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Land North of Barlestone Road, Newbold Verdon

Mineral Resource Assessment

Wheeldon Brothers 1867 Ltd.

24 November 2025 - Final

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Professional memberships and accreditations

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Contents

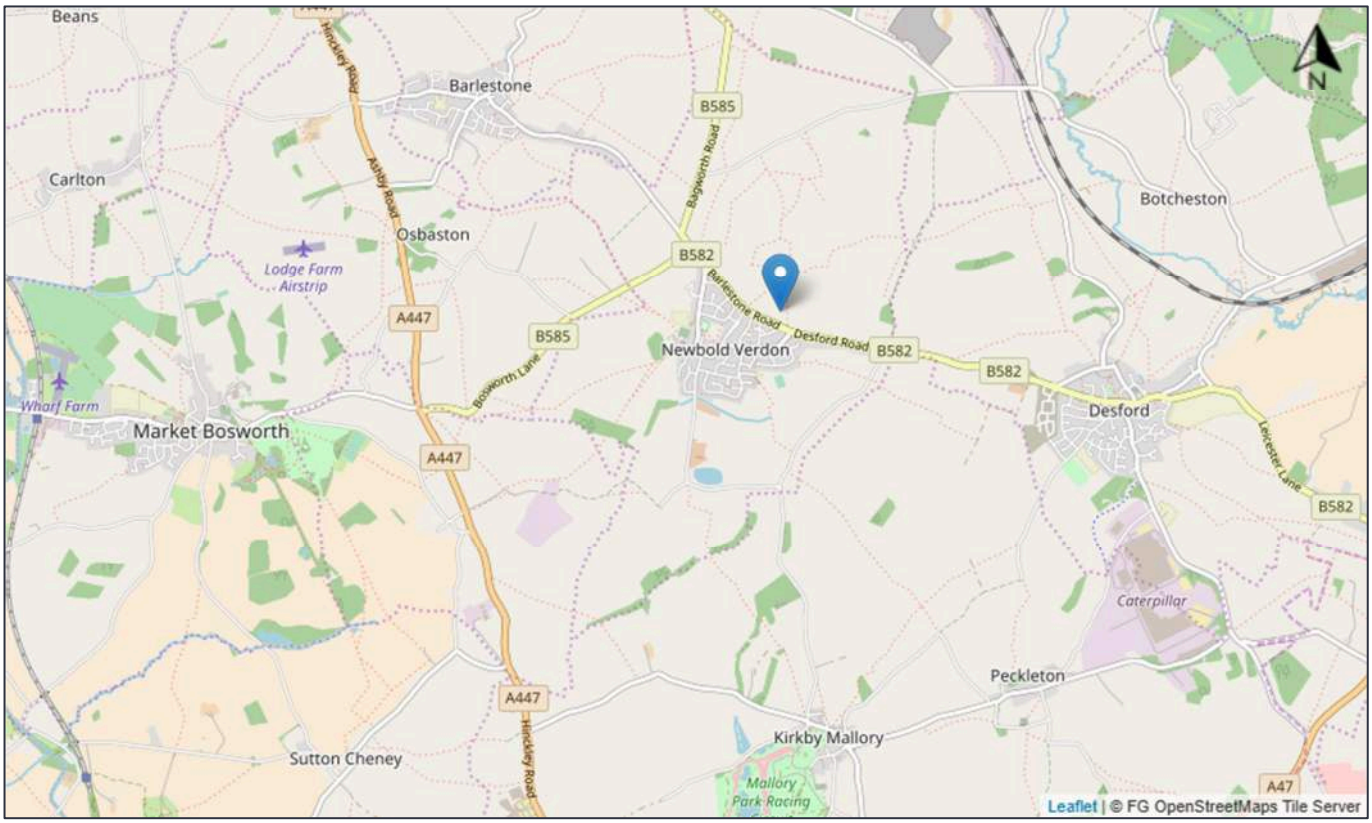
1 Introduction

1.1 Background

1.1.1 This report has been prepared by the Minerals Department of Fisher German LLP following instructions from Wheeldon Brothers 1867 Ltd (the Client) to produce a desk-top based Mineral Resource Assessment (MRA) for Land North of Barlestone Road, Newbold Verdon, Leicestershire, LE9 9ND (the 'site').

1.1.2 The indicative site centre location is shown in **Figure 1**. A site location plan is included within **Appendix 1**.

Figure 1: Indicative site centre location



1.2 Proposed Development

1.2.1 Outline planning application for the erection of up to 67 dwellings with associated landscaping, open space and drainage infrastructure (all matters reserved expect for access). A Development Framework Plan is included within **Appendix 1**.

1.2.2 An existing residential property and out-buildings are proposed to be demolished as part of the proposed development.

1.3 Assessment Aims

1.3.1 The aim of this Minerals Assessment is to consider the possible impacts the proposed development may have on potential mineral resources beneath the site and in proximity to it. The assessment will support an Outline Planning application being submitted by the Client.

1.3.2 This report has been prepared in cognisance of the following guidance documents:

- Mineral Safeguarding in England: Good Practice advice, British Geological Survey – Minerals and Waste Programme, Open Report OR/11/046, 2011.
- Mineral Safeguarding Practice Guidance: The Mineral Products Association and The Planning Officers' Society, April 2019 V1.4.

1.4 Site Description

1.4.1 The site description and location details are summarised in **Table 1**.

Table 1: Site description

Detail	Comment
Approximate site area	2.99 hectares.
National Grid reference (OS GB)	E: 445078, N: 304026 (Approximate centre).
Site location	The site is located on the northern edge of Newbold Verdon, Leicestershire, which is situated approximately 10 miles west of Leicester. The site has frontage onto the B582, Barlestone Road.
Current land use and description	The site is predominantly agricultural land with a vacant residential property and outbuildings within the southwest.
Surrounding land use	The site is immediately surrounded by agricultural land, with the south of the site bordering the B582, south of which is residential properties associated with the village of Newbold Verdon. Residential properties are also located to the southeast.
Sensitive land uses	The site is within a Site of Special Scientific Interest (SSSI) Impact Risk Zone associated with the Botcheston Bog SSSI which is located approximately 3.5 km to the east. The impact risk zone relates to proposed development which falls under Infrastructure (aviation proposals) and Air Pollution categories.
Site topography	The site topography increases gently from 132 m Above Ordnance Datum (AOD) in the southeast to 133 m AOD in the northwest.

1.5 Confidentiality Statement

1.5.1 This report is addressed to and may be relied upon by Wheeldon Brothers 1867 Ltd. It may not be relied upon or transferred to any other parties without the express written agreement of Fisher German. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

2 Mineral Planning

2.1 National Planning Policy

2.1.1 The National Planning Policy Framework (NPPF) sets out a framework for facilitating the sustainable use of minerals, including their safeguarding. Relevant extracts of the NPPF are detailed below[1]:

2.1.2 Paragraph 223:

c) safeguard mineral resources by defining Mineral Safeguarding Areas and Mineral Consultation Areas; and adopt appropriate policies so that known locations of specific minerals resources of local and national importance are not sterilised by non-mineral development where this should be avoided (whilst not creating a presumption that the resources defined will be worked);

2.1.3 Paragraph 226:

Minerals planning authorities should plan for a steady and adequate supply of aggregates by:

f) maintaining landbanks of at least 7 years for sand and gravel and at least 10 years for crushed rock, whilst ensuring that the capacity of operations to supply a wide range of materials is not compromised.

2.1.4 Paragraph 227:

Minerals planning authorities should plan for a steady and adequate supply of industrial minerals by:

c) maintaining a stock of permitted reserves to support the level of actual and proposed investment required for new or existing plant, and the maintenance and improvement of existing plant and equipment. These reserves should be at least 10 years for individual silica sand sites; at least 15 years for cement primary (chalk and limestone) and secondary (clay and shale) materials to maintain an existing plant, and for silica sand sites where significant new capital is required; and at least 25 years for brick clay, and for cement primary and secondary materials to support a new kiln.

2.2 Local Planning Policy

2.2.1 Leicestershire County Council is the Mineral Planning Authority for the site.

2.2.2 The current Leicestershire Minerals and Waste Local Plan up to 2031 (MWLP), was adopted on 25 September 2019. It sets out the "vision, spatial strategy, strategic objectives, and core policies which set out the key principles to guide the future winning and working of minerals in Leicestershire over the period to the end of 2031."[2] A review of the plan was carried out during 2022 and its results were reported to cabinet on 16 December 2022. The review concluded that the Leicestershire MWLP is performing well, including at appeal, and its implementation is delivering sustainable minerals and waste development in Leicestershire as intended.

2.2.3 The site is shown within the Leicestershire MWLP (Hinckley and Bosworth Borough[3]) as being covered by a Mineral Safeguarding Area designation for sand and gravel (see **Appendix 2**).

2.2.4 Approximately 1.5 km south of the site is an allocated mineral site SA2 Cadeby Quarry (see **Appendix 2** for Inset Map SA2).

