

Natural Environment Research Council

BRITISH GEOLOGICAL SURVEY

TECHNICAL REPORT WA/88/47

Sheet SP 27 NE

COVENTRY WEST

Part of 1:50 000 Sheets
169 (Coventry)
and 184 (Warwick)

R A Old

Bibliographic reference

OLD, R A 1988
Geological notes and local details
for 1:10 000 sheets: SP 27 NE (Coventry West)
(Keyworth: British Geological Survey)

Author

R A Old, BSc, PhD
British Geological Survey
Keyworth
NOTTINGHAM NG12 5GG

Production of this report was supported
by the Department of the Environment,
but the views expressed in it are not
necessarily those of the Department.

c Crown Copyright 1988

KEYWORD: BRITISH GEOLOGICAL SURVEY 1988

CONTENTS

	Page
Summary	1
Introduction	2
Geological Sequence	4
Cambrian	5
Upper Carboniferous (Westphalian) and Lower Permian (Autunian)	6
Productive Coal Measures	6
Etruria Marl Formation	8
Halesowen Formation	9
Keele Formation	10
Enville Group	10
Coventry Sandstone Formation	11
Tile Hill Mudstone Formation	13
Kenilworth Sandstone Formation	15
Triassic	15
Bromsgrove Sandstone Formation	15
Mercia Mudstone Group	15
Structure	15
Pre-Westphalian Structures	15
Post-Caledonian - Pre-Triassic Structures	16
Post-Triassic Structures	16
Quaternary	16
Boulder Clay (Till)	16
Stoneless Clay and Silt	19
Sand and Gravel	20
Alluvium	20
Economic Geology	20
Brick Clay	20
Coal	20
Water Supply	21
References	22
Appendix: Schedule of boreholes for SP27NE	24

SUMMARY

The geology of Sheet SP 27 NE (Coventry West) is described with emphasis on significant exposed sections and boreholes logs.

The Cambrian and older Carboniferous formations, including the Productive Coal Measures, are not represented at outcrop, but are known only from a number of boreholes which are summarised in graphic form. Younger Carboniferous and Triassic rocks are poorly exposed and there are very few noteworthy sections.

Details are given of the lithologies and thicknesses of the drift deposits and a diagram shows the elevation of the sub-drift topography.

Attention is drawn to the important coal reserves underlying the area and to water supply. A schedule of boreholes is appended.

INTRODUCTION

This report describes the geology of 1:10 000 Sheet SP 27 NE (Coventry West) (Figure 1), which lies within 1:50 000 geological sheets 169 (Coventry) and 184 (Warwick). The area was first geologically surveyed on the one-inch scale by H H Howell and was included in Old Series One-Inch Sheet 53, published in 1855. An explanatory memoir for the Warwickshire Coalfield was published soon after (Howell, 1859). North of grid line 765 the primary six-inch survey was made by C H Cunnington and T Eastwood in 1913-14 and some local details are given by Eastwood and others (1923).

The whole area was surveyed at 1:10 000 in 1978 and 1987-88 by R A Old, and the Memoir to accompany Sheet 184 is published (Old and others 1987).

The mapping and production of this report were partly funded by the Department of the Environment. Palaeontological contributions to this report are by Drs N J Riley and A W A Rushton, and Mr R E Turner.

Copies of this report and uncoloured dyeline copies of the 1:10 000 map may be purchased from the British Geological Survey, Keyworth.

Parallel reports covering adjoining 1:10 000 sheets are:

SP 27 NW	Berkswell and Balsall Common	(Old, 1987a)
SP 27 SE	Kenilworth	(Old, 1987b)
SP 28 SE	Allesley	(Rees, in prep)
SP 37 NW	Coventry Central	(Old, 1988)

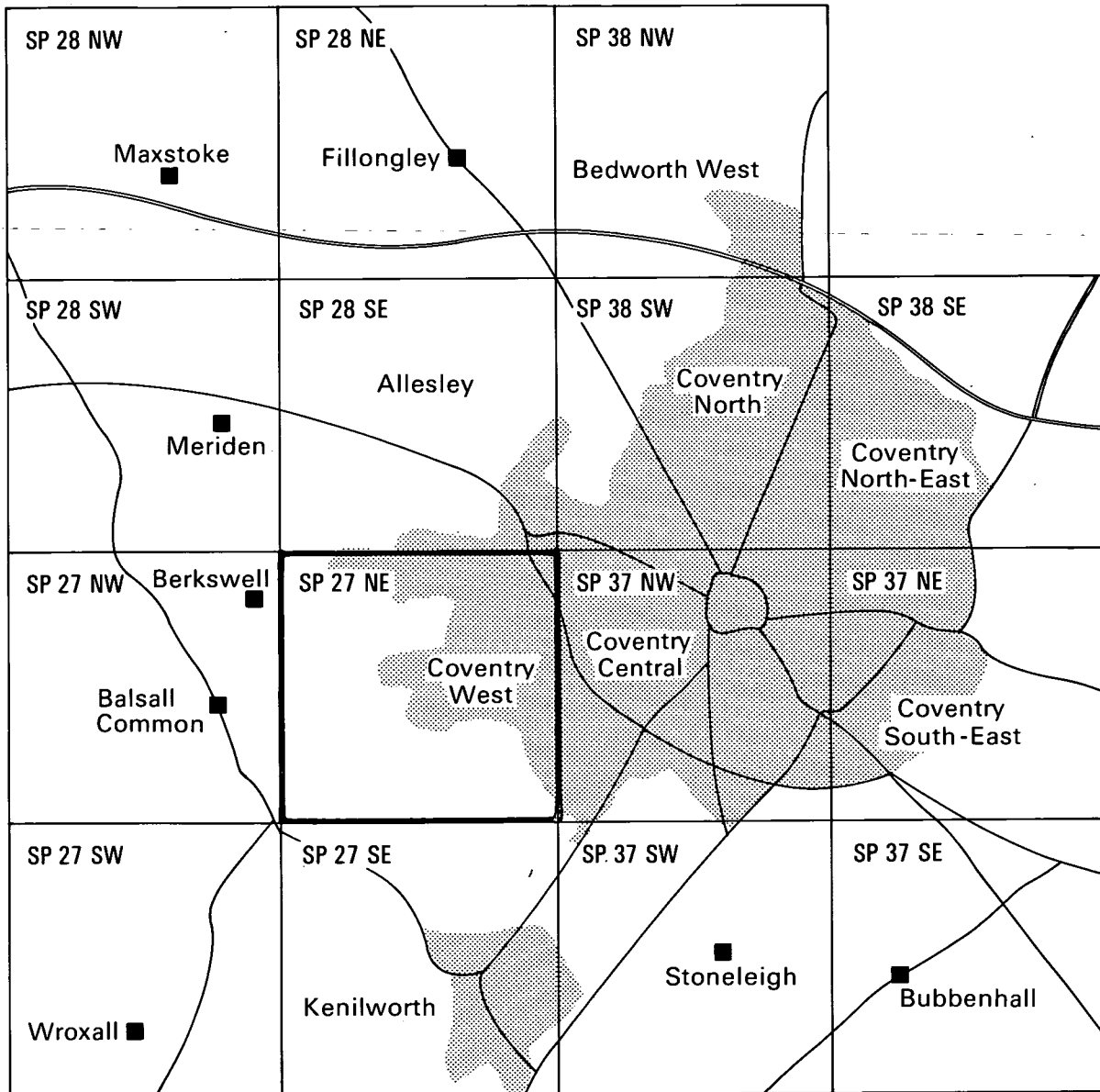


Figure 1: Area of this report relative to area of whole contract is shown with bold outline

GEOLOGICAL SEQUENCE

Part of the Triassic sequence and the Permian and Upper Carboniferous sequence to just below the top of the Coventry Sandstone are represented at outcrop. The remaining parts of the sequence are known only from boreholes.

