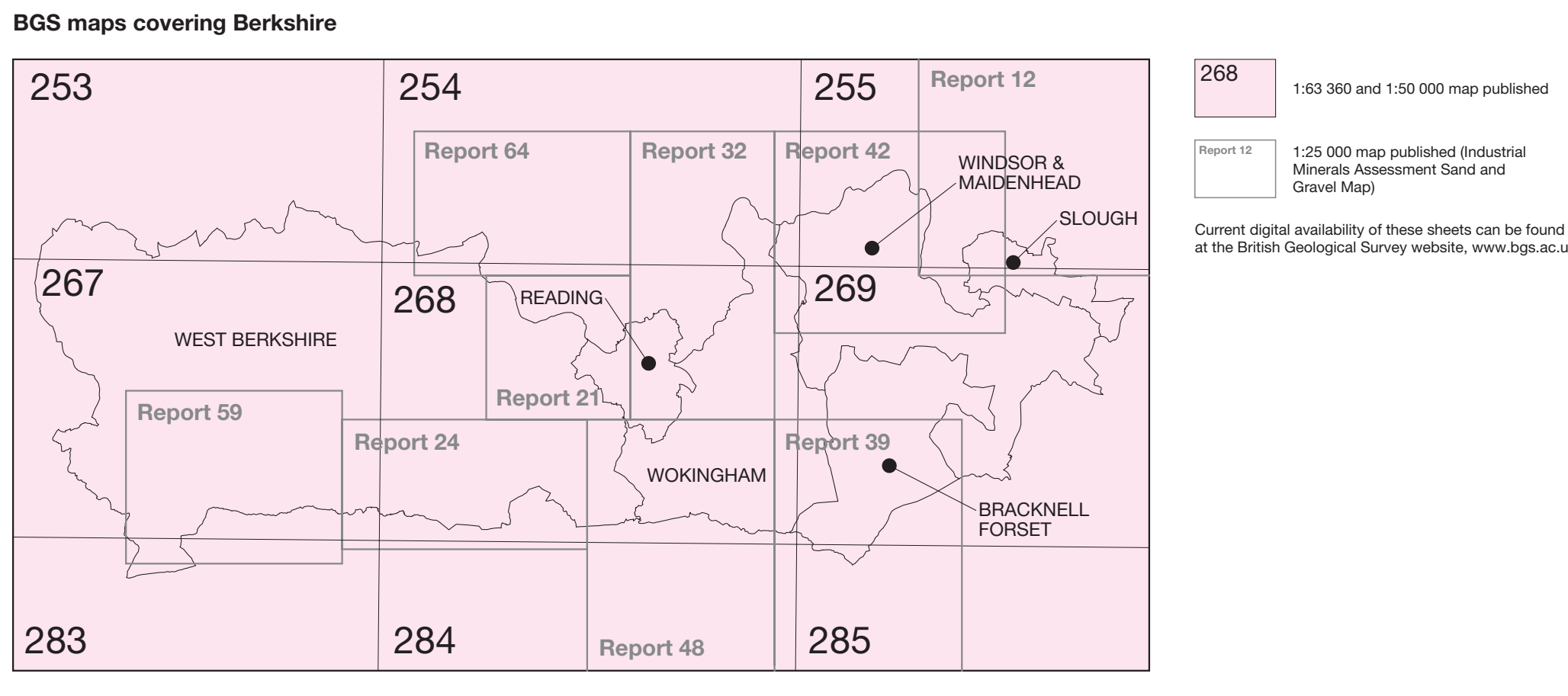
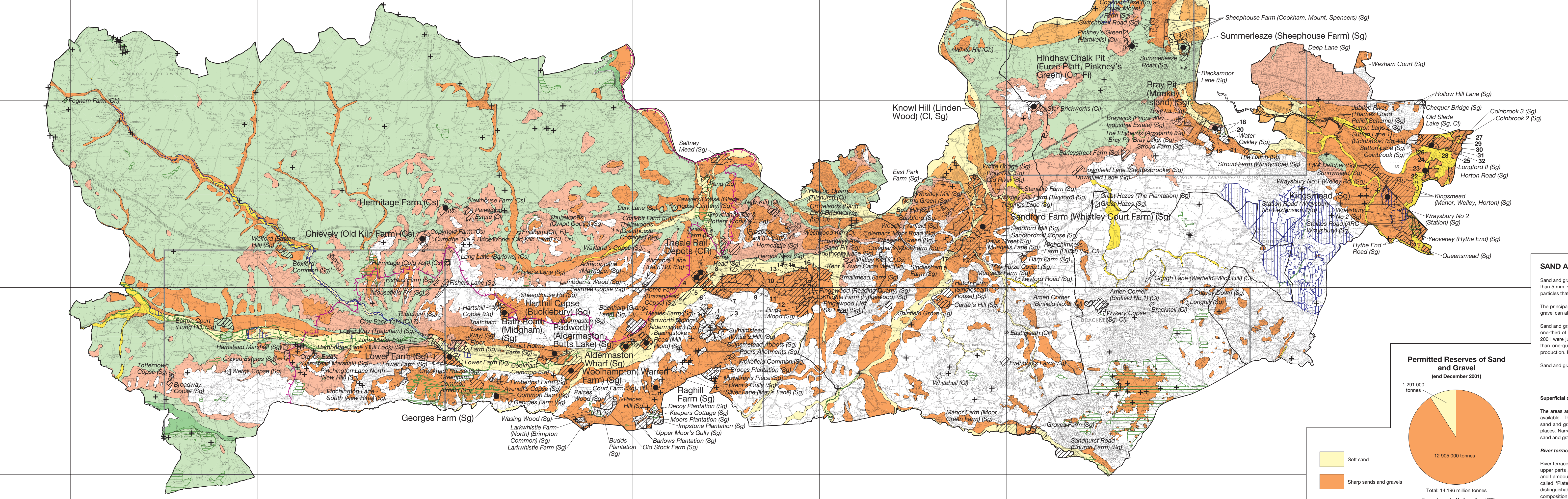
Aims and Limitations

The purpose of the maps in this series is to show the broad distribution of those mineral resources which may be of current or potential economic interest and to relate these to selected nationally-recognised planning designations. The maps are intended to assist in the identification and preparation of development plan policies in respect of mineral extraction and the protection of important mineral resources against sterilisation. They bring together a wide range of information, much of which is scattered and not always available in a convenient form. The maps have been produced by collation and interpretation of mineral resource data primarily held by the British Geological Survey. Information on the extent of mineral planning legislation and the permitted reserves has been obtained from the relevant Mineral Planning Authority (MPA). Some of these permissions may have lapsed or expired. The status of individual areas can be ascertained from the appropriate MPA. Location information on national planning designations has been obtained from the appropriate statutory body (Countywide Agency, English Nature and English Heritage). For further information the relevant body should be contacted. The mineral resource data presented are based on the best available information, but are not comprehensive and their quality is variable. The inferred boundaries shown are, therefore, approximate. Mineral resources defined on the map delineate areas within which potentially workable minerals may occur. These areas are not of uniform potential and also take no account of planning constraints that may limit their working. The economic potential of specific sites can only be proved by a detailed evaluation programme. Such an investigation is an essential precursor to submitting an application for planning permission for mineral extraction. Areas having no mineral resource potential, but some isolated mineral workings may occur in these areas. The presence of these operations generally reflects very local or specific situations. The map is intended for general consideration of mineral issues and not as a source of detailed information on specific sites. The map should not be used to determine individual planning applications or to taking other decisions on the acquisition or use of a particular piece of land, although it may give useful background information on mineral resources and set a specific proposal within context.