2.2.5 The most recent Local Aggregate Assessment for Leicestershire[4] (published November 2024 and based on 2023 data) states that the landbank for sand and gravel is three years based on a calculated annual requirement of 1.01 million tonnes.

[1] Ministry of Housing Communities & Local Government, National Planning Policy Framework (NPPF), December 2024.
[2] Leicestershire Minerals and Waste Local Plan Up to 2013, Adopted 25th September 2019, Leicestershire County Council.
[3] Mineral and Waste Safeguarding (Hinckley and Bosworth Borough), Document S4/2015.
[4] Leicestershire County Council Local Aggregate Assessment, Published November 2024

2.2.6 Brickclay reserves are covered in Mineral Local Plans rather than Local Aggregate Assessments. The most recent Mineral Local Plan for Leicestershire indicates that an adequate supply of brickclay can be maintained over the plan period to 2031.

Mineral Safeguarding Areas

2.2.7 Mineral resources are finite materials and can only be worked where they exist naturally. Mineral planning authorities are required to define Mineral Safeguarding Areas in minerals plans so that resources are not sterilised by non-mineral development, although there is no presumption that the resources will be worked.

2.2.8 Under policy M11 of the Leicestershire MWLP, planning permission will be granted for development that is incompatible with safeguarding mineral within a Mineral Safeguarding Area if:

i. the applicant can demonstrate that the mineral concerned is no longer of any value or potential value; or

ii. the mineral can be extracted satisfactorily prior to the incompatible development taking place; or

iii. the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or

iv. there is an overriding need for the incompatible development; or

v. the development comprises one of the types of development listed in Table 4.

Types of development exempt from safeguarding	
(a)	applications for householder development;
(b)	applications for alterations and extensions to existing buildings and for change of use of existing development, unless intensifying activity on site;
(c)	applications that are in accordance with the development plan where the plan took account of the prevention of unnecessary mineral sterilisation and determined that prior extraction should not be considered when development applications came forward;
(d)	applications for advertisement or listed building consent;
(e)	applications for reserved matters including subsequent applications after outline consent has been granted;
(f)	prior notifications (telecoms, forestry, agriculture, demolition);
(g)	Certificates of Lawfulness of Existing Use or Development (CLEUD) and Certificates of Lawfulness of Proposed Use or Development (CLOPUD);
(h)	applications for works to trees; or
(i)	development types already specified in a DPD (Development Plan Document) as exempt from the need for consideration on safeguarding grounds.

2.2.9 Planning applications for non-mineral development within a Mineral Safeguarding Area should be accompanied by a Mineral (Resource) Assessment of the effect of the proposed development on the mineral resource beneath or adjacent to it.

2.3 Local Planning Review

2.3.1 A review of the Hinckley and Bosworth Borough Council planning portal shows an outline planning application (ref: 24/01061/OUT) directly to the west of the site for the erection of up to 240 residential dwellings, new and existing accesses of Barlestone Road, a cemetery, public open space and associated infrastructure. The outline application is listed as 'Refused' although it is understood that the applicant is proceeding to Appeal. Consultation with Leicestershire County Council dated 12 March 2025 shows that the Mineral and Waste Planning Authority had no objections to the proposal. A Mineral Resource

Assessment[5] including ground investigation information was submitted by the applicant which concludes that due to proximity to existing residential properties, the majority of the site would be unsuitable for mineral extraction. The remaining mineral resource outside of the minimum buffer distance was deemed to be uneconomical to extract.

[5] Barlestone Road, Newbold Verdon, Minerals Assessment, March 2025, Ref: 24832-GEO-0402 Rev E, MEC Consulting Group Ltd

3 Mineral Resource

3.1 Data Sources

3.1.1 Relevant information sources have been reviewed in assessing the anticipated ground conditions, and include:

- British Geological Survey (BGS) Geoindex Onshore data.
- BGS scanned historical exploratory hole records.
- BGS published geological map Sheet 155, Coalville, scale 1:50,000, Bedrock and Superficial (2010).
- Ground investigation information (MEC Consulting Group Ltd., March 2025).

3.2 Type of Mineral On site – Published BGS Mapping

3.2.1 A distinction is made between superficial deposits and bedrock. Superficial deposits, consisting of clays, silts, sands and gravels are the youngest geological deposits, found at or near to the surface. Bedrock deposits are older and are found beneath superficial deposits (where present).

3.2.2 The geological mapping indicates that the site and surrounding area are underlain by the following materials as described by the BGS:

Superficial Deposits

3.2.3 **Appendix 3** presents the 1:50,000 scale superficial deposits for the site and surrounding area.

3.2.4 The entire site is underlain by Glaciofluvial Deposits, mid Pleistocene – sand and gravel, which is described by the BGS as:

3.2.5 Glaciofluvial Deposits were deposited by meltwater streams. Includes mostly coarse-grained sediments (i.e. sand and gravel) with some finer-grained layers (i.e. clay and silt). Sand and gravel, locally with lenses of silt, clay or organic material.

Bedrock Geology

3.2.6 **Appendix 4** presents the 1:50,000 scale bedrock geology for the site and surrounding area.

3.2.7 The entire site is underlain by Edwalton Member – mudstone, which is described by the BGS as:

3.2.8 Mudstone and siltstone, red-brown and greenish grey, with beds of indurated, variably dolomitic siltstone and very fine-grained sandstone common in the lower half; finely disseminated gypsum common in upper half.

3.2.9 The Edwalton Member is part of the Keuper Marl series.

3.3 Intrusive Mineral Resource Data

BGS historical exploratory hole records

3.3.1 The BGS online viewer has been used to view publicly available historical borehole logs. Selected relevant borehole logs have been included within **Appendix 5** and summarised below.

3.3.2 The closest historical borehole to the site (SK40SE15 – The Fields BH3 Newbold Verdon) is located approximately 100 m north of the site. The log is dated 1959 and was drilled by the National Coal Board. Geology is described as glacial sand, gravel and clay to a depth of 7.62 m bgl underlain by Keuper Marl (mudstone) to 85.3 m bgl, Keuper Marl (sandstone) to 104.85 m and Lower Coal Measures to the base of the borehole at 159.41 m bgl.

3.3.3 Historical borehole SK40SW1 – The Fields 1 is located approximately 200 m to the west of the site. The log is dated 1956 and was made for the National Coal Board. Geology is described as topsoil underlain by sandy clay and boulders to a depth of 1.52 m below ground level (bgl). This is underlain by Keuper Marl (mudstone) to 60.66 m bgl and Keuper Marl (sandstone) to a depth of 97.23 m bgl. Coal measures are then recorded to the base of the borehole at 158.8 m bgl.

MEC ground investigation data – Immediately west of site

3.3.4 It is noted that Fisher German nor the Client have reliance on the information included within the MEC report although the publicly available data has been reviewed as it is deemed relevant to the site given its proximity (immediately to the west and north).

3.3.5 A total of thirteen trial pits, six soakaway tests and six window sample boreholes have been formed as reported within the Mineral Resource Assessment. Ground conditions are described generally comprising topsoil over Glaciofluvial Deposits with bedrock not encountered during the investigations. No particle size distribution tests are provided as part of the report.

3.3.6 Glaciofluvial Deposits are described as clayey, slightly silty, very sandy gravel / gravelly sand with low cobble content. In the northwest (approximately 500 m northwest of the subject site) Glaciofluvial Deposits are described as silty, slightly sandy, gravelly clay. Groundwater observed during the investigation ranged between 1.93 and 3.8 m below ground level (bgl).

3.3.7 Soil infiltration rates were reported to be limited within four of the six test locations likely due to high fractions of cohesive material with the sand and gravel matrix.

3.3.8 TP102 was formed immediately north of the site and comprised a thin layer of topsoil underlain by clayey, slightly silty, very sandy, subangular to subrounded fine to coarse gravel with low cobble content to the maximum depth of the trial pit at 3.7 m bgl. TP103 was formed immediately west of site and comprised a thin layer of topsoil over clayey, silty, gravelly, sand with low cobble content to the maximum depth of the trial pit at 2.1 m bgl.

3.4 Historical Quarries

3.4.1 Review of the Legacy Quarry Database indicates the following historical quarries within a 2.5 km search radius:

- **Cadeby Quarry / Naneby Hall Farm Quarry:** A former complex of sand and gravel workings within Glaciofluvial Deposits operated by Tarmac located approximately 1.1 km southwest at its closest point and south of Newbold Verdon village.
- **Kirkby Mallory / Fox Covert:** Located approximately 2.3 km south at its closest point relating to a historical and relatively small sand and gravel quarry.

3.5 Mineral Quality

Superficial Deposits

3.5.1 The quality of superficial deposits is dictated by the material size. The lower the content of clay, silt and fine sand, the higher the quality of the deposit.