Quaternary

Alluvium	
Boulder Clay (Till)	} Glacial Deposits
Sand and Gravel	
Stoneless Clay and Silt	

Triassic	Mercia Mudstone Group	Undivided red mudstone
	Sherwood Sandstone Group	Bromsgrove Sandstone Formation

Permian	Enville Group	} Kenilworth Sandstone Formation

Westphalian C, Westphalian A & B	Keele Formation
	Halesowen Formation
	Etruria Marl Formation
	Aegiranum Marine Band
	Productive Coal Measures

Cambrian	Merevale Shales
-----------------	-----------------

CAMBRIAN

Cambrian rocks have been penetrated beneath Coal Measures in nine British Coal boreholes and it is probable that they underlie the Coal Measures throughout the area. They are assigned to the Merevale Shales (Tremadoc Series). Boreholes proving Cambrian rocks are tabulated below.

Borehole	BGS Reg.No. (SP 27 NE)	NGR	Thickness proved (m)	Dip (azimuth, where known, from dipmeter)
Beanit Spinney	8	2655 7658	7	12°
Black Waste Wood	52	2745 7595	9	0-4°
Bockendon	50	2801 7525	23	3°
Catchem's Corner	49	2524 7634	c12	30-40°S
Hurst Farm	53	2890 7587	51	0-5°
Rough Close	9	2648 7851	25	5°
Ten Shilling Wood	7	2934 7683	6	15°
Westwood Heath	48	2810 7659	c42	5°SE

No cores were taken at Catchem's Corner and Westwood Heath and the base of the Coal Measures has been identified from geophysical logs.

The predominant lithology is dark grey fissile mudstone, which becomes paler and weathered, and has a secondary seatearth texture with abundant sphaerosiderite, close to the unconformity with the Coal Measures. There are numerous pale grey siltstone laminae and thin beds, which show cross and ripple lamination, slumping, sole structures and microfaults.

The macro-fossils which have been identified are indicative of the Tremadoc but no further subdivision is possible. *Dictyonema* is recorded in the British Coal logs of Beanit Spinney and Rough Close but no specimens have been preserved. The Bockendon Borehole yielded sponge spicules, Acrotretids, *Broeggeria?* *Eurytreta sabrinae?*, *Lingulella* sp., *Phakelodus*, dark organic traces and trace fossils (*Tomaculum*, *Planolites*, double burrows). *Eurytreta sabrinae* was also present at Black Waste Wood and Ten Shilling Wood yielded *Acanthodiacrodium angustum*, *A. simplex*, *Comptofaciesphaera cambriense*, *Impluviculus miloni*, *Michrystridium shinetonensis*, *Stelliferidium* sp., and

Trichosphaeridium annolovaense, which Mr R E Turner reports are indicative of the Lower Tremadoc. A regional account of the Cambrian sequence in the Warwick area is given by Old and others (1987).

UPPER CARBONIFEROUS (Westphalian) and LOWER PERMIAN (Autunian)

The Westphalian beds rest directly on Cambrian strata; from close below the top of the Coventry Sandstone they do not come to crop in the area, but are known only from boreholes (Figure 2). The sequence consists mainly of mudstones, siltstones and seatearths. The lower part (Productive Coal Measures) and the Halesowen Formation are grey-coloured and coal-bearing; the intervening Etruria Marl Formation is variegated grey, green and red brown. The Keele Formation and the Enville Group consist almost entirely of red measures, predominantly argillaceous in the former and arenaceous in the latter. The only well identified Westphalian subdivision is that between Westphalian B and C marked by the Aegiranum Marine Band, some 20-40m below the Etruria Marl.

Productive Coal Measures

The Productive Coal Measures include all the Westphalian below the Etruria Marl. Because the Vanderbeckei Marine Band is not developed in this area the position of the Westphalian A/B boundary is uncertain, but by comparison with those areas of the Warwickshire Coalfield where the marine band has been proved, the boundary is unlikely to be more than about 10 m below the base of the Thick Coal (Cope and Jones, 1970).

The beds below the Thick Coal are between 20 and 40 m thick (Figure 2). They consist of grey mudstone, siltstone, seatearth and sandstone with impersistent coals up to 0.5 m thick.

Details of the Thick Coal, the only seam of economic importance, are confidential, but it is generally 6 to 7 m thick (Figure 2). The thickness of 14.8 m attained at Black Waste Wood is exceptional. (See also Economic Geology).

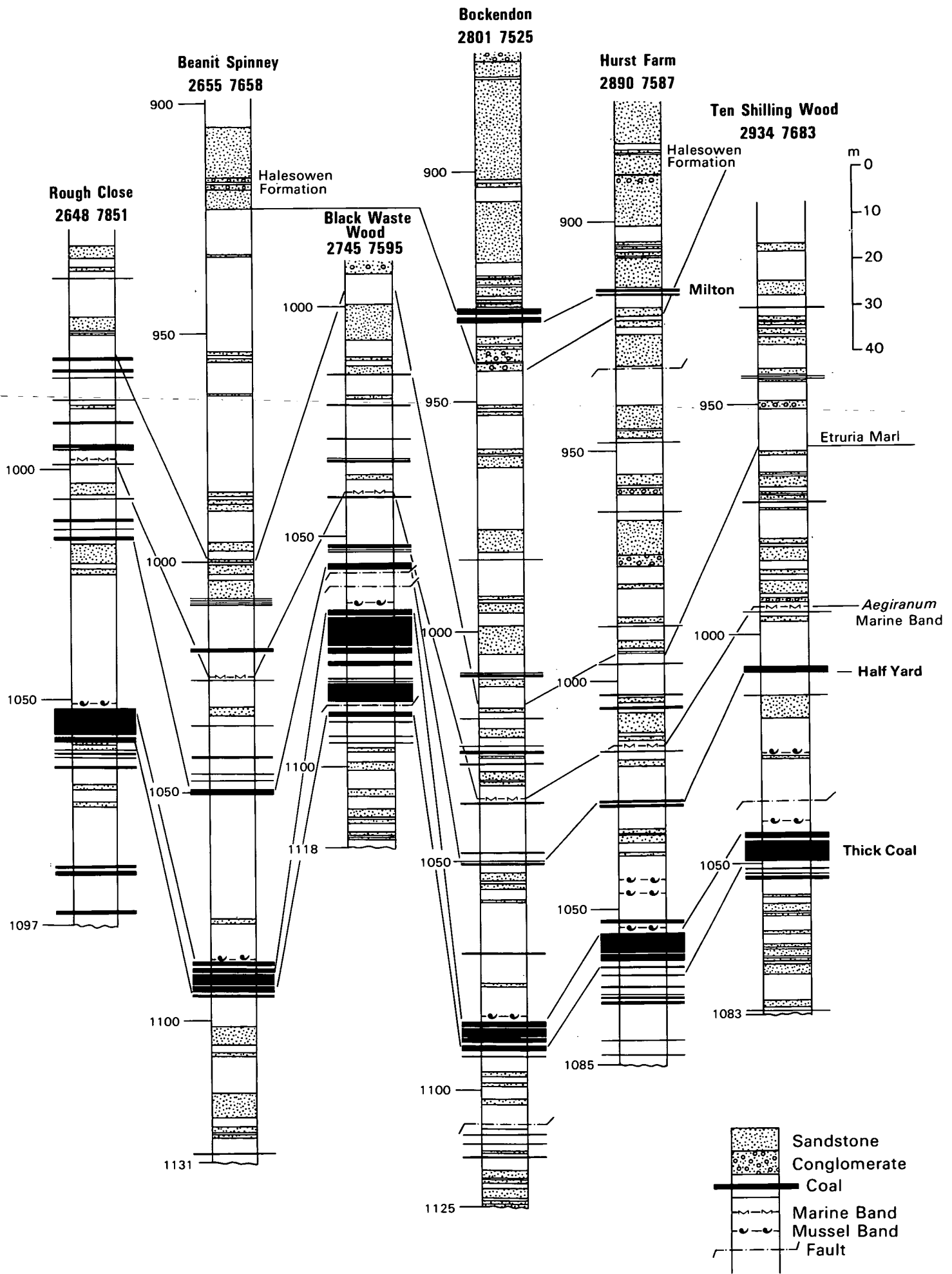


Figure 2. Comparative Westphalian successions in cored boreholes

The beds between the top of the Thick Coal and the base of the Etruria Marl are from 60 to 70 m thick, the variation being mainly due to the diachronous base of the Etruria Marl. The beds are predominantly grey mudstone, with siltstone, seatearth and sandstone generally in minor proportions.