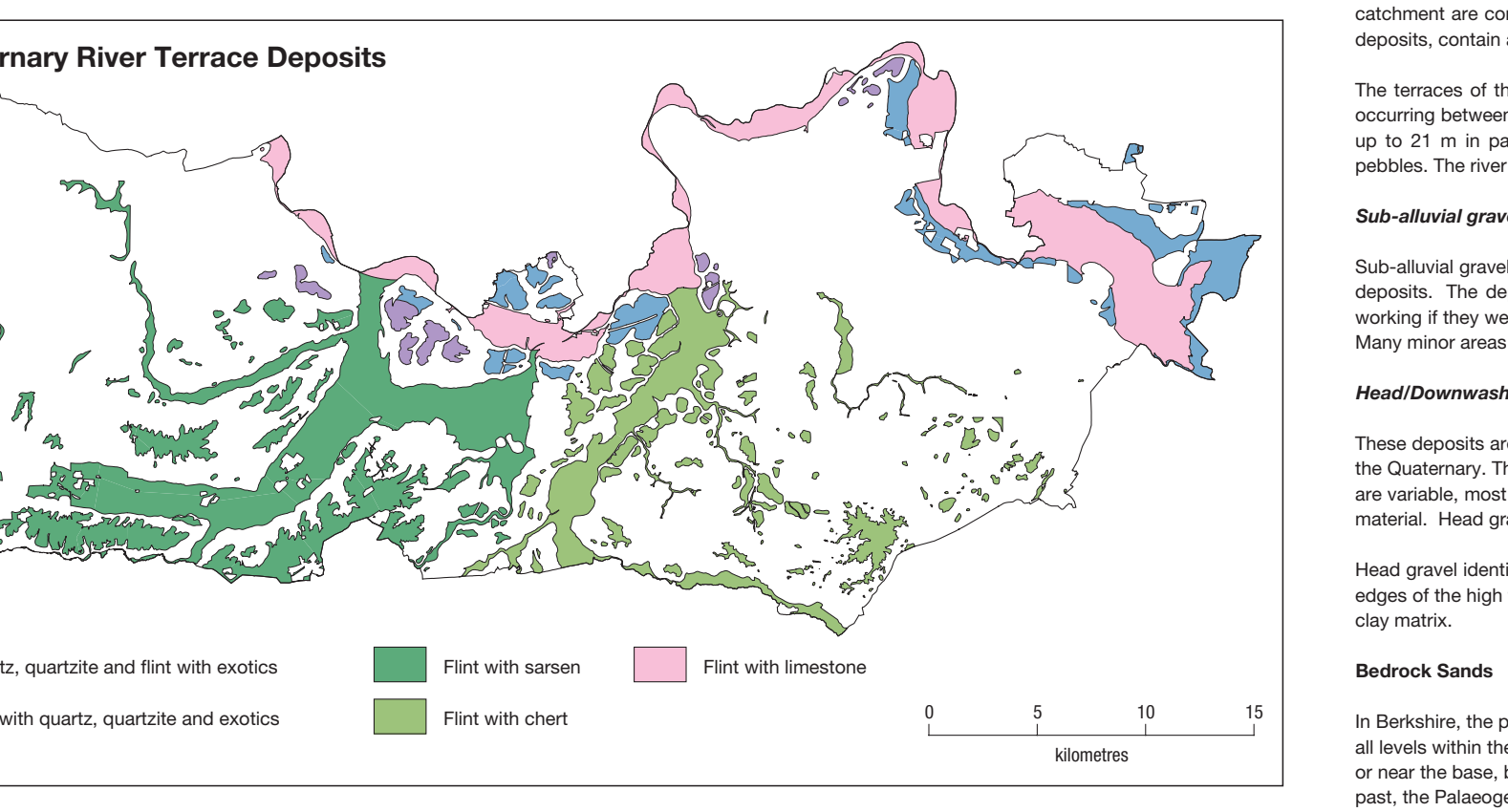
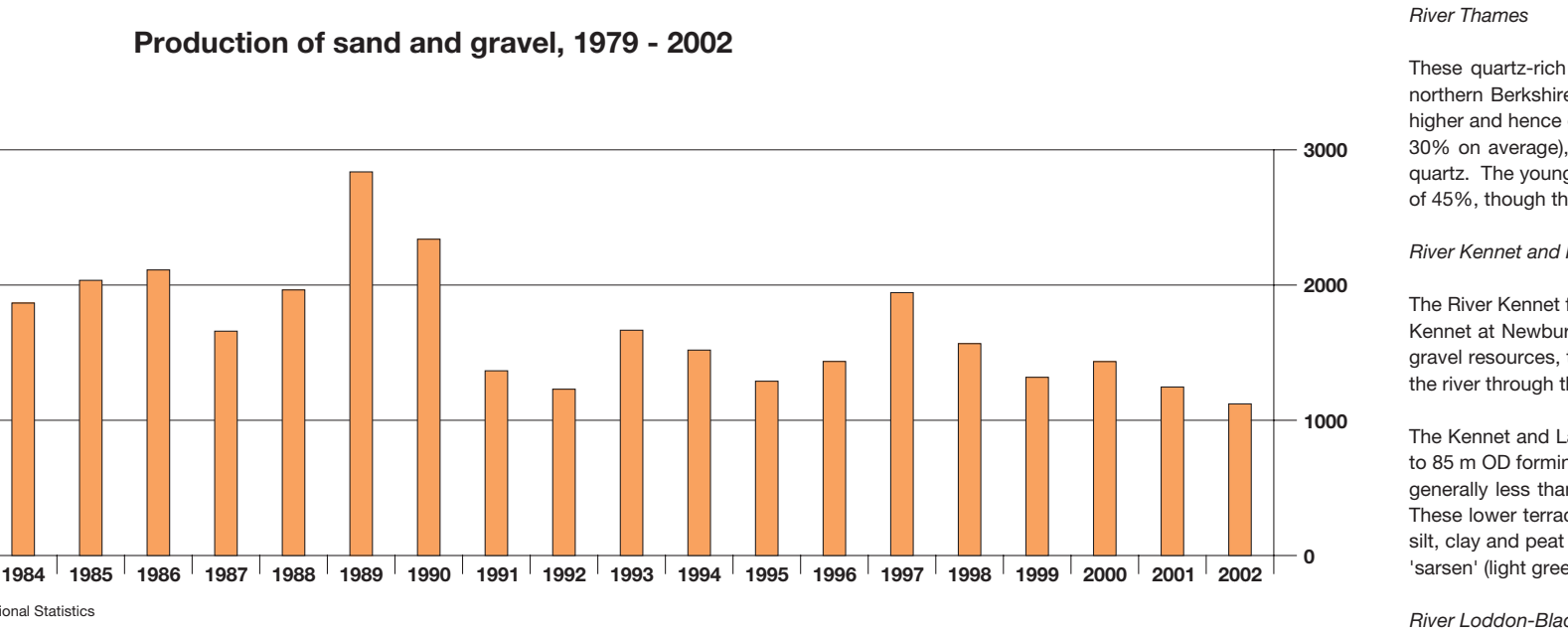
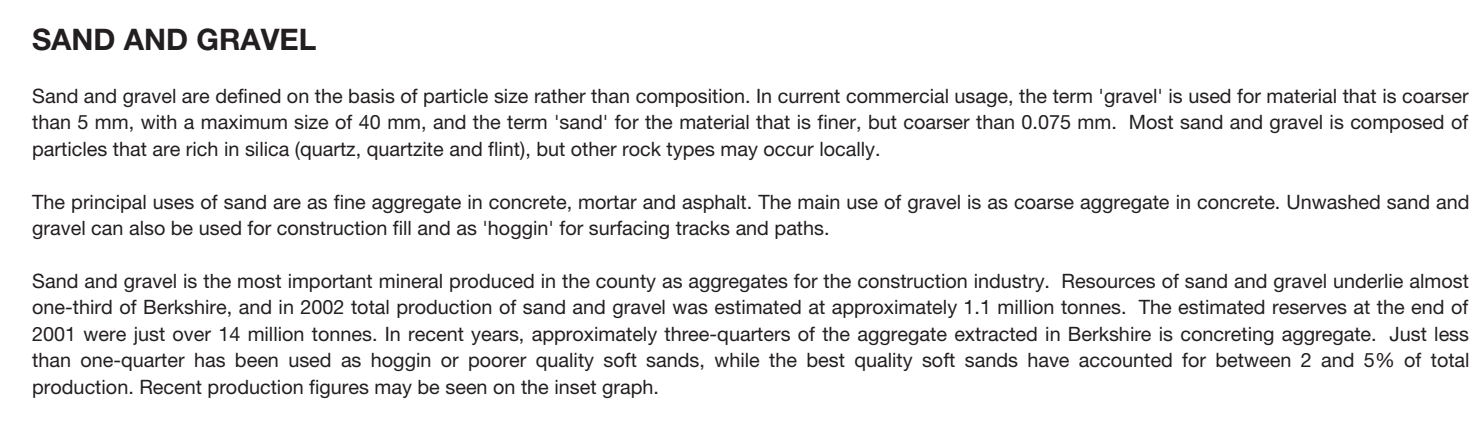
CHALK Chalk is a relatively soft, fine-grained, white limestone, consisting mostly of the debris of planktonic algae. In Berkshire, chalk crops out across a third of the county, particularly in the west and northeast where it forms the prominent natural features of the Chalk Downs. Approximately two thirds of the chalk outcrop in Berkshire lies within the North Wessex Downs AONB. The chalk is divided into the Grey Chalk (formerly the Lower Chalk and White Chalk (formerly the Middle and Upper Chalk Subgroups). The White Chalk subgroup is the most extensive with the underlying Grey Chalk Subgroup only cropping out as narrow bands at Wilbury Hill and Lambourn, in the west of the county and at Slough in the north of the county. The Grey Chalk Subgroup is characterised by relatively high clay content, particularly toward the base, and is classified as 'low purity' limestone (<93% CaCO3). The overlying White Chalk Subgroup is of a higher purity (93-98% CaCO3). Flints are common in the White Chalk Subgroup. In Berkshire, chalk was a mineral of some local importance. The use of chalk for making adobe loamly sand, for burning to produce agricultural lime and as a source of lime for building was widespread and goes back to Roman times. In the past few decades chalk has been extracted only on a small-scale for use as agricultural lime and as construction fill. Some