3.5.2 Glaciofluvial Deposits have the potential to represent an economic grade of mineral although some processing for fines is expected based on the engineer logs and soakaway results from the MEC investigation immediately west and north of the site.

Bedrock Geology

3.5.3 It is unlikely that the underlying Edwalton Member would be targeted for brick clay manufacture, noting that modern day brick clay reserves tend to be located next to existing plants and allocated reserves.

3.5.4 It is noted that the bedrock geology underlying the site is not attributed to a Mineral Safeguarding Area.

3.6 Estimated Tonnage of Resource

3.6.1 In accordance with the PERC Reporting Standard (Pan European Reserves and Resources Reporting Committee, 2021) the assessment is classed as an Inferred Mineral Resource.

3.6.2 An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated based on limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

3.6.3 As the maximum depth of River Terrace Deposits has not been proven on-site, the estimated tonnage of sand and gravel, which could be classed as a mineral resource is unknown.

3.7 Estimated Economic Value of Mineral

3.7.1 As the quantity of mineral cannot be accurately calculated, the economic value cannot be stated.

3.7.2 Constraints to the potential extraction of the resource are detailed in **Section 4.1**.

4 Potential Constraints and Opportunities on Mineral Extraction

4.1 Constraints to Mineral Extraction

4.1.1 Should commercial extraction of mineral be sought the standoff distances as shown in Table 2 would typically be employed. They may, however, be subject to change following detailed planning assessment in subsequent development stages.

Table 2: Development Constraints

Constraint	Value
Max overburden to mineral ratio	1:1
Standoff to external highway boundaries	30m
Standoff to significant hedgerow	15m or 1.5x the Root Protection Zone
Standoff to watercourse	30m
Standoff to residential dwellings	100m

4.1.2 The site is mapped as being underlain by River Terrace Deposits which has the potential to yield an economic grade of mineral.

4.1.3 A 100 m stand-off to residential properties from active mineral workings is commonly applied by mineral operators during mineral planning applications predominantly due to noise and visual impacts of quarrying but also due to dust and vibration. This is typical for quarrying of as-dug ballast and associated aggregate processing. A 100 m standoff would typically be coupled with an approximate 4 to 5 m high bund to break line of sight ground level plant and screen taller static plant and stockpiles, particularly where topography is relatively flat such as at Land North of Barlestone Road. A bund also has the benefit of providing mitigation for noise and dust.

4.1.4 Noting the standoff distances detailed within Table 2, and the presence of existing residential properties located to the south and southeast of the site, mineral working as a standalone resource would likely not be viable due to the standoffs required to residential dwellings (and indeed Barlestone Road). As a result, only the northern half of the site would be theoretically workable allowing for standoffs from the third party boundaries. The existing residential property on-site has not been accounted for as this is proposed to be demolished as part of the proposed development. Residential planning application 24/01061/OUT which is understood to be progressing to Appeal would likely sterilise two thirds of the site from the west if it were granted, although mineral extraction as a standalone development is considered economically unviable regardless of the outcome of this application.

4.1.5 Sustained heavy goods vehicle access associated with mineral extraction (including prior extraction) off Barlestone Road is not considered suitable due to the presence of residential properties both to the east and west and the environmental and social impacts this would have on residents. HGV traffic would likely need to navigate to the A449 which would be through Newbold Verdon. Mineral extraction in the local area at Cadeby Quarry / Naneby Hall Farm Quarry is now complete although existing workings relied upon a field conveyor system and HGV access direct onto the A447 rather than through neighbouring villages.

4.1.6 Based on the above factors, the site is not considered to be viable for commercial scale mineral extraction as a standalone quarry.

4.1.7 Prior extraction of mineral is similarly constrained by the factors noted above in addition to the need to maintain levels in proximity to third party boundaries and due to relatively shallow groundwater which would impact follow-on residential development without landfilling. Opportunities for incidental extraction of mineral undertaken as part of the residential development is discussed in Section 4.2.

4.2 Opportunities for Mineral Extraction

4.2.1 Glaciofluvial Deposits may be suitable for reuse in construction phases of the proposed development after being excavated during groundworks (i.e. footings and attenuation basins / swales). Mineral incidentally extracted as part of the proposed scheme is therefore recommended to be re-used on-site to limit the need for aggregate imports. Materials should be retained on-site wherever possible to limit off-site disposal.

5 Conclusions and Recommendations

5.1.1 The site is being considered for non-mineral development with a proposed residential development.

5.1.2 The site falls within a sand and gravel Mineral Safeguarding Area identified by Leicestershire County Council and is mapped as being underlain by Glaciofluvial Deposits. Ground investigation data is available immediately north and west of the site due to an adjacent outline planning application for a residential housing scheme which confirms the likely presence of Glaciofluvial Deposits.

5.1.3 Economic viability of the resource as a standalone development is limited by the reduced workable area which would need to be employed due to standoffs with existing residential properties to the south and southeast. Access to the site via the B582 is not considered suitable for sustained HGV traffic associated with mineral extraction (including prior extraction) due to having to pass through the village of Newbold Verdon to reach the A449.

5.1.4 Prior extraction is also considered unlikely to be viable due to the need to maintain topographical levels around the site boundaries and shallow groundwater which would make subsequent residential development unviable without landfilling activities occurring.

5.1.5 Glaciofluvial Deposits may be suitable for reuse in construction phases of the proposed development after being excavated during groundworks (i.e. footings and attenuation basins / swales). Mineral incidentally extracted as part of the proposed scheme is therefore recommended to be re-used on-site to limit the need for aggregate imports. Materials should be retained on-site wherever possible to limit off-site disposal.

Appendix 1: Drawings

N

0 10 20 30 40 50 metres

Site boundary: **Aprx. 3.0ha**

DEVELOPMENT

Developable area: **1.99ha (Up to 67 homes @ 33.5 dph)**

Indicative frontage orientation

Childrens play area **(LAP)**

ACCESS & MOVEMENT

Primary vehicular/pedestrian/cycle access

Tree lined primary street with green verge

Secondary streets

Potential pedestrian link

Existing public footpaths

Proposed drop curb crossing

Toucan crossing proposed by adjacent application (24/01061/OUT)

Proposed footway/cycleway

GREEN INFRASTRUCTURE

Proposed new grassland, wildflower, hedgerow and tree planting

Natural play trail features

Existing vegetation

Sustainable Drainage System (SuDS) basin

Rev	Date	By	Description
G	28.10.25	DF	Highways updates
F	27.10.25	DF	Boundary & highways updates
E	17.10.25	DF	Highways updates
D	09.10.25	DF	Natural play trail updates

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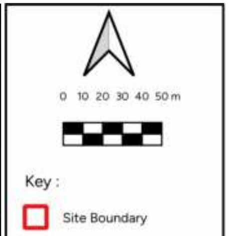
Project	Land North of Barlestone Road, **NEWBOLD VERDON**
Title	Development Framework Plan
Client	Wheeldon 1867

Scale	1:1000 @ A2	Drawn	DF
Date	August 2025	Checked	RR
Drawing No.	CSA/7625/106	Rev	G



Revision: A

Plan Title:
Site Boundary Plan

Project:
Phase 1 Geo-env / MRA

Client:
Wheeldon Homes Ltd

Site:
Land at the Firs, Barlestone Road, Newbold Verdon

RS FP: 143055-004

Scale: 1:3,844
Date: 13/08/2025

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The Estates Office, Norman Court
Ashby de la Zouch,
Leicestershire, LE65 2UZ