Non-marine bivalves are usually present in the roof of the Thick Coal and occur sporadically in the beds between the Thick Coal and Half Yard. The only specimens preserved are from Hurst Farm where *Anthracosia sp.* occurs at 1043 to 1046 m and *Anthracosia cf. atra* at 1054 m.

The Half Yard is persistent but somewhat variable in thickness, and is commonly split into two leaves.

The Aegiranum Marine Band persists throughout the area and consists of about 2 m of dark grey to black, pyritous mudstone with marine fossils. It is underlain by a thin, persistent coal. Marine fossils were collected at Hurst Farm and Ten Shilling Wood. At the former they included crinoid ossicles, *Lingula mytilloides*, *Orbiculoidea sp.*, *Levipulstula sp.*, *Rugosochonetes skipseyi*, *Anthraconeilo sp.*, *Dunbarella sp.*, *Phestia attenuata*, a nautiloid gastropod, *Coleolus sp?* and *Megalichtys sp.* The fauna at Ten Shilling Wood included *Rugosochonetes skipseyi* and *Serpuloides sp.*

The interval from the Aegiranum Marine Band to the base of the Etruria Marl varies from 20 to 40 m and is very variable in lithology with no persistent marker beds.

Etruria Marl Formation

The complete thickness of the Etruria Marl has been cored in only 3 boreholes (Figure 2) where only the lower part has been cored the full thickness can be calculated using geophysical logs to identify the base of the Halesowen Formation. In general the Formation is thicker where its diachronous base has extended lower into the Productive Coal Measures. It averages about 70 m and reaches a maximum of about 95 m at Rough Close.

The constituent beds of the dominantly argillaceous Formation are characterised by a variable development of colours in shades of brown, red purple and green-grey. Some beds are variegated, some show colours blotched

over a grey background and others are predominantly of one colour. Intervals of grey-beds, indistinguishable from Productive Coal Measures also occur, and the diachronous base of the Formation is taken at the lowest coloured horizon.

The top of the Formation typically consists of coloured mudstones immediately underlying the thick basal sandstone of the Halesowen Formation, but at Hurst Farm the top of the Etruria Marl is mainly arenaceous, possibly due to the lateral passage of the Etruria Marl into the basal Halesowen Sandstone.

A few sandstones in the Etruria Marl, notably at Hurst Farm, are of 'espley' facies, containing lithologies such as Cambrian mudstone, and vein quartz, as well as pebbles of Westphalian lithologies.

Halesowen Formation

The Halesowen Formation comprises about 110 m of pale grey sandstone with subordinate grey mudstone, siltstone and seatearth, and a few thin coals. The thick basal sandstone is a convenient, although arbitrary, base for Westphalian D. The top of the Formation is taken by British Coal to be a persistent high gamma peak in borehole gamma logs, which occurs at or close to the junction with the predominantly red-brown Keele Formation beds above.

The sandstones commonly have erosive or load casted bases with thin intra-formational breccias or conglomerates. They may occur in fining-upwards units with a variety of cross-bedding structures or they may be massively bedded. Many sandstones are micaceous and a calcareous cement is typical. Coaly laminae and debris are abundant.

The Milton seam was cored at Bockendon and Hurst Farm where it occurred in two leaves (Figure 2). It is absent at Beanit Spinney and has not been identified on the geophysical logs of the boreholes where this interval was not cored. A coal about 20 m from the top of the Formation at Black Waste Wood, Hurst Farm and Ten Shilling Wood is correlated with the Broughton by British Coal.

Keele Formation

The Keele Formation has not been cored in this area and is known mainly from chipping samples and geophysical borehole logs. In the district to the north it consists predominantly of red-brown mudstones with subordinate sandstones, and a few thin beds of Spirorbis limestone (Eastwood and others, 1923). From the few cores available in other areas there appears to be a gradual transition from the predominantly grey Halesowen Formation to the red measures of the Keele. The geophysical logs from the boreholes show a remarkably high gamma radiation over a narrow zone at about this level, and this has been taken as the base of the Keele Formation although it may not correspond precisely with the lithological boundary: the geophysical correlation of the sandstones in the overlying beds seems to confirm that this is a widely persistent marker. The Formation is distinguished from the overlying Coventry Sandstone Formation by its more argillaceous nature, and top of the Keele Formation is thus rather indefinite. As thus defined the Formation is about 240 m in thickness.

Enville Group

The Enville Group of the Warwickshire Coalfield was first defined as comprising the beds now known as the Coventry Sandstone and Tile Hill Mudstone (Eastwood and others, 1923, p.77). This report follows the modified definition of Shotton (1929, p.169) which includes additionally all the pre-Triassic rocks above the Tile Hill Beds of the earlier writers.

The outcrop of the Enville Group is confined to the east of the Warwick Fault. The predominant dip is southerly and the beds at crop include, from north to south, the top of the Coventry Sandstone, the whole of the Tile Hill Mudstone and the lower part of the Kenilworth Sandstone. The remainder of the Coventry Sandstone has been proved in boreholes and the total thickness of the Group is about 600 m.

The age of the Enville Group is discussed by Old and others (1987) and the base of the Permian is placed tentatively at the base of the Kenilworth Sandstone.

Coventry Sandstone Formation

The Coventry Sandstone consists of about 310 m of red-brown sandstones with interbedded mudstones, some of which combine to form thick units. There are a few conglomerates and pebbly sandstones, notably in the Corley Member. The top of the Formation comes to crop in Lower Eastern Green, where there are a few small exposures of red-brown sandstone. The junction with the dominantly argillaceous Tile Hill Mudstone can be mapped with some confidence even in the built up area. In contrast the base of the Formation has only been identified from geophysical logs of boreholes and, because of its apparently gradational nature, is imprecisely known.

The upper 175 m of the Coventry Sandstone is known in detail from a borehole and two wells within a 4 m radius at Mount Nod. A graphic log of the No.2 well is given in Figure 3. The sequence is described in detail by Shotton (1933) using a slightly different classification to that adopted here. From 130 m below the top of the Formation the sequence at Mount Nod includes several conglomerates and breccias, and is correlated by this survey with the Corley Member (Corley Conglomerate of earlier writers) which lies at this level in the adjoining area (Old, 1988). On the basis of similarities in pebble content Shotton (1933, p.469) correlated the conglomeratic interval between 171.5 and 184.2 m with the Allesley Conglomerate at crop just to the north of the area. Previously, however, he had (1929) correctly placed the outcrop at Allesley 90 m below the top of the Formation. The absence of conglomerate at that horizon at Mount Nod is not surprising because the conglomerates at outcrop at Allesley are thin channel lag deposits.

Detailed pebble counts for various conglomerates and breccia beds at Mount Nod are given by Shotton (1927). The pebbles include Carboniferous limestone and chert, Silurian sandstone, Cambrian quartzite and Precambrian igneous and sedimentary rocks. It is noteworthy that the Precambrian rocks occur predominately as angular clasts while the remaining lithologies form rounded pebbles.