of the voids produced by past extraction have been subsequently utilised for the disposal of inert domestic and industrial waste. Currently, chalk is produced in relatively small quantities from one quarry at Hindray, Maidenhead. Extraction is entirely from the White Chalk Subgroup for use as agricultural lime. Approximately 20 000 tonnes of chalk was produced in 2000.

BUILDING STONE The county has few rocks that are suitable for building stone and has always been an importer of stone for building purposes e.g. Kentish Ragstone for Windsor Castle. In the past firms from the Upper Cretaceous succession, or reworked into later deposits, were used extensively for building together with quartz-cemented sandstones (sandstone) and pebbles beds (sandstone) from the Palaeogene succession. Today, flint nodules greater than 8 cm are scattered on a small-scale from chalk produced at the quarry at Hindray, Maidenhead. Currently, there are no building stone quarries operating in the county.

BRICK CLAY The term 'brick clay' is used to describe clay used predominantly in the manufacture of bricks and, to a lesser extent, roof tiles and clay pipes. These clays may sometimes be used in cement manufacture, as a source of construction fill and for firing and sealing landfill sites. The suitability of a clay for the manufacture of bricks depends principally on its behaviour during shaping, drying and firing. This will dictate the properties of the fired brick such as strength and frost resistance and, importantly, its architectural appearance. Most facing bricks, engineering bricks and related clay-based building products are manufactured in large automated factories. These represent a high capital investment and are increasingly dependent thereon, on raw materials with predictable and consistent firing characteristics in order to achieve high yields of saleable products. Bleaching different clays to achieve improved durability and to provide a range of fired colours and textures is an increasingly common feature of the brick industry. Continuity of supply of consistent raw materials is of paramount importance. Common clay was one of the main minerals produced in Berkshire up until the 20th century when numerous small workings for clay for making bricks and tiles existed in a variety of formations. The most important were from large pits in the melted clays of the Lambourn Group (mostly Reading Formation) situated mainly near Reading and Tilehurst. Some of these pits were worked for over 200 years. Other local sources of brick clay have included the London Clay, 'plastic clays' within the Bagshot Formation and the Longley Hill (formerly mapped as Bracknell). The last brick and tileworks at Know Hill between Reading and Maidenhead were closed in the 1990s. Although the Lambourn Group is predominantly clay, it also contains interbedded sands which is locally important as a source of aggregate and this is shown on the back of the map (see Sand and Gravel text box).