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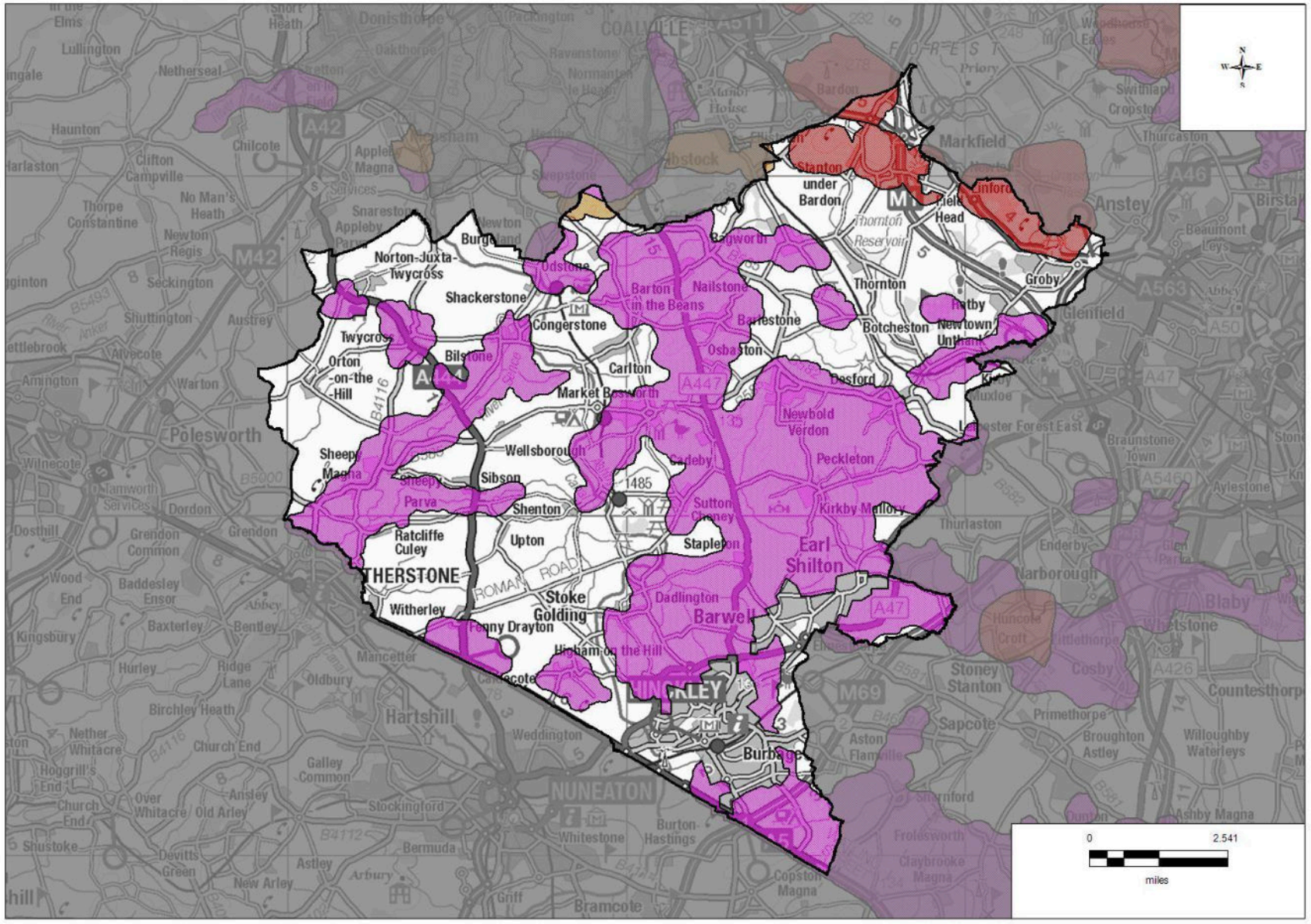
https://www.fishergerman.co.uk

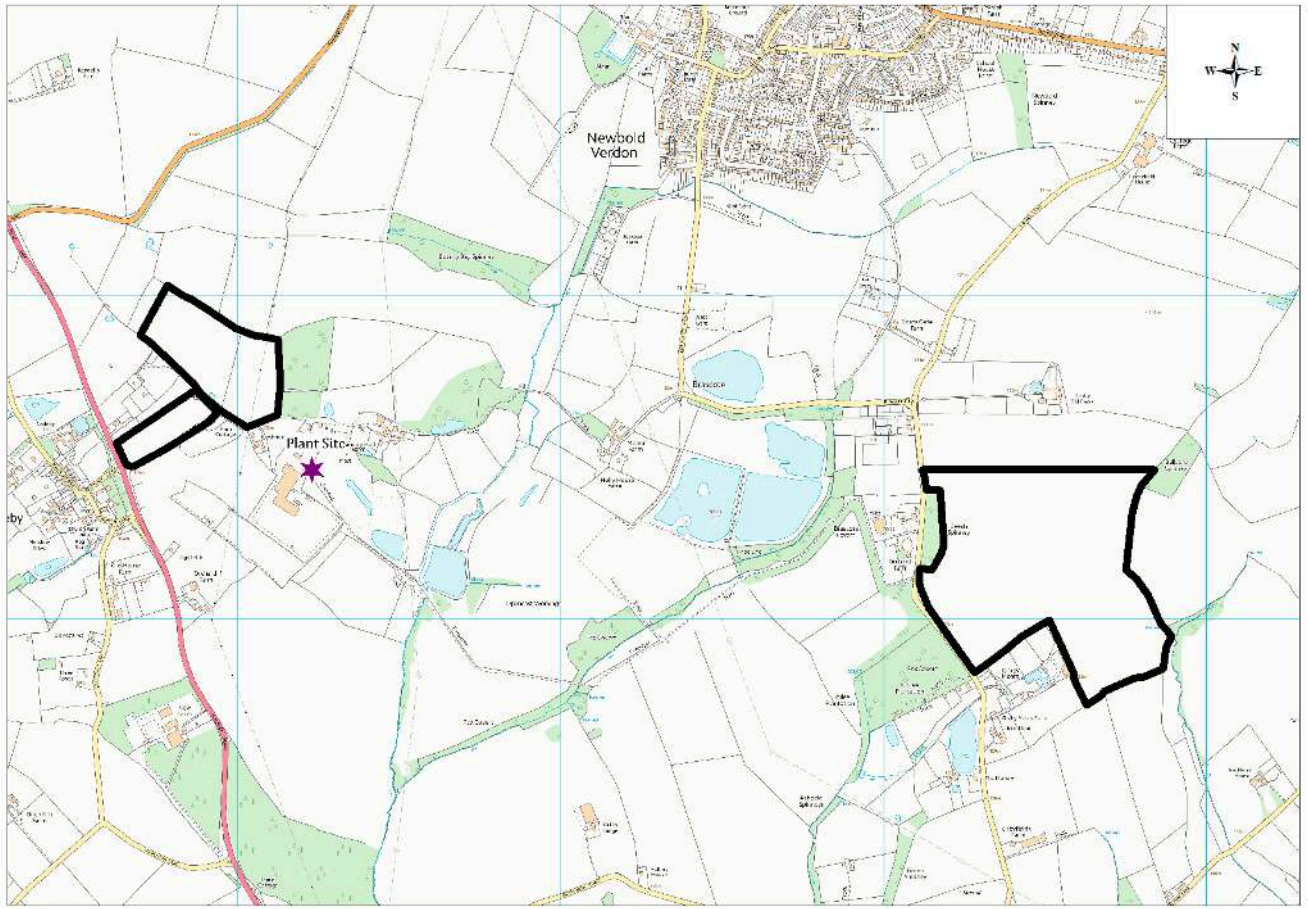
Drawing Ref:
25-08 Newbold Verdon Site Boundary

Appendix 2: Mineral Safeguarding Area Plans

Figure HK1: Areas of borough/district for mineral safeguarding, categorised by mineral type



Cadeby

Inset Map SA2	Box SA2
	**KEY** Extent of Site Allocation Site Specific Planning Requirements: • Provision for the retention of Footpaths S24 and S26. • Provision for the planting of additional hedgerow along the western boundary of the allocated area adjacent to Newbold Road south of Beech Spinney. • Provision of buffer zone to Beech Spinney. • Details of the routes for transporting mineral from the allocated areas to the existing processing plant, which shall be carefully sited where they cross any restored land. • Restoration proposals which reflect the objectives of the Upper Soar local landscape and Leicestershire and South Derbyshire Coalfield national landscape character areas, and provide the best balance of enhancing biodiversity and the preservation of best and most versatile soil resources. • Restoration to include provision of improved public access. • Restoration to be achieved without the importation of inert waste. • Provision of an appropriate stand-off distance from the watercourse adjacent to the site.

Appendix 3: Superficial Deposits Plan

0 20 40 60 80 100 m

Key :

Site Boundary

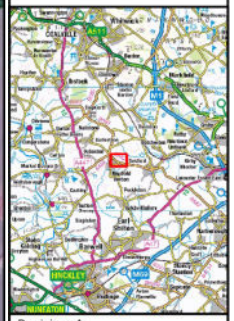
Historic England Designations

Listed Buildings

Background Mapping Layers

GBR BGS 1:50k Superficial deposits

Google Earth



Revision: A

Plan Title:
Superficial Deposits

Project:
Phase 1 Geo-env / MRA

Client:
Wheeldon Homes Ltd

Site:
Land at the Firs, Barlestone Road, Newbold Verdon

RS FP: 143055-004

Scale: 1:5,000
Date: 14/08/2025

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https://www.fishergerman.co.uk

Drawing Ref:
25-08 Newbold Verdon Superficial Deposits

Appendix 4: Bedrock Geology Plan

0 20 40 60 80 100 m

Key :