Pieces of silicified wood at 73 m are identified (Shotton 1933, p.476) as cf. *Dadoxylon brandlingii* which is the same species found at outcrop in Allesley

Tile Hill Railway Station
2781 7755

Mount Nod Well
2922 7927

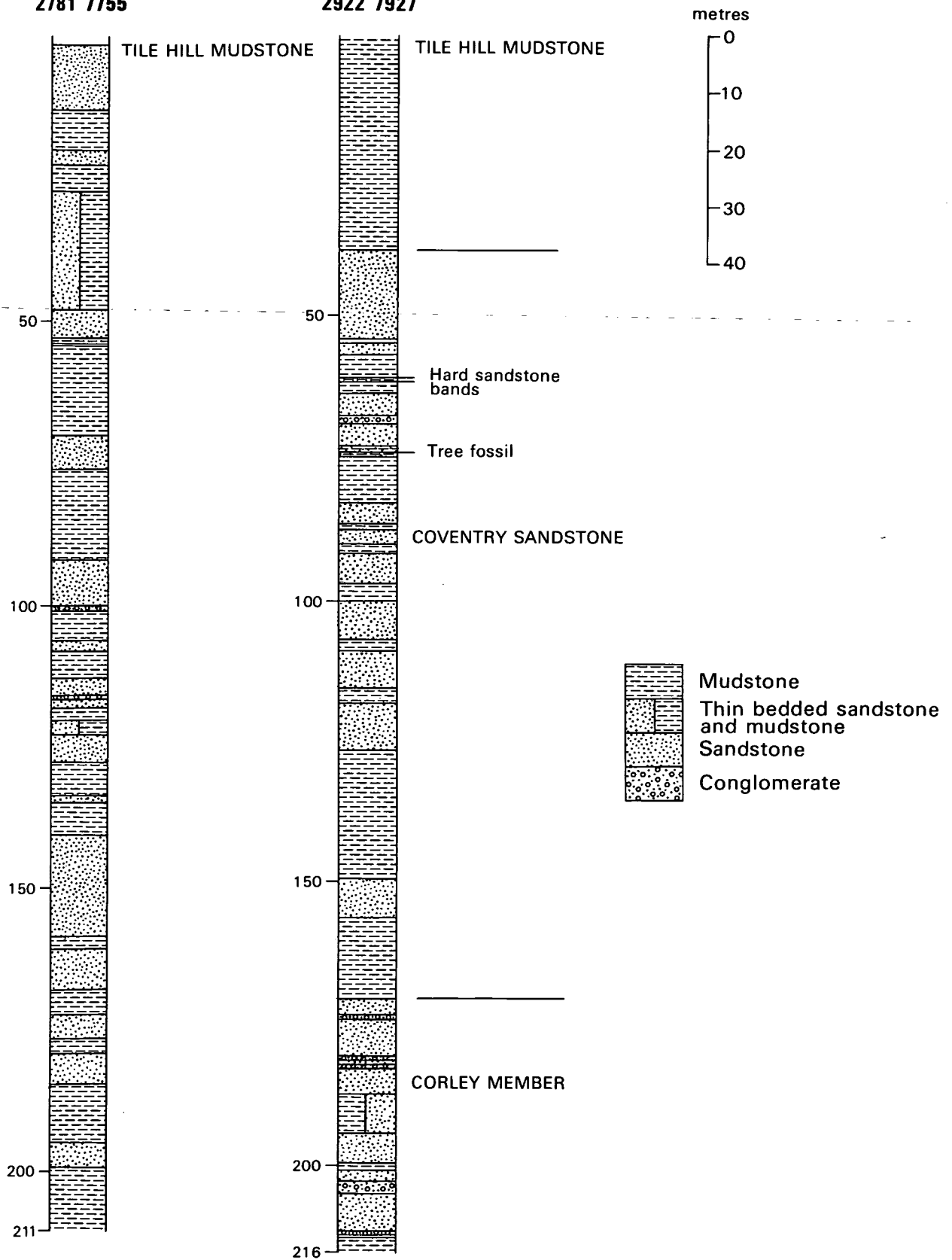


Figure 3. Enville Group successions in cored boreholes

just to the north of the area (Eastwood and others 1923). "Purple sandstone with abundant pieces of squashed, hematized wood, resembling *Cordaites*" were encountered at 211 m (Shotton 1933, p.469).

Tile Hill Mudstone Formation

The whole of the Tile Hill Mudstone comes to crop in this the type area, and the Formation consists of red-brown mudstone, with subordinate commonly impersistent sandstones, totalling about 280 m. The limits of the Formation are clearly defined by the arenaceous formations above and below.

There are very few good exposures, most of which are in sandstone and a detailed succession has not been established, particularly in the most heavily drift covered areas. Mapping of individual sandstones shows that they tend to vary rapidly in thickness and sometimes die out completely.

The sandstones are either fine grained, hard, flaggy, calcareous, red-brown or green, or coarse and massively bedded, with channel lag conglomerates, red-brown and more easily weathered. Both lithological types may occur within one unit and probably represent components of upward fining fluvial cycles.

Eastwood and others (1923, p.87) and Shotton (1929, p.172) allude to a sandstone with layers of conglomerate in a quarry at Beechwood [2691 7713]. The quarry has since been back-filled, but the sandstone makes a pronounced north-south feature from Little Beanit Farm [256 766] to Hodgett's Lane [259 773]. The sandstone is not exposed in a railway cutting to the north, due to the intervening Princethorpe Fault. Shotton (1929) named the bed Beechwood Conglomerate and gave a pebble count as follows:

	%
Silurian sandstone and quartzite	25
Quartzite (? Cambrian)	6
Chert (Lower Carboniferous)	50
Carboniferous Limestone	10
Ash (Precambrian)	2
Others	7

Similar beds exposed in the railway cutting 900 m to the west [2508 7740] are probably at a slightly lower horizon, rather than the same one repeated by faulting as suggested by Old and others (1987, p.15). The sequence is:

	Thickness (m)
Sandstone; brown, flaggy, false-bedded, with scattered clasts of mudstone and red chert; 2-3 mm pebbles of grey quartzite at base; channelled into underlying bed	1.5
Silty sandstone; red-brown, flaggy, with impersistent grey-green partings; cut out to east by bed above	0.6 - 1.1
Sandstone, brown, in beds up to 1.5 m thick with lenses of breccio-conglomerate up to 0.2 m; the latter contain abundant mudstone clasts up to 3 cm in diameter and small clasts and pebbles of white quartzite and grey sandstone; pebbles and clasts of quartzite and chert are scattered throughout the sandstone	seen 3.9

Thin beds of conglomerate were also encountered in the boring at Tile Hill Railway Station (Figure 3). All the conglomerates described above are probably channel lag deposits and are unlikely to be of value in detailed regional or even local correlation.

No significant exposures of mudstone were seen. In the boring at Tile Hill Railway Station (Figure 3; Butler, 1946) the mudstones had well developed green reduction spots or 'fish-eyes' (BGS MS records).

At Mount Nod the basal 22 m of the formation is "red 'fish-eyed' marl with occasional thin red or grey sandstones" (Shotton 1933, p.467). The mechanism of formation of reduction spots in the Enville Group, including a sample of mudstone from the University of Warwick [299 758], was studied by Mykura and Hampton (1984).

Kenilworth Sandstone Formation

Only the basal 10 m of the Kenilworth Sandstone comes to crop in the southeast of the area, and there are no exposures. Most of the beds are coarse red-brown sandstone, with minor amounts of red-brown mudstone. The base of the Formation is marked by a prominent scarp, which notably encloses the outlier at Cryfield House Farm [295 755].

TRIASSIC

Bromsgrove Sandstone Formation

A small outcrop of red-brown mudstone between the Fernhill and Warwick faults at Moat Farm [262 751] is contiguous with mudstone to the south occurring within the Bromsgrove Sandstone Formation (Old 1987b). The remainder of the Formation, probably preserved at depth beneath the Mercia Mudstone Group, is likely to consist of grey and buff sandstone interbedded with red-brown mudstone.

Mercia Mudstone Group

Red-brown mudstone assigned to the Mercia Mudstone Group forms a triangular outcrop, largely obscured by drift, west of the Warwick Fault. There are no exposures.

STRUCTURE

A synthesis of the structure of the Warwick district is given by Old and others (1987). In this area the Warwick Fault forms the boundary between the Knowle Basin to the west and the Coventry Horst to the east.

Pre-Westphalian Structures

Viewed in their regional setting (Old and others 1987, fig.2) the Cambrian rocks lie on the NW limb of a broad NE-SW syncline, which has been identified by plotting the faunal zones proved in boreholes. The dip azimuths of

Cambrian rocks proved in the boreholes listed earlier are not generally known, and the structure of these beds is not known in detail. Folding in the Cambrian rocks presumably dates from the Caledonian orogeny.