HYDROCARBONS Conventional Oil and Gas The county of Berkshire occupies a large tract of land to the north of a prominent line of an echelon anticlinal structures across southern Britain. These folds mark the northern limits of the Palaeogene (Alpine) inversion of the main faults that controlled the development of the Wessex Basin during the early Mesozoic. Palaeozoic basement lies at shallow depths beneath the county to the north of these faults, forming part of the ancient London-Basins Massif. At crop, thick Palaeogene deposits of the London Basin crop out over the southern half of the county with gently southward-sloping Cretaceous strata found across the northern half. A reasonably extensive grid of seismic reflection data of varying vintage exists across the county. However, its setting over the London-Basins Massif, to the north of the main Wessex Basin, with shallow basement and only a thin Mesozoic cover lacking both source and reservoir rocks and deep burial, means the hydrocarbon prospectivity of the county is poor. The changing of any prospective structures, therefore relies upon long migration pathways from the thicker and more deeply buried source rocks developed to the south in the main Wessex Basin, northwards into the county across the main basin bounding faults. To date, Esso with the Strat B well (1986), remains the only oil company to drill in the county. Currently, the only licence block in the county is PEDL8, operated by CANUK (see inset map), covering an area that includes Windsor Castle. Coalbed Methane (CBM) potential Strata of Lower Palaeozoic, Upper Devonian and early Carboniferous age form the pre-Permian and Mesozoic basement that underlies the eastern parts of the county. Over the western half of the county however, Westphalian Lower to Middle Coal Measures forming part of the Oxfordshire/Berkshire Coalfield are present beneath the Permian and Mesozoic cover. Coals are present, however, they are thin with gas-in-place contents of 0.6-1.1. The Coal Measures succession is, therefore, classed as unprospective for Coalbed Methane. Whilst the Palaeogene succession elsewhere in the southern areas of the Wessex Basin and southern England contains lignite and traces of gas have been encountered during drilling, little if any lignite is known in the Palaeogene succession of the Berkshire area. Licensing The Department of Trade and Industry grants licenses for exclusive rights to explore for and exploit oil and gas offshore within Great Britain. The rights granted by inshore licences do not include any rights of access, and the licensees must also obtain any consent under current legislation, including planning permissions. Licensees wishing to explore for or drill through coal seams for coalbed methane and abandoned mine methane must also seek the permission of the Coal Authority.



KEY TO PLANNING PERMISSIONS NUMBERED ON MAP

- 1 Field Farm (Suhamead) (Sg)
2 Sulhamstead Abbots (Mast House Cottage) (Sg)
3 Sulhamstead Abbots (Sg)
4 Haywards Farm (Woolwich Green) (Sg)
5 Woolwich Green Farm (Driver's Deer Bed) (Sg)
6 Woolwich Green Farm (Buckingham Lodge) (Sg)
7 Woolwich Green (Sg)
8 Harrow Hill (Shalford Farm) (Sg)
9 Cotswold Down (Cotswold) (Sg)
10 Field Farm (Theale) (Sg)
11 Knights Farm (Sg)
12 Amersham Farm (Sg)
13 Burgh Field Bridge (Swan Irv) (Sg)
14 Wexley Farm (Sg)
15 Swallow Farm (Sg)
16 Hovey Farm (Sg)
17 Loddon Bridge Farm (Loddon Stud Farm) (Sg)
18 Water Oakley (Berkhamstead) (Sg)
19 Bray Pt (The Barn) (Sg)
20 Water Oakley (Gardens) (Sg)
21 Water Oakley (Bridges) (Sg)
22 Poyle Manor South (Sg)
23 Poyle Manor North (Sg)
24 Poyle Manor Farm (Sg)
25 Egghay Farm (Sg)
26 Sutton Lane 1 (Colnbrook) (Sg, C)
27 Sutton Lane 2 (Sg)
28 Tansley Farm (Sg)
29 Ottes Lake North and South (Sg)
30 Colnbrook Great Pit (Sg)
31 Colnbrook West Lake (Sg)
32 Tansley Farm (Sg)

PLANNING PERMISSIONS FOR MINERAL EXTRACTION