Site Boundary

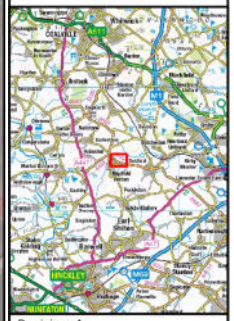
Historic England Designations

Listed Buildings

Background Mapping Layers

GBR BGS 1:50k Bedrock

Google Earth



Revision: A

Plan Title:
Bedrock Geology

Project:
Phase 1 Geo-env / MRA

Client:
Wheeldon Homes Ltd

Site:
Land at the Firs, Barlestone Road, Newbold Verdon

RS FP: 143055-004

Scale: 1:5,000
Date: 14/08/2025

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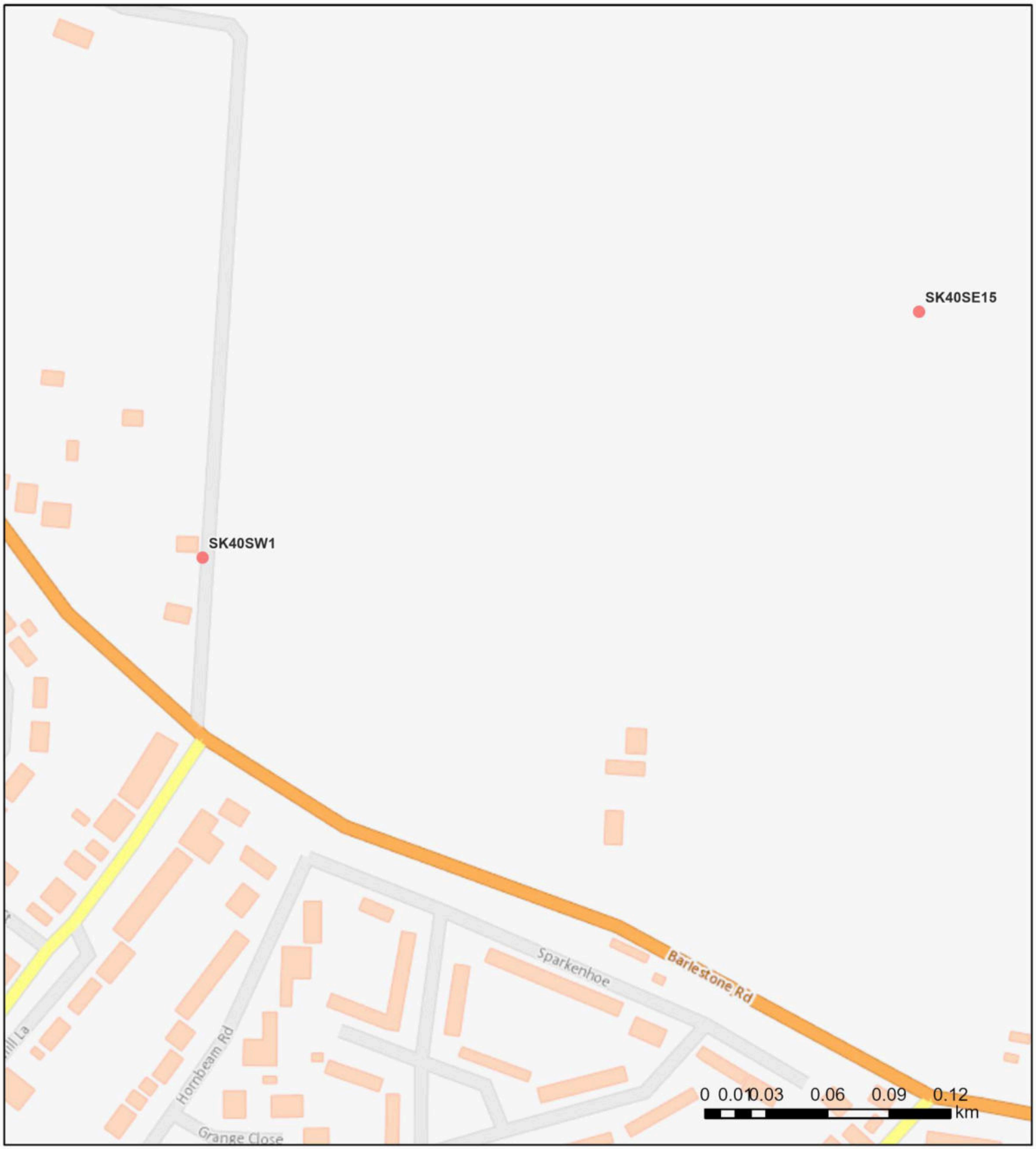
https://www.fishergerman.co.uk

Drawing Ref:
25-08 Newbold Verdon Bedrock Geology

Appendix 5: Historical BGS Exploratory Hole Information

Newbold Verdon



Map Key

Borehole records

- Unknown Length
- Confidential
- 0 - 10m
- 10 - 30m
- 30m+

1063 Wt. 22438/0384 10M 7/45 (51) F.&S.

RECORD OF SHAFT OR BORE FOR MINERALS

by J.E. Wright and B.A. Hains, H.M. Geological Survey.

1-inch Map Registered No. 155 / 272

Name and Number of ~~Shaft~~ or Bore: THE FIELDS No. 3 (1959) B.H.
S.N. 5865.

For Messrs. National Coal Board

Town or Village: Newbold Verdon

County: Leicestershire. Six-inch quarter sheet: 30 SW

6-inch Map Registered No. SK 40 SE /15

Exact site: 3050 yd at 287° from the NW corner of Desford Church.
National Grid reference: — SK/45170425

Attach a tracing from a map, or a sketch-map, if possible.

Purpose for which made: To prove the base of the New Red Sandstone and the sequence of the underlying Coal Measures.

Level at which ~~shaft~~ bore commenced relative to O.D. +434.75 ft. State if ~~shaft~~ bore is up, down, horizontal or inclined; in latter cases give angle of inclination and direction: down

Made by: John Thom Ltd.

Information from: Rock-bit samples and cores. Date of Sinking: September – October 1959.

Specimens: Noted by O on 6" Leics 30 SW/W. RQ 4.12.59.

Additional Notes in Space Overleaf

For Survey use only: Geological Classification	Nature of Strata	Thickness ft	Thickness in	Depth ft	Depth in
	Rock-bit samples (at 10 ft intervals)				
Glacial Sand and gravel to 25'	Sand, yellow, quartzose; subangular grains, poorly sorted; tinged with red-brown from 20 ft (base of drift between 20 and 30 ft)	25 (~~35~~)	0 (~~0~~)	25 (~~30~~)	0 (~~0~~)
Keuper Marl to c.280	Marl, red-brown; many fragments of pale-grey fine sandstone; occasional chert & quartz grains; occasional gypsum fragments from 90 ft; darker brown from 100 ft with fewer sandstone fragments; sandstone fragments are from 110 ft to 150 ft, slightly more frequent below; mixture of red-brown and green marl for 10 ft at 180 ft;	175	0	200	0
	Sandstone, grey, fine; some red marl; higher proportion of marl from 220 ft, and much marl from 250 ft;	80	0	280	0
Keuper Sandstone	Red-brown marl and grey sandstone in about equal proportions	10	0	290	0
	Cores start (continuous from this depth)			290	0
	Marl, red-brown, very sandy, rounded sand grains; occasional small subrounded pebbles, and occasional small irregular cavities lined with calcite crystals; mainly grey from 290 ft 5 in;		6	290	6
	Sandstone, grey, fine, subangular grains; chocolate marl bands from 291 ft 2 in; locally cavernous, locally green-grey;	1	3	291	9
	Sandstone, brown-grey, very coarse, pebbly, very poorly sorted; pebbles chiefly quartz and quartzite, but some marl fragments; (core missing 293 ft – 295 ft 11 in); conglomerate in basal 3 in;	4	10	296	7
	Sandstone, pale brown-grey, fine-grained, subangular grains, well sorted; green marl flakes from 297 ft 9 in;				
	Continued Overleaf			298	2

Geological Survey and Museum, South Kensington, London, S.W.7.	Date received	Correspondence File No.	1" N.S. Map No.	1' O.S. Map No.	Site marked (use symbol) on 1" Map	on 6" Map
					⊙	⊙

with local slight reddish staining; c.5 7 c.453 T

SK 40 SE/15

(For Survey use only)
GEOLOGICAL CLASSIFICATION

NATURE OF STRATA (Continued)	THICKNESS Ft.	in.	DE... Ft	
Brought forward				
Marl, red-brown, very sandy; gritty grains rounded; gradually becoming less sandy; very sandy and with grey-green patches from 302 ft 9 in; locally Sandstone; rather less sandy locally from c. 304 ft 6 in; passing to	c. 7	10	c. 306	0
Sandstone, red-brown, marly; rounded grains; occasional grey-green patches;	c. 8	0	314	0
Marl, red-brown, laminated, silty; finely micaceous; green bands from 316 ft 10 in; occasional sandy layers, and occasional lustric surfaces;	3	11	317	11
Sandstone, grey, coarse, pebbly; occasional marl pebbles; frequent small cavities; coarse-grained from c. 320 ft;	3	6	321	5
Keuper Sandstone Marl, red-brown, sandy; rounded gritty grains; occasional small cavities with calcite crystals; grey-green for 4 in at 323 ft 7 in, becoming very sandy; locally almost sandstone; finer from c. 327 ft for 1 ft; passing to	c. 7	0	c. 328	5
Sandstone, red-brown, marly; grey-green from 328 ft 7 in; coarsely micaceous, with some silty layers and pebbles; mottled pale green and reddish-brown; passing to	c. 1	7	c. 330	0
Marl, sandy, locally micaceous with occasional small rounded pebbles; passing to	c. 1	6	c. 331	6
Sandstone, mottled pale green and reddish brown; abundant rounded coarse grains and small pebbles at some horizons, at other places a fine Sandstone; becoming marly below c. 334 ft, Sandy again at 336 ft 6 in, marly again below c. 337 ft 3 in; passing to	c. 10	6	c. 342	0
Marl, sandy, reddish-brown with occasional small greenish patches; locally with small rounded pebbles;	c. 2	6	344	6

Base of Keuper Sandstone

ADDITIONAL NOTES

Shaft or Bore given by Geological Survey:
THE FIELDS No. 3 (1959) B.H.

