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Contact address: (comprising Lancashire, Boroughs or English Heritage, 23 Savile Row, London, WS1 2ET, Tel: 020 7973 3132, Web page: www.english-heritage.org.uk Blackpool and Blackburn with Darwen Digital AONB boundaries © Countryside Commission 1986 (now Countryside Agency). Contact address: Countryside Agency, John Dower House, Crescent Place, Cheltenham, Gloucestershire, GL50 3RA, Tel: 01242 521381, Fax: 01242 584270, Web page: www.countryside.gov.uk Mineral Resource Information in Support of National, Coal Licence Areas © The Coal Authority 2006. Regional and Local Planning Contact address: The Coal Authority, 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG, Tel: 01623 427162, Fax: 01623 638338 Mineral Resources Published for the Office of the Deputy Prime Minister © Queen's Printer and Controller of Her Majesty's Stationery Office 2006. Scale 1:100 000 This publication (excluding logos) may be reproduced free of charge in any format 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. Compiled by F.M. McEvoy, D.J. Minchin, D.J. Harrison, D.G. Cameron, D.J. Evans, Applications for reproduction should be made in writing to: The Copyright Unit, Her Majesty's Stationery Office, St Clements House, R.G. Crofts, G.K. Lott, S. Hobbs and D.E. Highley. 1-16 Colgate, Norwich NR3 1BQ. Fax 01603 723000 or e-mail: copyright@hmso.gov.uk Project Leader: D.E. Highley. Digital cartography by N.A. Spencer, British Geological Survey. Published 2006. COA This map comprises part of a summary of the 'Mineral Resources of the North-West of England Region'. Southwest and southeast Lancashire lie within the South Lancashire and Burnley (Wigan Basin) coalfields respectively. The For more information see www.mineralsUK.com porthwestern limits of the South Lancashire Coalfield crop out in the south of the county in the Chorley to Ormskirk area. Pennine Lower to Middle Coal Measures dip to the south, where they eventually become concealed beneath the Permo-Triassic of the Cheshire Basin. In excess of 30 named coal seams occur within the South Lancashire Coalfield, the most important of which occur in the middle and upper parts of the Pennine Lower Coal Measures and throughout the Pennine Middle Coal Measures, with a number of seams in excess of 2 m in thickness. Coals from the Pennine Upper Coal Measures are generally thin, the exception being the Worsley Four Foot, which can be up to 1.6 m in thickness. Within Lancashire, the Pennine Lower Coal Measures predominantly occur. Although the county was **BIBLIOGRAPHIC REFERENCE** formerly an important coal mining area there are no significant current mining operations, opencast or underground. There has been no opencast coal extraction since the early 1990s. Very small scale mining is carried out intermittently at Hill Top Colliery, near Bacup. The McEvoy, F M, and 8 others. 2006. Mineral Resource Information for National, Regional and Local Planning: Lancashire (comprising future potential for opencast working is limited by the lack of thick seams in the basal part of the Pennine Lower Coal Measures, the ancashire and the Boroughs of Blackpool and Blackburn with Darwen). British Geological Survey Commissioned Report CR/05/144N. overlying thick drift deposits and the extensive urban development. /ithin the Burnley Coalfield, the main coal-bearing interval occurs within the Pennine Lower Coal Measures (Upper Carboniferous) and Production of this map was commissioned and funded by the Office of the can be up to 650 m in thickness. The seams occur from surface and are overlain by thick superficial drift deposits, particularly in the west. The seams are often of excellent quality but are relatively thin. The most important seams are the Burnley Four Foot, Ardley, and Deputy Prime Minister (Contract MP0677). Lower and Upper Mountain seams. The Burnley Coalfield which has been extensively worked in the past, is not currently worked. The last deep mine, Hapton Valley Colliery, was closed in 1982. The potential for future underground coal mining is low due to extensive mining in the past and the lack of good, thick seams. Although large areas of shallow coal has been sterilised by urban development and thick overburden occurs in parts, some potential for future opencast sites remains in the east of the county. SAND & GRAVEI Significant parts of the Burnley Coalfield and parts of the South Lancashire Coalfield are now considered to be unproductive (see inset map). Locally, however, small opencast coal prospects may exsist within these areas Superficial deposits A further small area of unprospective coalfield occurs in the northeast of the county, part of the Ingleton Coalfield. This coalfield has limited extent and little coal remains and is only shown on the Hydrocarbons inset map. Sub-alluvial: Inferred resources River Terrace deposits PEA Peat is an unconsolidated deposit of compressed plant remains in a water-saturated environment such as a bog or fen. Bogs occur in Glaciofluvial deposit areas where inputs of water (almost exclusively from precipitation) have a low nutrient content and where the rainfall is sufficient to maintain the ground surface in a waterlogged condition. The vegetation is characterised by acid-tolerant plant communities of which the moss genus