Post-Caledonian - Pre-Triassic Structures

Following the deposition of the Enville Group, folding produced a shallow syncline that plunges gently southwards. West of grid line 27 the western limb of the syncline gives rise to easterly dips of about 10° but the heavy drift cover obscures much of the detail hereabouts. West of the surface position of the Warwick Fault, seismic data obtained by British Coal show that the dip of the Thick Coal is about 10° northeastwards.

Post-Triassic Structures

Nothing is known of any fold structures affecting the Triassic rocks. Most of the faults in the area probably have post-Triassic movements although only the Warwick and Fernhill faults are known to affect Triassic rocks. The Warwick Fault is probably a Triassic growth fault bounding the Knowle Basin, and has a westerly downthrow of at least 60 m.

QUATERNARY

The older Quaternary deposits are the product of a single glacial stage, the Wolstonian, although they do not occur in the readily identifiable stratigraphic sequence of characteristic lithologies found in the type area to the east (Shotton 1953). The glacial drift occurs mainly in the north and southwest of the area (Figures 4 and 5), and was deposited on an irregular topography which has been partly exhumed and modified by post-glacial erosion. In the southwest, drift up to 15 m thick was deposited on the northeast side of the Meer End Channel, an important NW-SE sub-drift valley which lies mainly to the south and west (Old, 1987a,b).

Boulder Clay (Till)

Boulder clay forms the bulk of the glacial deposits and encloses, or is in places underlain by, impersistent beds of sand and gravel or laminated clay

