

British Geological Survey
Natural Environment Research Council

Office of the Deputy Prime Minister
Planning and Infrastructure

LANCASHIRE

(comprising Lancashire, Boroughs of Blackpool and Blackburn with Darwen)

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

Mineral Resources
Scale 1:100 000

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This map comprises part of a summary of the 'Mineral Resources of the North-West of England Region'. For more information see www.minerals.gov.uk

BIBLIOGRAPHIC REFERENCE
Scale 1:62 500 in 2006. Mineral Resource Information for National Planning (Lancashire) (comprising Lancashire and the Boroughs of Blackpool and Blackburn with Darwen). British Geological Survey Commissioned Report CR607/04N.

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SAND & GRAVEL

- Sub-alluvial: inferred resources
- River Terrace deposits
- Glaciofluvial deposits
- Blown Sand

PEAT

- Preesall Heale (area affected by groundwater - wet rockhead)
- Sub-surface extent of Preesall Heale

COAL LINCENSE AREAS (as at 01.02.06)
Source: The Coal Authority

- Deep mine

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

- Bankfield Active
- Preesall inactive (including yet to be worked), worked out or restored site

Mineral commodity

City & Shale	Peat	Peat	Sg	Sand and Gravel
Co	Mg	Marine sand and gravel	Sst	Sandstone
Fr	Fireclay	San Sand	Sst	Sandstone
Lt	Limestone	Sat	Sst	Silica Sand

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 Arncliffe and Silvendale (part)
- Scheduled Monument

ADMINISTRATIVE AREAS

- Mineral Planning Authority
- District

Aims and Limitations

The purpose of this map is to show the broad distribution of mineral resources which may be of current or potential economic interest and to indicate those resources which are considered to be of sufficient interest to warrant consideration for development. This map is 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 inappropriate development. It is not intended to be used as a basis for mineral planning decisions.

The map has been produced by the collation and interpretation of mineral resource data primarily held by the British Geological Survey. Information on mineral resource planning permission has been obtained from the Mineral Planning Authorities (MPAs). Location information on national planning designations has been obtained from the appropriate regulatory body (Environment Agency, English Nature, Natural Resources Wales, etc.).

The mineral resource data presented are based on the best available information, but do not constitute a guarantee of their accuracy. The mineral resource data presented are based on the best available information, but do not constitute a guarantee of their accuracy. The mineral resource data presented are based on the best available information, but do not constitute a guarantee of their accuracy.

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PLANNING PERMISSIONS FOR MINERAL EXTRACTION

The extent of mineral planning permission is shown on the map. The locations of mineral planning permission are shown on the map. The locations of mineral planning permission are shown on the map. The locations of mineral planning permission are shown on the map.

Lancashire County Council, Environmental Directorate, PO Box 5, Guild House, Cross Street, Preston PR1 9RD, Tel: 01772 264466, Fax: 01772 264201, web address: www.lancashire.gov.uk

Blackburn with Darwen Borough Council, Technical Services Department, Town Hall, Blackburn BB1 1DQ, Tel: 01524 955566, Fax: 01524 674065, web address: www.blackburn.gov.uk

Blackpool Borough Council, Technical Services Department, PO Box 117, Wharfage House, Spina Gate, Blackpool F4 2TT, Tel: 01253 876366, Fax: 01253 876301, web address: www.blackpool.gov.uk

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Digital files: 5000, 5000, 5000 and 5000. Ordnance Survey, 2006.

English Nature, Natural Resources Wales, Natural Resources Wales, PO Box 100, St. Asaph, Denbighshire, LL17 7YU, Tel: 01745 455000, Fax: 01745 455110, Web page: www.naturalresources.wales.gov.uk

Locations of Scheduled Monuments at 25th September 2005 as supplied by English Heritage.

The majority of measurements are plotted using a central NGR datum. Consequently the actual area and/or length of a monument recorded on the map may differ slightly from the actual ground measurement. Measurements are rounded to the nearest 0.1m.