Sphagnum is dominant. The two main types of bog are (i) raised bogs, characteristic of flat underlying topography and found on plains and broad valley floors and (ii) blanket bogs, which occur mainly in upland areas where conditions are suitably cool and wet. Many lowland raised bogs have been designated as sites of international and national conservation areas. Peat is dug in England mainly from raised lowland bogs, almost entirely (98 per cent) for horticultural purposes, either as a growing medium, or as a soil improver. Lancashire, extensive lowland bogs have been mapped in the extreme southwest and west of the county. Many of the peat deposits have been worked extensively in the past and today a large percentage of these areas have been "reclaimed" to agricultural land. Due to the unavailability of up to date linework defining the extent of the reclamation, the entire resource as mapped is shown on the map Today, peat is worked at Simonswood Moss, northwest of Kirkby. Areas of upland blanket peat are not shown. Crushed rock and Building stone (Upper Carboniferous: and Lower Haslingden Flags, Fletcher Bank ightarrow Millstone Grit and Grit, Ousel Nest Grit and Old Lawrence Rock)  $\sim$  Pennine Coal Measures LIMESTON Limestone (Chatburn Limestone) Carboniferous High purity limestone (>97% CaCO<sub>3</sub>) (Park Limestone and Urswick Limestone) Carboniferous Pennine Coal Shallow coa Neasures Opencast: worked area Brick clay and Fireclay coincident with Carboniferous coal-bearing strata - Shallow Coal/ > Pennine Coal Jnproductive Coal Measures Measures Preesall Halite (area affected by groundwater - wet rockhead) Triassic: Mercia Mudstone Sub-surface extent of Preesall Halite COAL LICENCE AREAS (as at 01.02.06) Source: The Coal Authority Deep mine Warbreck Hill (CI)-Warlev Rd (( MINERAL PLANNING PERMISSION (as at 30.09.05) Source: Mineral Planning Authorities Surface planning permission (valid and expired) Underground planning permission other than coal (valid and expired) MINERAL WORKINGS Inactive (including yet to be worked), worked-out Preesall and/or restored site Mineral commodity auires Gate g Sand and Gravel (Foreshore) (San Sst Sandstone St Annes Foreshore SiS Silica Sand Lst Limestone (Salter's Bank) (San) Active underground mine Active marine aggregate wharf ENVIRONMENTAL DESIGNATIONS (as at 31.12.05) National nature conservation designations (SSSIs and NNRs) International nature conservation designations (SACs, SPAs and Ramsar sites) Area of Outstanding Natural Beauty (AONB): Pendle Hill, Forest of Bowland (part) and Arnside and Silverdale (part) Scheduled Monument ADMINISTRATIVE AREAS Mineral Planning Authority — District 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 consideration 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 the collation and interpretation of mineral resource data principally held by the British Geological Survey. Information on the extent of mineral planning permissions 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 (Countryside 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 nvestigation is an essential precursor to submitting a planning application for mineral working. Extensive areas are shown as having no mineral resource potential, but some isolated mineral workings may occur in these areas. The presence of these operations generally reflect very local or specific situations. The maps are intended for general consideration of mineral issues and not as a source of detailed information on specific sites. The naps should not be used to determine individual planning applications or in taking other decisions on the acquisition or use of a particular piece of land, although they may give useful background information which sets a specific proposal within context. 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 supplied as digital files by Lancashire County Council, and also were digitised by BGS rom Plotting Sheets and other documents supplied by Lancashire County Council, Blackburn with Darwen and Blackpool Borough Councils. In addition, planning permission information was digitally acquired from Ministry of Housing and Local Government maps for he area and incorporated in the data. This data has been checked and amended by the local authorities shown below. Any queries regarding the sites shown should be directed to these authorities 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 decision to work mineral has been made, a successful application has been dealt with through the provisions of the Town and Country Planning legislation and the permitted reserve will have been depleted to a greater or lesser extent. Current planning status is not qualified on the map but is available in the underlying database. Contact addresses: Lancashire County Council, Environmental Directorate, PO Box 9, Guild House, Cross Street, Preston PR1 8RD, Tel: 01772 264468, Fax: 01772 264201, web address: www.lancashire.gov.uk Blackburn with Darwen Borough Council, Technical Services Department, Town Hall, Blackburn BB1 7DY, Tel: 01254 585585, Fax: 01254 674683, web address: www.blackburn.gov.uk Blackpool Borough Council, Technical Services Department, PO Box 117, Westgate House, Squires Gate Lane, Blackpool FY4 2TS, Tel: 01253 476240, Fax: 01253 476201, web address: www.blackpool.gov.uk