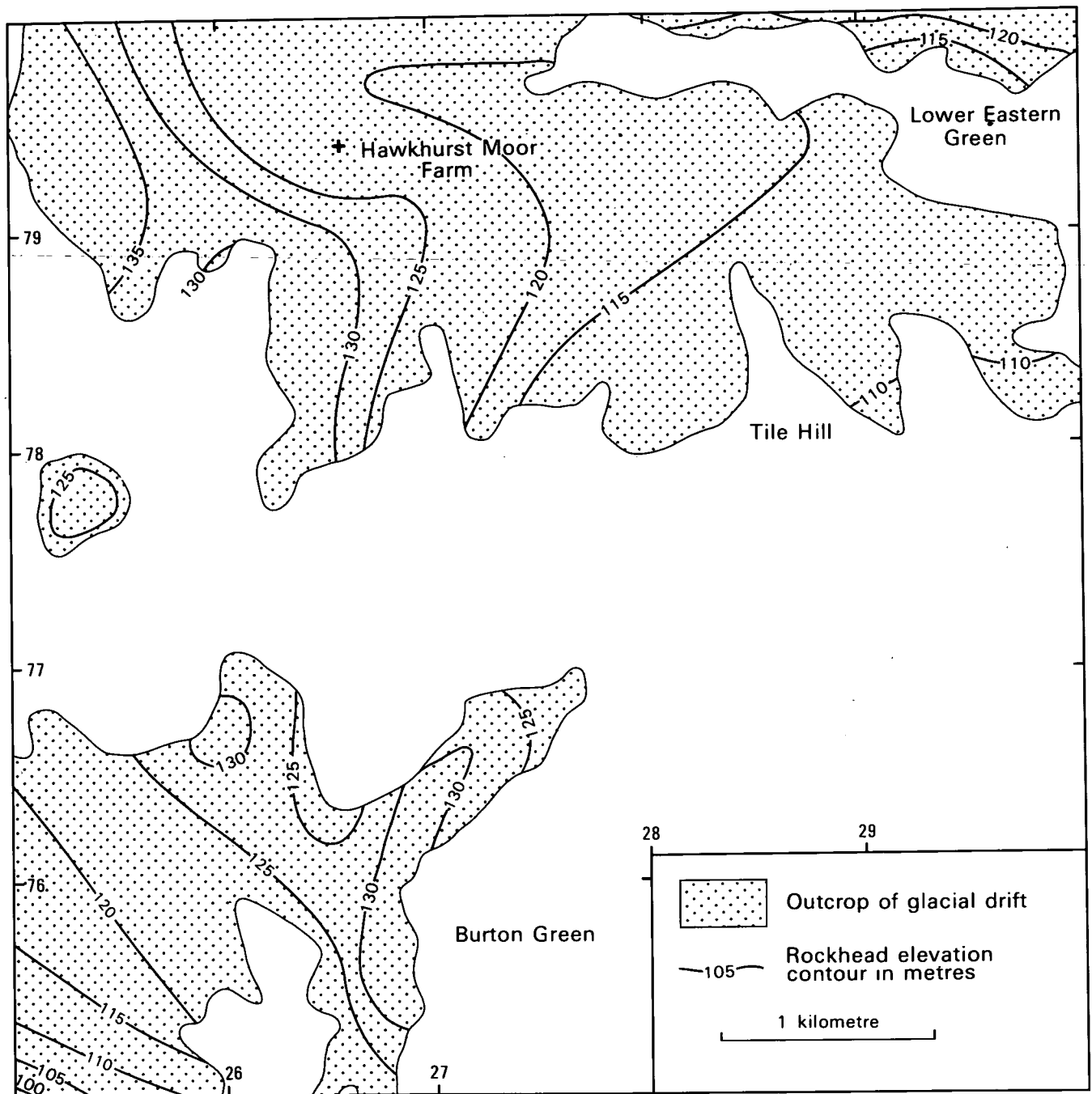


Figure 4. Rockhead elevation at the base of the glacial drift

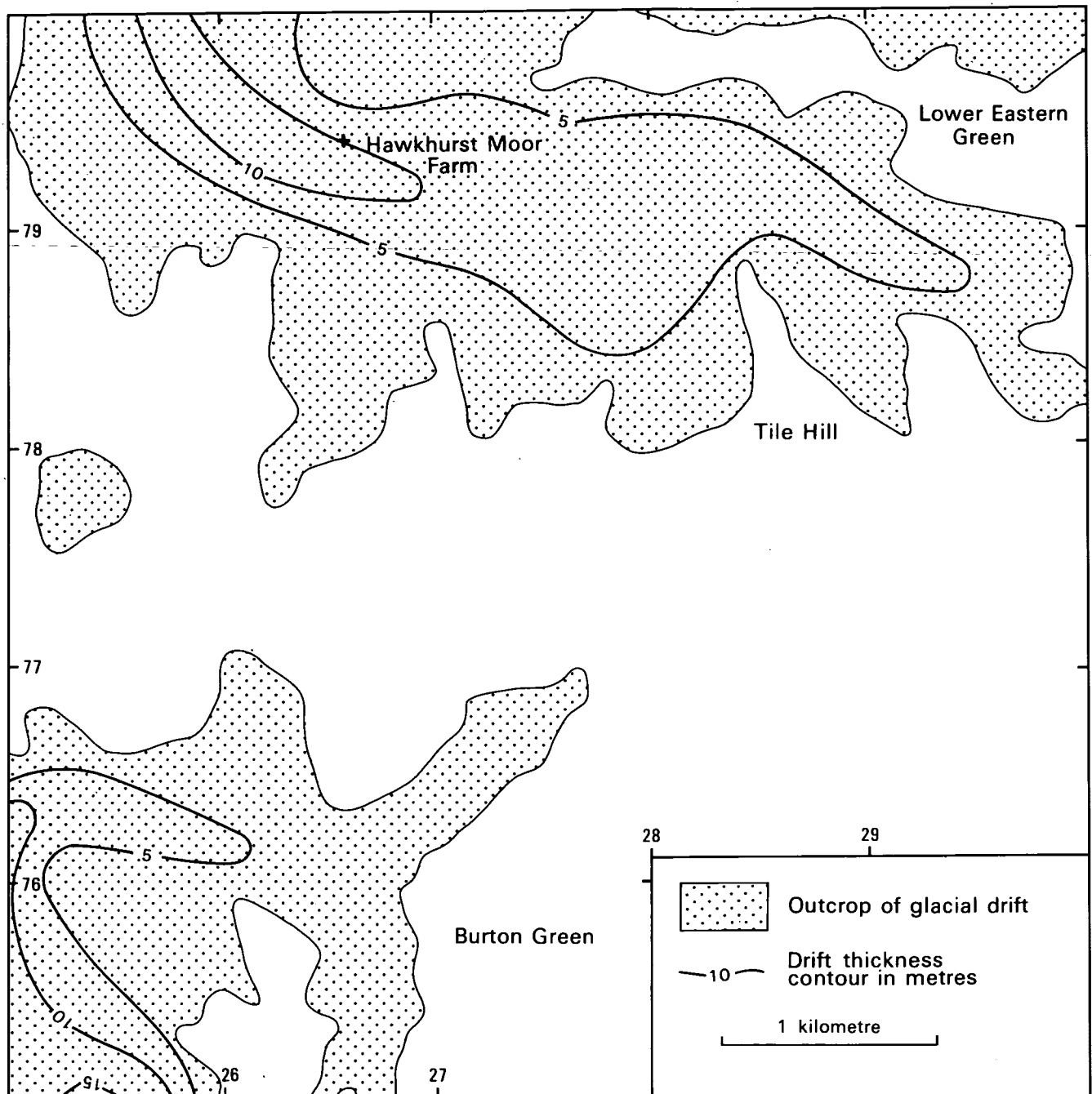


Figure 5. Thickness of glacial drift

and silt. Much of the outcrop west of Tile Hill was shown as drift-free on the geological maps of 1913-14, perhaps due to the predominant red-brown boulder clay being confused with Tile Hill Mudstone. However, the boulder clay outcrop is strewn with large numbers of erratics, notably 'Bunter' quartzite pebbles, orange chert or flint, and blocks of angular quartzite probably derived from the Cambrian Hartshill Quartzite which crops out some 15 km to the NNE.

Boreholes around Hawkhurst Moor Farm [266 795] proved up to 12 m of glacial deposits, mainly boulder clay. The predominant lithology is a red-brown clay with a microbrecciated texture, and with a variety of erratics including 'Bunter' quartzite, angular quartzite and Enville lithologies. The clay matrix is commonly calcareous and sometimes encloses small calcareous concretions. Similar concretions are commonly encountered in hand auger samples hereabouts. Abundant, ovoid, septarian calcareous concretions up to 10 cm across occurred in boulder clay excavated at a depth of 4 m behind a factory at Banner Lane [2707 7868].

Boreholes at Jardine Crescent, Tile Hill [288 789] proved about 9 m of red-brown and grey sandy boulder clay, underlain by about 3 m of red-brown silty sand.

The outcrop of boulder clay west of Burton Green to about grid line 255 is characterised by an abundance of chalk and flint erratics in a grey or brown clay matrix. Further west the boulder clay lacks these easterly derived erratics and consists of brown silty clay with 'Bunter' pebbles.

Stoneless Clay and Silt

Stoneless or almost stoneless clay and silt, laminated in part, occurs as impersistent beds within or beneath the boulder clay. An outcrop within boulder clay north of Hawkhurst Moor Farm consists of about 2 m of soft brown silt with some interbedded clayey sand. It gives rise to a spring line between the Tractor Works [270 794] and Broad Lane [261 797]. A borehole [2650 7967] starting below the level of this bed proved boulder clay to 3.0 m underlain by red-brown laminated silt, with a few angular Enville clasts and rare small 'Bunter' pebbles, to the base of drift at 4.5 m.

Brown, soft, silty, stoneless clay forms a small outcrop in the extreme southwest of the area.

Sand and Gravel

Sand and gravel, probably not exceeding 3 m in thickness, underlies boulder clay intermittently between Lime Tree Park [299 788] and Glebe Farm [269 785]. The deposits are generally rather clayey, and laminated sand, silt and clay was augered at several locations. C H Cunnington (MS) recorded 3 m of brown sand in a small pit west of Limbrick Wood [2870 7854].

Sand and gravel within boulder clay at Mulberry Cottage [251 764] lies at the eastern margin of extensive deposits to the west. Clayey or silty, pebbly sand was augered over this outcrop.

Alluvium

Continuous, narrow tracts of alluvium lie along the major streams. The deposits consist of red-brown or grey clay with varying amounts of sand and pebbles, and are generally less than 2 m thick.

ECONOMIC GEOLOGY

Brick Clay

The Tile Hill Mudstone was formerly worked for brick-making at Old Brickyard Plantation [298 757].

Coal

The area lies within the South Warwickshire Prospect, a coalfield completely concealed by younger rocks. Details of the coal-bearing strata are given in the Westphalian section of this report. All of the recoverable reserves are in the Thick Coal, and isopachytes and nomenclature for this seam have been published by British Coal (National Coal Board 1985; British Coal

Corporation, 1987). A new colliery to be sited at Hawkhurst Moor Farm [261 795] has been proposed by British Coal. At the time of writing the proposal is the subject of a public enquiry.

Water Supply

Two public supply wells at Mount Nod (Figure 2) operated by the Severn Trent Water Authority were supplying 2.75 million litres per day in 1984 and have a licenced abstraction of 3.04 ml/d.

REFERENCES

BRITISH COAL CORPORATION. 1987. Proposed colliery at Hawkhurst Moor. (British Coal : Central Area).

BUTLER, A J. 1946. Water supply from underground sources of the Birmingham-Gloucester district, part III. *Geological Survey Wartime Pamphlet*, No. 32, 38-56.

COPE, K G. and JONES, A R L. 1970. The Warwickshire Thick Coal and its mining environment. *C.R. 6e Congr. Int. Stratigr. Geol. Carbonif. Sheffield, 1967*, Vol.II, 585-598.

EASTWOOD, T, GIBSON, W, CANTRILL, T C, and WHITEHEAD, T H. 1923. The geology of the country around Coventry. *Memoir Geological Survey G.B.*

MYKURA, H and HAMPTON, B P. 1984. On the mechanism of formation of reduction spots in the Carboniferous/Permian red beds of Warwickshire. *Geological Magazine*, Vol. 121, 71-74.

NATIONAL COAL BOARD. 1985. The South Warwickshire Prospect: A consultation paper. (NCB: South Midlands Area).

OLD, R A. 1987a. Geological notes and local details for 1:10 000 sheets: SP 27 NW (Berkswell and Balsall Common). (Keyword: British Geological Survey).

_____, 1987b. Geological notes and local details for 1:10 000 sheets: SP 27 SE (Kenilworth). (Keyword: British Geological Survey).

_____, 1988. Geological notes and local details for 1:10 000 sheets: SP 37 NW (Coventry Central). (Keyword: British Geological Survey).

_____, SUMBLER, M G, and AMBROSE, K. 1987. Geology of the country around Warwick. *Memoir British Geological Survey*, Sheet 184. (England and Wales).

REES, J G. (In prep). Geological notes and local details for 1:10 000 sheets: SP 28 SE (Allesley). (Keyworth: British Geological Survey).

SHOTTON, F W. 1927. The conglomerates of the Enville Series of the Warwickshire Coalfield. *Quarterly Journal Geological Society London*. Vol.83, 604-621.

_____, 1929. The geology of the country around Kenilworth (Warwickshire). *Quarterly Journal Geological Society London*, Vol. 85, 167-222.

_____, 1933. New evidence on the origin of breccias and conglomerates in the Warwickshire Coalfield. The Mount Nod boreholes, Coventry. *Geological Magazine*, Vol.70, 466-476.

_____, 1953. The Pleistocene deposits of the area between Coventry, Rugby and Leamington, and their bearing on the topographic development of the Midlands. *Philos. Trans. Royal Society London*, Series B, Vol. 237, 209-260.