6-inch Map Registered No. SK 40 SE 15/15

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Brought forward			344	6
Lower Coal Measures	Seatearth, stained deep reddish-brown, with rootlets; some pale greenish patches; lichtic surfaces at top, but generally massive; passing to	5	0	349	6
	Mudstone, with occasional rootlets and plant remains (Calamites); mainly reddish brown with some greenish patches; passing to	c. 2	6	c. 352	0
	Siltstone, hard reddish-brown with some green patches; occasional irregular haematite patches; some plant remains; becoming sandy at c. 355 ft, still with some plant remains and some haematite patches; (Core missing 356 ft - 359 ft)				
	continuing mottled red-brown and pale green;	c. 9	1	361	1
	Thin carbonaceous film - probably represents a COAL	—	—	361	1
	Seatearth, shaly, banded red-brown and pale green; many lichtic surfaces and rootlets; becoming sandy at 362 ft 9 in.; silty from 365 ft, still with rootlets; broken at c. 366 ft;	6	5	367	6
	Siltstone, pale green and red-brown, with some rootlets and plant remains;	1	6	369	0
	Missing	5	0	374	0
	Seatearth, shaly, banded red-brown and pale green; many lichtic surfaces and some rootlets; becoming silty at 375 ft, flaky lichtic surfaces, but still with rootlets; becoming shaly again at c. 378 ft; many lichtic surfaces, and with Stigmaria; more massive and silty from 379 ft 3 in.; shaly and with lichtic surfaces for c. 9 in. at 382 ft 3 in., more massive and silty below, still with rootlets; passing to	c. 12	0	c. 386	0
	Siltstone, massive, micaceous; mainly red-brown with some greenish patches; haematitic limestone nodules and some rootlets; abundant small green spots (fish eyes) locally; 2 in. haematitic limestone nodule at 388 ft; becoming sandy at 388 ft 9 in.; no rootlets below, but still with plant fragments (including Calamites); lichtic surfaces at 391 ft; less sandy for 1 ft at c. 394 ft 6 in., sandy below with thin carbonaceous laminae; still red stained; (missing c. 396 ft - 399 ft)				
	passing to	c. 15	0	401	0
	Sandstone, fine, silty, red-brown; locally grey along cracks and bedding planes; laminated and micaceous;	2	6	403	6
	Seatearth, altered, stained brick-red and grey-green; rootlet traces; lichtic and slickensided surfaces and occasional patches of altered sphaerosiderite;		6	404	0
	Missing	2	0	406	0
	Mudstone, brick red (possibly seatearth); much altered sphaerosiderite;		~~9~~ 9	~~406~~ 406	~~9~~ 9
	Missing		3	407	0

C.B.H. 27185 - Wt. 53835 - Dd. 0609-2000 2/56

6-inch Map 155

6-inch Map Registered No. SK 40 SE 15

Name of Shaft or Bore given by Geological Survey: THE FIELDS No.3 (1959) B.H.

Geological Classification	Description of Strata	Thickness Ft	Thickness In.	Depth Ft	Depth In.
	Brought forward			407	0
LCM	Siltstone, brick-red and green-grey, rootlet traces; (probably an altered seatearth); sandy for 9 in. at 408 ft; traces of plant strips and other plant debris; locally mudstone from 408 ft, with frequent rootlets and occasional spherosiderite (definite seatearth); occasional listric and slickensided surfaces; semi-porcellanous; small haematitized ironstone nodules from c. 410 ft;	4	2	411	2
	Sandstone, pinkish-brown, fine; occasional plant strips; haematitized ironstone nodule with columnar structure at 411 ft 10 in; occasional silty layers below with current-bedding; purple shaley mudstone for 1 in. at 412 ft 11 in; very broken from 413 ft 6 in to 419 ft 9 in, with c. 1 ft missing; occasional altered carbonaceous and micaceous layers;	8	7	419	9
	Siltstone, brick-red with occasional greenish patches; micaceous; becoming finer; semi-porcellanous; passing to	c. 1	3	c. 421	0
	Mudstone, brick-red with occasional greenish patches; laminated, micaceous, locally silty; occasional joints coated with calcite; locally slightly ferruginous; passing to	c. 3	6	c. 424	6
	Siltstone, red with local green patches; occasional listric and slickensided surfaces; badly broken from 425 ft 9 in to 427 ft with haematitized ironstone nodules (columnar structure); mudstone for 5 in. at 427 ft 5 in; passing to	c. 4	0	c. 428	6
	Sandstone, brick-red with green patches, fine; local altered ferruginous impregnations;	c. 1	6	430	0
	[core locally broken from 430 ft to 442 ft, with 4 ft missing]				
	Siltstone, brick-red with green patches; micaceous; poorly laminated; mudstone from c. 432 ft 6 in to c. 434 ft, with occasional rootlets and leaflet traces; local slight haematitized ferruginous impregnations;	c. 6	0	c. 436	0
	Seatearth, red-brown with occasional greenish patches; many listric and slickensided surfaces, locally completely slickensided; stronger from c. 442 ft; silty from c. 443 ft 9 in, with grey patches, particularly around rootlets; grey from c. 444 ft 6 in, apart from faint pink staining of some rootlets; sandy from c. 445 ft 3 in; passing to	c. 10	0	c. 446	0
	Seatearth, very sandy; occasional red-brown mottles; stronger; frequent haematitized ironstone nodules; [core locally broken between 443 ft 9 in and 457 ft 4 in, with c. 2 ft missing]	c. 1	9	c. 447	9
	Seatearth, dark grey, micaceous, silty, occasional ironstone nodules; occasional sandy wisps from 452 ft 3 in				

Shaft or Bore given by Geological Survey: THE FIELDS No. 3 (1959) BH

6-inch Map Registered No. SK 40 SE 7 415

Geological Classification	Description of Strata	Thickness Ft	Thickness in.	Depth Ft	Depth in.
Lam	Brought forward			453	6
	Siltstone, pale reddish brown with grey patches; laminated and micaceous, with occasional sandy wisps; occasional rootlets; becoming gradually grey from 456 ft; passing to	3	0	456	6
	Mudstone, grey, silty, laminated and micaceous; becoming gradually finer; darker from 457 ft 9 in; becoming gradually very dark grey and shaly;	3	2	459	8
	Shale, black, slickensided in top inch and with many listric and slickensided surfaces below; haematitized ironstone nodule at 460 ft 3 in; mussel traces at 460 ft 8 in; silty below with fish remains and occasional pyrite streaks;				
	Naiadites at 461 ft 6 in;	2	2	461	10
	COAL (Clod) (core complete)	2	7	464	5
	Seatearth, grey, silty, strong; occasional ironstone nodules; sandy wisps from 468 ft 9 in; 3 in. ironstone band at 472 ft 3 in; sandy laminae below 472 ft 6 in;	9	1	473	6
	Siltstone, grey, sandy; with abundant sandy laminae; occasional rootlets; some dark carbonaceous laminae at c. 475 ft; passing to	c.1	9	c. 475	3
	Sandstone, fine, grey, with abundant silty laminae; some false bedding; some layers with abundant small plant fragments at c. 478 ft 2 in;	c.3	1	478	4
	Siltstone, grey, sandy; some layers with abundant small plant fragments; passing to	c.	6	c. 478	10
	Mudstone, grey, massive; passing to	c.	6	c. 479	4
	Siltstone, grey, laminated; with worm marks; becoming finer below c. 481 ft, still with worm marks at some horizons; plant fragments abundant at 483 ft 10 in; sandy below c. 484 ft; steep calcite-coated joint at 486 ft 6 in; 3 in. ironstone band at 489 ft 3 in; finer below; passing to	c.14	8	c. 494	0
	Mudstone, grey, laminated; occasional plant fragments; 1 in. ironstone band at 496 ft 6 in; becoming darker and more shaly at 497 ft; rather broken with many listric surfaces at 498 ft;				
	COAL (Kathleen) (core complete)	c.5	9	499	3
	Seatearth, grey, silty, strong; sandy and micaceous from 502 ft 4 in; passing to	1	5	500	8
	Sandstone, grey, many silty wisps and carbonaceous and micaceous layers; spherosiderite in band 3 in.	c. 3	1	c. 503	9
	Mudstone, grey, silty, laminated; haematitic spherosiderite at 505 ft, and locally for 3 in. below; fragment-filled burrows; occasional listric and slickensided surfaces; local patches red-brown staining; gradually becoming finer and darker; passing to	c. 4	9	c. 504	6
		c. 4	4	c. 508	10
				38	2

…of Shaft or Bore given by Geological Survey: THE FIELDS No. 3 (1959) B.H.

