British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

DTLR Transport Local Government Regions

LEICESTERSHIRE and RUTLAND

(comprising City of Leicester, Leicestershire and Rutland)

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

Mineral Resources

Scale 1:100 000

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Published 2002.

This map comprises part of a summary of the 'Minerals Resources of the East Midlands Region'. For further information see www.mineralsUK.com

Production of this map was commissioned and funded by the Department for Transport, Local Government and the Regions (Contract MP0677).

SAND & GRAVEL

Superficial deposits

- Sub-alluvial: Inferred resources
- Sub-alluvial: Indicated resources in areas assessed by BGS
- River Terrace deposits
- Glaciofluvial deposits
- Blown sand
- Boundary of area assessed for sand and gravel at the indicated resource level

LIMESTONE

- Dolomite and dolomitic limestone } Carboniferous
- Limestone } Jurassic: Lincolnshire Limestone

COAL

- Areas of shallow coal } Carboniferous: Coal Measures
- Opencast: worked area

GYPSUM

- Outcrop of main gypsum-bearing formation (Cropwell Bishop Formation) } Triassic: Mercia Mudstone Group

BRICK CLAY

- Mercia Mudstone Group: Principal brick clay resource } Triassic
- Fireclay (coincident with areas of shallow coal) } Carboniferous: Coal Measures
- Extent of Pottery Clays Formation
- Rutland Formation } Jurassic

IGNEOUS ROCK

- Intrusive and volcanic rocks } Precambrian/Cambrian
- Western subcrop limit of Charnwood diorites
- Approximate western boundary of Mountsorrel granodiorites

COAL LICENCE AREAS (as at 01.08.00)

Source: The Coal Authority

- Opencast coal site

MINERAL PLANNING PERMISSIONS (as at 01.01.02)

Source: Mineral Planning Authorities

- Surface planning permission (valid and expired)
- Underground planning permission other than coal (valid and expired)
- Planning permission for ironstone and overlying minerals

MINERAL WORKINGS

- Bardon Hill — Active site
- *Enderby* — Inactive, worked-out and/or restored site
- ▲ Active underground mine

Mineral commodity

Lst	Limestone, including dolomite	Oil	Oil
Cl	Common clay and shale	Gyp	Gypsum
Sg	Sand and Gravel	Gas	Natural Gas
Ig	Igneous rock	Sec	Secondary aggregates
Co	Coal	Istn	Ironstone
Fr	Fireclay		

ENVIRONMENTAL DESIGNATIONS

- National nature conservation designations (SSSIs and NNRs)
- International nature conservation designations (SACs, SPAs and Ramsar sites)
- + Scheduled Monument

ADMINISTRATIVE AREAS

- Mineral Planning Authority
- District

CRUSHED ROCK AGGREGATE

A variety of hard rocks are, when crushed, suitable for use as aggregates. Their technical suitability for different applications depends on their physical characteristics, such as crushing strength and resistance to impact and abrasion. Higher quality aggregates are required for coating with bitumen for road surfacing, or for mixing with cement to produce concrete. For applications such as constructional fill and drainage media, with less demanding specifications, lower quality materials are acceptable.

Leicestershire is a nationally-important source of crushed rock aggregates.

Igneous rocks

Igneous rocks tend to produce strong aggregates with a degree of skid resistance and are hence suitable for many road-surfacing applications as well as for use in the lower parts of the road pavement.

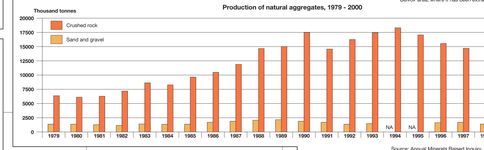
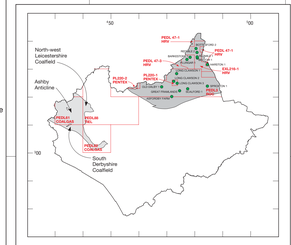
A number of small outcrops of Precambrian/Cambrian igneous rocks occur in the Charnwood Forest and in South Leicestershire. The igneous rocks occur mainly as small intrusions of slightly metamorphosed diorite and granodiorite intruded into volcaniclastic and sedimentary rocks. Volcanic lavas of Precambrian age are also worked. They generally produce consistent, high strength, high durability aggregates suitable for roadstone and railway track ballast.

Leicestershire is the largest producer of igneous rock aggregates (around 15 million tonnes per year) in Britain due to the proximity of the outcrops to the main aggregates market in south-east England and the Midlands, and a regional lack of comparable hard rock raw materials. The igneous rocks are worked in several large quarries, such as Bardon, Croft, Mountsorrel and New Cliffe Hill. Several quarries are rail linked. Some quarries are limited in areal extent by rapidly thickening overburden of Mercia Mudstone and this has led to the development of deep quarries.

Limestone and dolomite

In north-west Leicestershire, Carboniferous limestones cropout in several small isolated inliers which locally form prominent hills above the surrounding Triassic rocks. The inliers, between Breedon and Thringstone, consist mainly of pinkish-yellow, bedded and massive dolomite (dolostone). The inliers at Breedon Hill and Cloud Hill are quarried on a substantial scale for aggregate materials which are suitable for most, except the most demanding, applications.

The Lincolnshire Limestone of Jurassic age occurs widely in the eastern half of Rutland. Most Jurassic limestones are soft, porous, thin and impersistent. However, the various limestone units making up the Lincolnshire Limestone form a relatively thick and persistent formation which is capable of producing lower quality aggregates, such as fill and sub-base roadstone. It is currently worked on a relatively small scale for aggregate production as well as for building stone and agricultural lime.



Source: Annual Minerals Raised Inquiry, Office for National Statistics