Appendix: Schedule of boreholes for Sheet SP27NE

BOREHOLE REF.NO. SP27NE	BOREHOLE NAME	GRID REF. EAST NORTH		DEPTH (m)	DATE
1	TILE HILL RAILWAY STATION COVENTRY	2781	7755	211.30	1896
2	SOUTH OF UNICORN LANE BH68 COVENTRY	2939	7956	2.74	*
3	SOUTH OF UNICORN LANE BH67 COVENTRY	2957	7932	3.96	*
4	BROAD LANE BH COVENTRY	2920	7913	3.20	*
5	SOUTH OF TORRINGTON AVE BH41 COVENTRY	2886	7979	2.74	*
6	EAST OF WOLFE ROAD BH40 COVENTRY	2917	7761	3.05	*
7 c	TEN SHILLING WOOD COVENTRY	29340	76832	1089.30	1976
8 c	BEANIT SPINNEY BH COVENTRY	26548	76578	1138.30	1976
9 c	ROUGH CLOSE COVENTRY	26481	78509	1122.42	1976
10	WARWICK UNIVERSITY EXT. BH101 COVENTRY	2982	7592	2.74	1965
11	WARWICK UNIVERSITY EXT. BH102 COVENTRY	2988	7586	3.23	1965
12	WARWICK UNIVERSITY EXT. BH106 COVENTRY	2991	7620	1.83	1965
13	WARWICK UNIVERSITY EXT. BH107 COVENTRY	2970	7621	1.83	1965
14	WARWICK UNIVERSITY EXT. BH111 COVENTRY	2975	7627	1.83	1965
15	WARWICK UNIVERSITY EXT. BH112 COVENTRY	2984	7628	1.83	1965
16	WARWICK UNIVERSITY EXT. BH113 COVENTRY	2989	7578	1.83	1965
17	WARWICK UNIVERSITY EXT. BH114 COVENTRY	2992	7551	1.83	1965
18	WESTWOOD HEATH BH W6 COVENTRY	2995	7654	7.70	1976
19	WESTWOOD HEATH BH W6A COVENTRY	2988	7647	7.00	1976
20	WESTWOOD HEATH BH W7 COVENTRY	2982	7644	6.50	1976
21	WESTWOOD HEATH BH W7A COVENTRY	2975	7640	2.15	1976
22	WESTWOOD HEATH BH W8 COVENTRY	2968	7631	4.50	1976
23	WESTWOOD HEATH BH W8A COVENTRY	2960	7636	2.50	1976
24	WESTWOOD HEATH BH W9 COVENTRY	2955	7639	5.00	1976
25	WESTWOOD HEATH BH W10 COVENTRY	2943	7659	5.90	1976
26	WESTWOOD HEATH BH W11 COVENTRY	2937	7676	4.80	1976
27	WESTWOOD HEATH BH W12 COVENTRY	2919	7681	3.70	1976
28	TILE HILL COLLEGE BH1 COVENTRY	2884	7825	311.60	1967
29	TILE HILL COLLEGE BH2A COVENTRY	2881	7822	6.10	1967
30	TILE HILL COLLEGE BH3A COVENTRY	2885	7821	6.10	1967
31	TILE HILL COLLEGE BH4 COVENTRY	2889	7817	16.00	1967
32	GERRARD AVE CANLEY NO.23	29513	77638	27.00	1952
33	GERRARD AVE CANLEY NO.24	29534	77623	21.00	1952
34	TILE HILL COVENTRY BH1	2878	7890	12.50	1953
35	TILE HILL COVENTRY BH2	2882	7888	35.00	1953
36	TILE HILL COVENTRY BH3	2881	7894	35.00	1954
37	TILE HILL COVENTRY BH4	2885	7893	49.90	1954
38	TILE HILL COVENTRY BH5	2887	7891	42.00	1954
39	TILE HILL COVENTRY BH6	2886	7888	48.00	1954
40	TILE HILL COLLEGE COVENTRY BH1	2897	7818	7.50	1972
41	BALSALL COMMON SEWERAGE BH317	2502	7655	7.62	1972
42	BALSALL COMMON SEWERAGE BH318	2540	7650	6.10	1972
43	BALSALL COMMON SEWERAGE BH319	2559	7657	4.57	1972
44	BANNER LANE WELL COVENTRY	2691	7903	76.20	1962
45 c	TORRINGTON AVENUE	2886	7843	8.4	1974
46	MOUNT NOD WELL COVENTRY	2922	7927	109.00	1919
47 c	FLINTS GREEN WARWICKS	2626	7982	1050.00	1979

BOREHOLE REF. NO. SP27NE	BOREHOLE NAME	GRID REF. EAST NORTH	DEPTH (m)	DATE
48 c	WESTWOOD HEATH WARWICKS	2810 7659	1150.00	1979
49 c	CATCHEMS CORNER BH WARWICKS	2533 7634	531.00	1979
50 c	BOCKENDEN BH WARWICKS	2801 7525	1147.70	1980
51	TILE HILL COVENTRY	2885 7843	128.02	1919
52 c	BLACK WASTE WOOD WARWICKS	27445 75948	1127.64	1982
53 c	HURST FARM BH WARWICKS	28902 75868	1136.00	1979
54	WIMET LTD	294 779	4.30	1978
55	TORRINGTON AVE TILE HILL COVENTRY BH1	2822 7785	5.00	1982
56	TORRINGTON AVE TILE HILL COVENTRY BH2	2822 7789	5.00	1982
57	TORRINGTON AVE TILE HILL COVENTRY TP7	2830 7765	3.30	1982
58	TORRINGTON AVE TILE HILL COVENTRY TP11	2825 7769	4.80	1982
59	TORRINGTON AVE TILE HILL COVENTRY TP13	2819 7765	4.90	1982
60	TILE HILL LANE HOUSING SITE COVENTRY NO1	2960 7841	2.13	1964
61	TILE HILL LANE HOUSING SITE COVENTRY NO2	2955 7839	2.01	1964
62	TILE HILL LANE HOUSING SITE COVENTRY NO3	2958 7837	1.71	1964
63	TILE HILL LANE HOUSING SITE COVENTRY NO4	2962 7837	1.83	1964
64	TILE HILL LANE COVENTRY NO22	2870 7839	3.23	1952
65	TILE HILL TEC COLLEGE COVENTRY NO.1	2894 7827	1.83	1966
66	TILE HILL TEC COLLEGE COVENTRY NO.2	2890 7825	1.71	1966
67	TILE HILL TEC COLLEGE COVENTRY NO.3	2894 7825	1.83	1966
68	TILE HILL TEC COLLEGE COVENTRY NO.4	2890 7822	1.52	1966
69	TILE HILL TEC COLLEGE COVENTRY NO.5	2894 7822	1.83	1966
70	TILE HILL TEC COLLEGE COVENTRY NO.6	2894 7818	1.83	1966
71	TILE HILL TEC COLLEGE COVENTRY NO.7	2896 7818	1.83	1966
72	TILE HILL TEC COLLEGE COVENTRY NO.8	2901 7818	1.80	1966
73	TILE HILL TEC COLLEGE COVENTRY NO.9	2901 7814	1.80	1966
74	TILE HILL TEC COLLEGE COVENTRY NO.10	2905 7811	1.71	1966
75	TILE HILL COLLEGE COVENTRY NO.1	2879 7829	1.83	1966
76	TILE HILL COLLEGE COVENTRY NO.2	2883 78826	1.83	1966
77	TILE HILL COLLEGE COVENTRY NO.3	2881 7823	1.83	1966
78	TILE HILL COLLEGE COVENTRY NOS 5&6	2881 7820	*	1966
79	TILE HILL COLLEGE COVENTRY NO.8	2886 7818	2.13	1966
80	TILE HILL COLLEGE COVENTRY NO.9	2886 7813	1.83	1966
81	TILE HILL COLLEGE COVENTRY NO.10	2884 7809	1.80	1966
82	TILE HILL COLLEGE COVENTRY NO.11	2880 7809	2.01	1966
83	TILE HILL COLLEGE COVENTRY NO.12	2886 7809	1.92	1966
84	ALLESLEY HALL NURSERY UNIT COVENTRY	2968 7983	1.49	1960
85	TILE HILL SOUTH GARAGE SITE COVENTRY	2831 7814	3.35	1957
86	HAWKHURST MOOR BH1	2627 7965	9.00	1987
87	HAWKHURST MOOR BH4	2642 7920	17.00	1987
88	HAWKHURST MOOR BH3	2650 7967	5.80	1987
89	HAWKHURST MOOR NO.2	2615 7957	14.20	1987
90	ATHLETICS TRACK BH1	2951 7708	2.60	1978
91	ATHLETICS TRACK BH2	2970 7693	2.60	1978
92	ATHLETICS TRACK BH3	2951 7691	3.00	1978
93	ATHLETICS TRACK BH4	2947 7701	2.60	1978
94	MASSEY FERGUSON BH2	2737 7955	10.00	1972
95	MASSEY FERGUSON BH20	2717 7955	12.60	1972
96	WIMET LTD. TORRINGTON AVENUE BH1	2972 7783	10.05	1979
97	WIMET LTD. TORRINGTON AVENUE BH2	2969 7787	12.00	1979
98	WIMET LTD. TORRINGTON AVENUE BH3	2977 7785	10.00	1979
99	H.M.LAND REGISTRY COVENTRY BH1	292 778	4.50	1987
100	H.M.LAND REGISTRY COVENTRY BH2	292 778	5.00	1987