6-inch Map Registered No. SK 40 SE 15 / 27

GEOLOGICAL CLASSIFICATION	DESCRIPTION OF STRATA	THICKNESS FT	THICKNESS IN.	DEPTH FT	DEPTH IN.
	Brought forward			c. 508	10
LCM	Shale, black; ~~occ~~ occasional listric and slickensided surfaces; frequent double tubes; pyritized mussel trace at 509 ft 2in; silty and carbonaceous in basal inch;	c. 1	5	510	3
	Seatearth, grey, very slickensided; mainly ironstone in the top 3in; stronger from 510 ft 10in; occasional ironstone nodules; passing to	1	7	511	10
	Siltstone, grey, local slight purple staining; occasional rootlets and frequent plant strips and other plant debris; becoming mottled purple and pale green; 3in. ironstone nodule at 513 ft 1in; local very faint purple staining below, with occasional haematitic rootlets; frequent sandy wisps and worm marks from c. 514 ft 7in; passing to	c. 4	2	c. 516	0
	Sandstone, purple and green stained; many silty wisps in the top 4in; strongly purple stained below for 9in with rotted haematized ironstone nodules; pale purple and green below; occasional silty wisps and carbonaceous and micaceous layers, frequently green; local reddish spots; haematitic for 2in. at 521 ft 11in; seen to	c. 7	1	523	1
	Bottom of borehole			523	1

BCW
5/77

C.B.H. 27185 - Wt. 53825 - Dd. 0609 - 2000 - 2/56

GEOLOGICAL SURVEY OF GREAT BRITAIN

RECORD OF SHAFT OR BORE FOR MINERALS

(For Survey use only)
6-inch Map Registered No.
SK/40SW/1

Name of Shaft or Bore given by Geological Survey:
The Fields (1956) B.H. No. 1

Name and Number given by owner:
As above

Nat. Grid Reference
4482 . 0441

For whom made National Coal Board

Town or Village ~~Hathern~~ Newbold Verdon County Leicester

Exact site 865 yd. at 40° from N. corner of Newbold Verdon Church. (Attach a tracing from a map, or a sketch-map, if possible.)

1"N.S. Map No.	1"O.S. Map No.	Confidential or not
155		

Purpose for which made To prove base of New Red Sandstone and underlying Coal Measures

Ground Level at ~~shaft~~ bore relative to O.D. + 425·83 ft. If not ground level give O.D. of beginning of shaft bore —

Made by Cementation Co., Ltd. Date of sinking Jul-Aug. 1956

Information from driller's log and examination of ~~samples and~~ cores Date received

Examined by D.C. Craig.

SPECIMEN NUMBERS AND ADDITIONAL NOTES

(For Survey use only) Geological Classification	Description of Strata	Thickness Ft	Thickness In.	Depth Ft	Depth In.
	Rock bit samples (not seen by D.C.C.) – driller's log.				
Sand & Gravel	Top soil	1	0	(0·30) 1	0
	Sandy clay and boulders	(1·22) 4	0	5 (4·57)	0
	Red marl; patches of sandstone to 30 ft.	95 (28·96)	0	100	0
	Cores begin – D.C.C.'s log			(30·48) 100	0
	Grey micaceous fine sandstone	(0·15) 0	6	(30·63) 108	6
	Dark red micaceous marl; very hard above 2 in.				
	gypsum at 101 ft.; fish-eyes and other green patches;				
	green and sandy for 11 in. at 107 ft. 6 in.; with much				
Keuper Marl	gypsum in top 3 in.; 10 in. green-grey sandstone at				
	110 ft. 7 in.; 3½ in. gypsum at c. 119 ft.; fine shaly				
	sandstone below; mainly sandstone for 23 in. at				
	125 ft. 6 in.; strong lustre-mottled red sandstone for				
	9 in. at 129 ft. 6 in.; occasional gypsum and thin				
	sandstone bands elsewhere; gypsum bands often				
	irregular; red marl and gypsum very uniform for				
	c. 18 ft. at base [12 ft. core missing to 140 ft.]	56 (17·38)	10	157 (47·96)	4
	[N.B. Thicknesses and depths underlined are estimated				
	where much core is missing, from the driller's marks.]				
	Green micaceous siltstone; occasional gypsum bands;				
	2 in. pink sandstone at 158 ft. 3 in.; sandy in basal 3 ft.	(2·11) 6	11	164 (50·06)	3
	Red siltstone with much crystalline gypsum in small				
	masses; occasional green patches; 2 in. gypsum at				
	170 ft. 6 in.; green and red lustre-mottled sandstone				
	for a few in. at c. 176 ft.; many green finely sandy				

C.B.H. 27165 - Wt. 5825 - Dd. 0609-2000 - 2/56

(2781) •Dd0586/W164578 5,000 4/55 JC&S Gp669

SK40SW/1

Name and Number of Shaft or Bore given by Geological Survey: The Fields (1956) B.H. SN. 3298

County Leicester

6" Quarter Sheet 30 SW.

Geological Classification	Description	Thickness (Ft)	Thickness (in.)	Depth (Ft)	Depth (in.)
	Brought forward			(50·06)	164 3
K m	bands for c. 1ft. at c. 182ft 6in.; generally well laminated throughout; sandy for 2ft 6in. at 186ft 6in., mainly green in basal 9in.; occasional bands of sandstone with chips of marl; often very strong passing to	(10·59)	c. 34 9	(60·65)	c. 199 0
	Fine red sandstone; occasional micaceous layers; not markedly different from some of the overlying siltstone but the finer beds are much less common; occasional pockets of gypsum; locally very strong; green patches and bands	(2·74)	c. 9 0	(63·40)	208 0
	Red siltstone and micaceous marl; coarse sandstone for 11in. at 210ft 5in. with many small cavities; locally green	(1·83)	6 0	(65·23)	214 0
	Pale red medium sandstone; green and coarser in top few in.; many small cavities locally; occasional thin silty and marly bands and bands of marl chips; locally green; small spots with stronger cement locally	(2·44)	c. 8 0	(67·67)	c. 222 0
	Darker red micaceous siltstone; thin pale sandstone near top; locally green passing to	(0·91)	c. 3 0	(68·58)	c. 225 0
Keuper Sandstone	Red fine micaceous sandstone passing to	(0·61)	c. 2 0	(69·19)	227 0
	Red micaceous siltstone; many green patches; much fine sandstone just below 230ft.; mainly marl from c. 235ft with some sandstone bands near base (16ft. seen)	(6·10)	20 0	(75·29)	247 0
	[N.B. 20ft. of core missing between 230ft. and 278ft.]				
	Red and green medium sandstone; locally coarse	(0·91)	3 0	(76·20)	250 0
	Red and green shaly marl; locally silty (2ft. seen)				
	Red micaceous siltstone; occasional green patches and bands (6ft. seen)	(7·32)	24 0	(83·52)	274 0
	[Probably most of the missing 16ft. still to be located occurred in the above marl and siltstone]				
	Sandstone; pale and coarse in top 11in., green and finer for c. 1in. below; then dark red, often silty, with green fish-eyes and other patches, to 277ft.; green just below; then red fine sandstone with many green fish-eyes locally; darker below 278ft. and locally silty; very pale and coarser from 292ft 6in.; mainly coarsely micaceous; darker and finer from 296ft.; green at base	(9·14)	c. 30 0	(92·66)	c. 304 0
	Dark red micaceous siltstone; many small quartz grains; green patches passing to	(1·22)	c. 4 0	(93·88)	c. 308 0
	Dark red coarse sandstone; green patches; many small quartz ~~grains~~ pebbles; locally pale; occasional silty and marly patches; finer below c. 313ft.; marl breccia in basal 3in. or so [Base of New Red Sandstone]	(3·35)	c. 11 0	(97·23)	c. 319 0
10.106/10	Purple-stained grey fine sandstone with many plant stems; very occasional ironstone nodules	(2·13)	c. 7 0	(99·37)	326 0
Complete string 8'0"	Purple- and yellow-stained micaceous siltstone; grey from c. 327ft.; tiny plant fragments locally near top; sandy near base	(2·44)	c. 8 0	(101·80)	c. 334 0
LCM	[N.B. c. 8ft. of core missing between 326ft. and 358ft. The deficiency has been divided among the beds between c. 327ft.				