The extent of all known extant and former planning permissions for mineral working is shown on the map, irrespective of their current planning or operational status. The polygons were digitised by BGS from Planning Permissions and other documents supplied by the Berkshire Joint Strategic Planning Unit and the Unitary Authorities in the county area. Any queries regarding the sites shown should be directed to the Unitary Authorities (i.e. the Borough and District Councils) at the addresses shown below. The polygons cover active, former and restored mineral workings and, occasionally, unworked deposits. Planning Permissions represent areas where a commercial desire to work mineral has been shown, as a successful application has been dealt with through the provisions of the Town and Country Planning legislation and the permitted reserves will have been depleted to a greater or lesser extent. The current planning list is not qualified on the map but is available in the underlying database. Contact addresses: Berkshire Joint Strategic Planning Unit, c/o Royal Borough of Windsor & Maidenhead, St Mary's House, The Town Hall, St Ives Road, Maidenhead SL6 1RF, Tel: 01628 766651, Fax: 01628 766739, web address: www.berks-jspu.gov.uk; English Nature, Northminster House, Northminster, Peterborough, PE1 1UA, Tel: 01733 455000, Fax: 01733 455120, Web page: www.english-nature.gov.uk; Bracknell Forest Borough Council, Environment Department, Time Square, Market Street, Bracknell RG12 1JD, Tel: 01344 426462, Fax: 01344 381104, web address: www.bracknell-forest.gov.uk; Reading Borough Council, Planning Department, Civic Centre, Reading RG1 7TU, Tel: 0118 939 0000, Fax: 0118 968 9770, web address: www.reading.gov.uk; Slough Borough Council, Development & Consumer Protection Department, PO Box 570, Slough SL1 1FA, Tel: 01753 502288, Fax: 01753 875869, web address: www.slough.gov.uk; West Berkshire Council, Planning and Transport Strategy Department, Council Offices, Market Street, Newbury RG14 5LD, Tel: 01635 424000, Fax: 01635 519005, web address: www.westberks.gov.uk; Royal Borough of Windsor & Maidenhead, North Planning Department, Acton House, York Road, Maidenhead SL6 1PS, Tel: 01628 796000, Fax: 01628 796430, web address: www.rbwm.gov.uk; Royal Borough of Windsor & Maidenhead, South Planning Department, York House, Sheet Street, Windsor SL4 1DD, Tel: 01628 683585, Fax: 01628 683565, web address: www.rbwm.gov.uk; Wokingham District Council, Environment Services Department, Civic Offices PO Box 153, Shaft End, Wokingham RG40 1WR, Tel: 0118 974 6000, Fax: 0118 974 6484, web address: www.wokingham.gov.uk

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Digital SSSI, NNRI, SAC, SPA and Ramsar boundaries © English Nature 2003. Contact address: English Nature, Northminster House, Northminster, Peterborough, PE1 1UA, Tel: 01733 455000, Fax: 01733 455120, Web page: www.english-nature.gov.uk; Positions of Scheduled Monuments as 8th August 2002 as supplied by English Heritage. The majority of monuments are plotted using a control NGR symbol. Consequently the actual area and/or length of a monument protected by the legal constraints of scheduling control are represented here. Monuments scheduled since that date are not accounted for. © Copyright English Heritage. English Heritage, 23 Savile Row, London, W61 2ET, Tel: 020 7973 3132, Web page: www.english-heritage.org.uk; Digital AONB boundaries © Countryside Commission 1988 (now Countryside Agency). Countryside Agency, John Deaver House, Crescent Place, Cheltenham, Gloucestershire, GL50 3RA, Tel: 01242 521351, Fax: 01242 584270, Web page: www.countryside.gov.uk; Published for the Office of the Deputy Prime Minister © Queen's Printer and Controller of Her Majesty's Stationery Office 2003. This publication (excluding logos) may be reproduced free of charge in any form or medium for research, private study or circulation within an organisation. This is subject to it being reproduced accurately and not used in a misleading context. The material must be acknowledged as Crown Copyright and the title of the publication specified. Applications for reproduction should be made to the Office of the Deputy Prime Minister, Her Majesty's Stationery Office, 91 Clements House, 1-16 Colindale Avenue, London NW9 1PG, Fax 01863 723000 or e-mail: copyright@hmso.gov.uk