BOREHOLE REF NO. SP27NE	BOREHOLE NAME		GRID REF EAST NORTH		DEPTH (m)	DATE
101	H.M.LAND	REGISTRY COVENTRY BH3	292	778	4.50	1987
102	H.M.LAND	REGISTRY COVENTRY BH4	292	778	11.50	1987
103	H.M.LAND	REGISTRY COVENTRY BH5	292	778	1.90	1987
104	H.M.LAND	REGISTRY COVENTRY BH7	292	778	4.50	1987
105	H.M.LAND	REGISTRY COVENTRY BH8	292	778	9.90	1987
106	H.M.LAND	REGISTRY COVENTRY BH10	292	778	4.50	1987
107	H.M.LAND	REGISTRY COVENTRY BH11	292	778	9.80	1987
108	H.M.LAND	REGISTRY COVENTRY BH15	292	778	4.50	1987
109	H.M.LAND	REGISTRY COVENTRY BH16	292	778	3.70	1987
110	H.M.LAND	REGISTRY COVENTRY BH17	292	778	3.50	1987
111	H.M.LAND	REGISTRY COVENTRY BH18	292	778	4.20	1987
112	H.M.LAND	REGISTRY COVENTRY BH19	292	778	4.30	1987
113	H.M.LAND	REGISTRY COVENTRY BH20	292	778	2.00	1987
114	H.M.LAND	REGISTRY COVENTRY BH21	292	778	9.90	1987
115	H.M.LAND	REGISTRY COVENTRY BH22	292	778	3.80	1987
116	H.M.LAND	REGISTRY COVENTRY BH23	292	778	2.50	1987
117	H.M.LAND	REGISTRY COVENTRY TP1	292	778	2.70	1987
118	H.M.LAND	REGISTRY COVENTRY TP2	292	778	3.10	1987
119	H.M.LAND	REGISTRY COVENTRY TP3	292	778	3.20	1987
120	H.M.LAND	REGISTRY COVENTRY TP4	292	778	3.00	1987
121	H.M.LAND	REGISTRY COVENTRY TP6	292	778	2.90	1987
122	H.M.LAND	REGISTRY COVENTRY TP7	292	778	1.50	1987
122	H.M.LAND	REGISTRY COVENTRY TP6A	292	778	1.50	1987
123	H.M.LAND	REGISTRY COVENTRY TP7	292	778	1.50	1987
124	H.M.LAND	REGISTRY COVENTRY TP8	292	778	2.00	1987
125	H.M.LAND	REGISTRY COVENTRY TP9	292	778	3.00	1987
126	H.M.LAND	REGISTRY COVENTRY TP9A	292	778	1.50	1987
127	H.M.LAND	REGISTRY COVENTRY TP10	292	778	2.50	1987
128	H.M.LAND	REGISTRY COVENTRY TP11	292	778	3.10	1987
129	H.M.LAND	REGISTRY COVENTRY TP12	292	778	1.20	1987
130	H.M.LAND	REGISTRY COVENTRY TP12A	292	778	1.50	1987
131	H.M.LAND	REGISTRY COVENTRY TP13	292	778	0.90	1987
132	H.M.LAND	REGISTRY COVENTRY TP13A	292	778	1.50	1987
133	H.M.LAND	REGISTRY COVENTRY TP14	292	778	1.80	1987
134	H.M.LAND	REGISTRY COVENTRY TP14A	292	778	1.50	1987
135	H.M.LAND	REGISTRY COVENTRY TP16	292	778	1.50	1987
136	H.M.LAND	REGISTRY COVENTRY TP17	292	778	2.30	1987
136 A	H.M.LAND	REGISTRY COVENTRY TP18	292	778	1.50	1987
137	H.M.LAND	REGISTRY COVENTRY TP19	292	778	2.50	1987
138	H.M.LAND	REGISTRY COVENTRY TP20	292	778	3.00	1987
139	H.M.LAND	REGISTRY COVENTRY TP21	292	778	2.80	1987
140	H.M.LAND	REGISTRY COVENTRY TP22	292	778	3.40	1987
141	H.M.LAND	REGISTRY COVENTRY TP23	292	778	3.30	1987
142	H.M.LAND	REGISTRY COVENTRY TP24	292	778	2.60	1987
143	H.M.LAND	REGISTRY COVENTRY TP25	292	778	2.10	1987
144	H.M.LAND	REGISTRY COVENTRY TP26	292	778	3.30	1987
145	H.M.LAND	REGISTRY COVENTRY TP27	292	778	3.40	1987
146	H.M.LAND	REGISTRY COVENTRY TP28	292	778	2.70	1987
147	TILE HILL WOOD SCH.	NUTBROOK AVE. TP1	2795	7851	2.97	1967
148	TILE HILL WOOD SCH.	NUTBROOK AVE. TP2	2799	7852	2.89	1967
149	TILE HILL WOOD SCH.	NUTBROOK AVE. TP3	2805	7854	2.97	1967
150	TILE HILL WOOD SCH.	NUTBROOK AVE. TP4	2804	7861	3.50	1967
151	TILE HILL WOOD SCH.	NUTBROOK AVE. TP5	2799	7861	2.89	1967

BOREHOLE REF NO SP27NE	BOREHOLE NAME	GRID REF EAST NORTH	DEPTH (m)	DATE
152	TILE HILL WOOD SCH.NUTBROOK AVE. TP6	2802 7868	3.05	1967
153	TILE HILL WOOD SCH.NUTBROOK AVE. TP7	2793 7865	2.89	1967
154	TILE HILL WOOD SCH.NUTBROOK AVE. TP8	2789 7863	2.89	1967
155	TILE HILL WOOD SCH.NUTBROOK AVE. TP9	2795 7861	3.05	1967
156	TILE HILL WOOD SCH.NUTBROOK AVE. TP10	2796 7856	3.20	1967
157	TILE HILL WOOD SCH.NUTBROOK AVE. TP11	2789 7853	2.97	1967
158	TILE HILL WOOD SCH.NUTBROOK AVE. TP12	2798 7865	2.89	1967
159	SCIENCE PARK UNIVERSITY OF WARWICK BH1	2993 7654	9.60	1985
160	SCIENCE PARK UNIVERSITY OF WARWICK BH2	2996 7661	5.04	1985
161	SCIENCE PARK UNIVERSITY OF WARWICK BH3	2994 7662	10.35	1985
162	SCIENCE PARK UNIVERSITY OF WARWICK BH4	2991 7660	4.92	1985
163	HAWKHURST MOOR FARM BH5	2689 7919	17.40	1987
164	HAWKHURST MOOR FARM STH1	2616 7932	4.00	1987

Detailed logs of non-confidential boreholes may be examined at the BGS National Geosciences Data Centre, Keyworth, by prior appointment and payment of the current fees.

c. Denotes confidential records details of which may only be released to a third party by permission of the original client.

* Not known.