(2781) *Dd0586/Wt64575 5,000 4/55 JC&S Gp669

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SK40SW/1

Name and Number of Shaft or Bore given by Geological Survey:
The Fields (1956) B.H. S.N. 3298

County Leicester

6" Quarter Sheet 30SW.

Geological Classification	Description	Thickness Ft	Thickness in.	Depth Ft	Depth in.
	Brought forward and 348ft 6in.]			(101·80) c. 334	0
	Slickensided grey mudstone; only a few fragments and broken grey clay	(0·61) c. 2	0	(102·41) c. 336	0
	Grey seat earth; laminated; silty at top, finer below; 5in. ironstone at c. 340ft.; darker below passing to	(1·88) c. 6	0	(104·29) c. 342	0
	Black shaly mudstone; occasional rootlets and many listric and slickensided surfaces passing to	(0·61) c. 2	0	(104·82) 344	0
	Grey shaly mudstone; many rootlets and plant stems	(1·37) c. 4	6	(106·22) c. 348	6
	~~Dark grey laminated mudstone~~				
	Strong pale grey fine sandstone; carb in lower part	(0·30) c. 1	0	(106·53) c. 349	6
	Pale grey laminated mudstone; very occasional plant fragments; 3in. ironstone at 351ft 6in. and very occasional thin bands below; worm marks locally; very broken in basal 6in. (very low dip)	(1·98) c. 6	6	(108·51) 356	0
? Middle Lount fo 1/76	COAL	(0·15) 0	6	(108·66) 356	6
	Grey seat earth; locally black; many listric and slickensided surfaces; shaly for a few in. at c. 361ft 6in.; very broken to c. 361ft.; some large plant straps near base; silty in basal 4in.	(1·98) 6	6	(110·64) 363	0
	COAL (core 17in., fragments) (driller's thickness) (very low dip)	(0·76) 2	6	(111·40) 365	6
	Grey and black shaly carbonaceous slickensided seat earth	(0·30) 1	0	(111·71) 366	6
	COAL (core 12in., fragments, core 24in.) (driller's thickness)	(1·07) 3	6	112·78 370	0
LCM	Seat earth; brown-grey in top 4ft 6in. (3ft. missing), grey below; silty, locally sandy, from 374ft., very sandy from c. 377ft.; occasional small ironstone nodules; occasional leaflets and stems	(3·05) 10	0	(115·82) 380	0
	Grey micaceous siltstone with thin sandy wisps; plant fragments and small ironstone nodules; finer and slickensided in basal 3in.	(0·30) 1	0	(116·13) 381	0
	COAL (core 11½in., fragments) (driller's thickness)	(0·553) 1	9	(116·66) 382	9
NETHER LOUNT	Grey seat earth, brownish in top few in.; very broken for c. 2ft at c. 386ft	(1·30) 4	3	(117·98) 387	0
	COAL, very dirty	(0·08) 0	3	(118·03) 387	3
	Seat earth; black and carbonaceous at first, mainly brown-grey to 391ft, then grey and micaceous; many listric and slickensided surfaces; siltstone with rootlets for a few in. at base	(2·59) 8	6	(120·63) 395	9
	Black pyritous shaly seat earth; plant straps near base	(0·25) 0	10	(120·88) 396	7
	Strong pale grey silty seat earth; rootlets not abundant; occasional small ironstone nodules passing to	(1·19) c. 3	11	(122·07) c. 400	6
	Grey micaceous siltstone; leaflets and plant straps; mainly pale fine sandstone for c. 1ft at 403ft; 3in. ironstone at 403ft 11in.; very sandy for 9in. at 406ft; many rootlets for 1ft or so below and occasional small ironstone nodules; sandy for c. 2ft at 413ft; 4in. ironstone at 412ft 7in.; sandy wisps often common below 413ft 6in.; 4in. ironstone at 419ft; 9in. sandstone at base	(5·92) c. 19	5	(127·99) 419	11
	Black micaceous shale	(0·025) 0	1	(128·02) 420	0
WARD	COAL (core 23in.) [Dip very low] (driller's thickness)	(0·76) 2	6	(128·78) 422	6
	Brown-grey ferruginous slickensided seat earth; occasional				

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Pages 4 & 5

SK40SW/1

Name and Number of Shaft or Bore given by Geological Survey: The Fields (1956) B.H. SN. 3298

County Leicester

6" Quarter Sheet 30 SW

Geological Classification	Description	Thickness ft	Thickness in.	Depth ft	Depth in.
	Brought forward			(128·78) 422	6
	small ironstone nodules; sphaerosiderite 1ft. at c. 426ft 6in.; very broken clays below to c. 429ft; occasional small sphaerosiderite nodules below; grey from c. 431ft; silty and locally sandy from c. 433ft passing to	(3·81) c. 12	6	(32·59) c. 435	0
	Grey micaceous siltstone; sandy wisps; many small plant fragments; 5in. ironstone at 437ft 2in.; very sandy below, wavy bedding; some carbonaceous micaceous patches and layers; 7in. ironstone on 3in. sandstone at 440ft	(1·83) c. 6	0	(134·42) 441	0
	Pale and darker grey fine sandstone with many silty and carbonaceous patches and layers; wavy bedding; locally ferruginous; 5in. ironstone at 447ft 3in.; plant fragments, including boreen megaspores, locally common	(2·16) 7	2	(136·60) 448	2
	[Assumed no core missing from the above sandstone, although c. 3ft 6in. missing between marks at 441ft and 453ft 9in.]				
	Grey micaceous silty mudstone, siltstone in top 6in. or so; very many tiny ironstone nodules and some larger ones; occasional plant fragments [only 2ft core]	(1·70) 5	7	(138·30) 453	9
	COAL (core 42in., fragments, core 31in.) (driller's thickness) [Very low dip]	(2·13) 7	0	(140·44) 460	9
	Brown-grey ferruginous seat earth; finely micaceous; many listric and slickensided surfaces; occasional ironstone nodules	(2·90) 9	6	(143·33) 470	3
	[2ft 6in. core missing between marks at 460ft 9in. and 475ft; assumed to be from above seat earth]				
	Grey micaceous siltstone; many rootlets and other plant fragments; occasional ironstone nodules	(1·07) 3	6	(144·40) 473	9
	Pale grey sandstone with very many carbonized plant fragments	(0·38) 1	3	(144·78) 475	0
	COAL (fragmentary core 6in.) (driller's thickness)	(0·30) 1	0	(145·09) 476	0
	Grey micaceous silty seat earth; locally sandy; 4in. ironstone at 481ft 4in.; many small nodules and sandy wisps below passing to	(1·83) c. 6	0	(146·91) c. 482	0
	Grey micaceous siltstone with many sandy wisps; 4in. ironstone at 482ft 10in., with calcite veins; less sandy below c. 483ft with many rootlets	(0·91) c. 3	0	(147·83) 485	0
	Grey laminated mudstone; 3in. ironstone at 485ft 9in., 2in. at 486ft 10in.; occasional plant fragments, double 'tubes', and listric and slickensided surfaces; 4in. ironstone at 487ft 11in., 2in. at 488ft 5in.; dark grey and shaly below 487ft 11in.; 6in. silty ironstone with plant fragments at 489ft 5in.; pyritised mussel fragments at 489ft 6in. passing to	(1·42) c. 4	8	(149·25) c. 489	8
	Black pyritous shale; occasional fish fragments [Dip c. 0°]	(0·44) c. 1	4	(149·66) 491	0
	COAL (core 18in., fragments, core 2in.) (driller's thickness)	(0·91) 3	0	(150·57) 494	0
	[c. 3ft. missing from here to 509ft. mark; assumed immediately below coal.]				
	Soft broken pale grey seat earth; small ironstone nodules Strong grey seat earth; sandy to 501ft, silty and sandy below; occasional ironstone nodules, 3in. at base	(3·35) 10	6	(153·77) 504	6
	Strong grey cuttle-like fine sandstone; carbonate veins;				

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Name and Number of Shaft or Bore given by Geological Survey:
The Fields (F56) B.H SN.3298

County Leicester

6" Quarter Sheet 30 S.W.

Geological Classification	Description	Thickness			Depth		
			ft	in.		ft	in.
	Brought forward				(158·77)	504	6
	carbonaceous micaceous patches and layers; occasional plant fragments	(0·76)	2	6	(159·53)	507	0
	Grey laminated mudstone; occasional ironstone nodules; locally very broken	(0·62)	2	0	(159·14)	509	0
LCM	Grey micaceous siltstone with many sandy wisps; many plant fragments and carbonaceous micaceous layers in top few ft; 4 in. ironstone at 512 ft 8 in. and at 518 ft 6 in.; finer below c. 515 ft; worm marks at 517 ft 6 in.; 5 in. ironstone at base	(3·66)	12	0	(158·80)	521	0
	Bottom of borehole [Dip very low throughout.]				(158·80)	521	0
PP JB 2/57							