For further information contact the British Geological Survey, 61 Colindale Avenue, Colindale, London NW9 1EQ, Tel: 020 261 6700, Fax: 020 261 6701, Web page: www.bgs.ac.uk

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COAL

Southwest and northeast Lancashire lie within the South Lancashire and Furness (Upper Mersey) coalfields respectively. The northern limits of the South Lancashire coalfield crop out in the south of the county in the Chorley to Ormskirk area. The Furness Lower and Middle Coal Measures lie to the south, where they were deposited between the Permian Triassic of the Chester Basin. In recent years the Ormskirk coal seams occur within the South Lancashire Coalfield. The most important seams are the Burnley Four, Acton, and Lower and Upper Mainmoor seams. The Burnley Coalfield has been divided into the Burnley, Burnley North and Burnley South coalfields. The Burnley Coalfield is a relatively flat, low-lying area with a number of seams to a maximum of 10 m in thickness. Coal from the Furness Lower Coal Measures is generally of a better quality than the Burnley Four, which can be up to 1.8 m in thickness. Within Lancashire, the Furness Lower Coal Measures predominantly occur in the north of the county, where they form an important coal mining area. There is no significant current mining operations, or underground. There has been no open cast extraction since the early 1950s. Very small scale mining is carried out intermittently at Hill Top Colliery, near Burnley. The main potential for open cast working lies in the field of the back of the Burnley Four, which is a relatively flat, low-lying area. The main potential for open cast working lies in the field of the back of the Burnley Four, which is a relatively flat, low-lying area.

Within the Burnley Coalfield, the main coal-bearing interval occurs within the Furness Lower Coal Measures (Upper Carboniferous) and can be up to 150 m in thickness. The seams occur from surface and are underlain by the massive, dark, bituminous, argillaceous coal. The seams are of excellent quality for a wide variety of uses. The most important seams are the Burnley Four, Acton, and Lower and Upper Mainmoor seams. The Burnley Coalfield has been divided into the Burnley, Burnley North and Burnley South coalfields. The Burnley Coalfield is a relatively flat, low-lying area with a number of seams to a maximum of 10 m in thickness. Coal from the Furness Lower Coal Measures is generally of a better quality than the Burnley Four, which can be up to 1.8 m in thickness. Within Lancashire, the Furness Lower Coal Measures predominantly occur in the north of the county, where they form an important coal mining area. There is no significant current mining operations, or underground. There has been no open cast extraction since the early 1950s. Very small scale mining is carried out intermittently at Hill Top Colliery, near Burnley. The main potential for open cast working lies in the field of the back of the Burnley Four, which is a relatively flat, low-lying area. The main potential for open cast working lies in the field of the back of the Burnley Four, which is a relatively flat, low-lying area.

PEAT

Peat is an unconsolidated deposit of compressed plant remains in a water-saturated condition such as a bog or fen. Bog peat is an area where peat is exposed at the surface. The peat is formed from the remains of plants that have died and accumulated in a water-saturated condition. The peat is formed from the remains of plants that have died and accumulated in a water-saturated condition. The peat is formed from the remains of plants that have died and accumulated in a water-saturated condition.

LIMESTONE

- Limestone (Chattum Limestone)
- High purity limestone (>97% CaCO₃) (Park Limestone and Unsworth Limestone)

COAL

- Shallow coal
- Opencast: worked area

BRICK CLAY

- Carboniferous: Pennine Coal Measures

SALT

- Triassic: Mercia Mudstone

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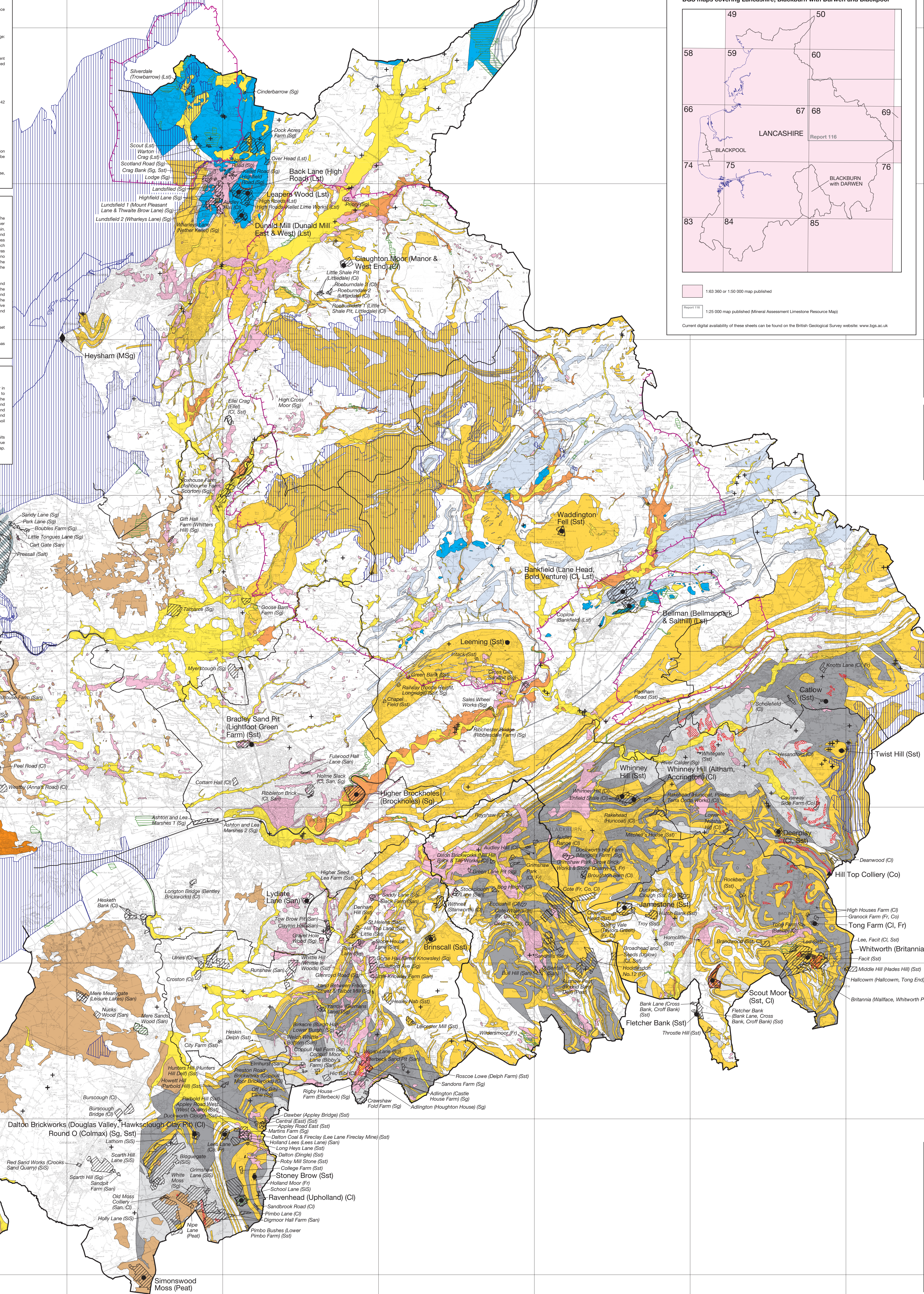
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BGS maps covering Lancashire, Blackburn with Darwen and Blackpool

OS grid coordinates: 49, 50, 58, 59, 60, 66, 67, 68, 69, 74, 75, 76, 77, 83, 84, 85

CRUSHED ROCK AGGREGATES

A variety of hard rocks, when crushed, suitable for use as aggregates. The technical authority for different applications depends on the physical characteristics, such as crushing strength and abrasion resistance. Higher quality aggregates are used for road building and concrete, while lower quality aggregates are used for general purposes. The main aggregate resources in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as aggregates for concrete, while the Permian sandstones are generally only suitable for use as aggregates for road building.

SILICA SAND

Silica sand is a type of sand that is composed of almost pure silica (SiO₂). It is used in a wide range of applications, including glass making, foundry sand, and as a filter medium. The main silica sand resources in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as silica sand, while the Permian sandstones are generally only suitable for use as silica sand.

METALLIC MINERALISATION

The mineralisation districts in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as aggregates for concrete, while the Permian sandstones are generally only suitable for use as aggregates for road building.

SAND AND GRAVEL

Sand and gravel are the most common mineral resources in Lancashire. They are used in a wide range of applications, including road building, construction, and as a filter medium. The main sand and gravel resources in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as aggregates for concrete, while the Permian sandstones are generally only suitable for use as aggregates for road building.

SUPERFICIAL DEPOSITS

Superficial deposits are the most common mineral resources in Lancashire. They are used in a wide range of applications, including road building, construction, and as a filter medium. The main superficial deposits in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as aggregates for concrete, while the Permian sandstones are generally only suitable for use as aggregates for road building.

PERMITTED RESERVES OF NATURAL AGGREGATES (end December 2003)

Total reserves: 130 million tonnes

- Sand and gravel: 97.5 million tonnes
- Sandstone: 32.5 million tonnes
- Crushed rock: 0 million tonnes

PRODUCTION OF LAND-WORN NATURAL AGGREGATES, 1979-2004

Production in million tonnes:

- Sand and gravel: 4000
- Sandstone: 4000
- Crushed rock: 4000

BUILDING STONE

Historically, Lancashire has a very long tradition of using locally quarried stone for building purposes. The main building stone resources in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as building stone, while the Permian sandstones are generally only suitable for use as building stone.

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BRICK CLAY (including FIRECLAY)

Brick clay is a type of clay that is used for making bricks and tiles. The main brick clay resources in Lancashire are the Carboniferous sandstones and the Permian sandstones. The Carboniferous sandstones are generally only suitable for use as brick clay, while the Permian sandstones are generally only suitable for use as brick clay.

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