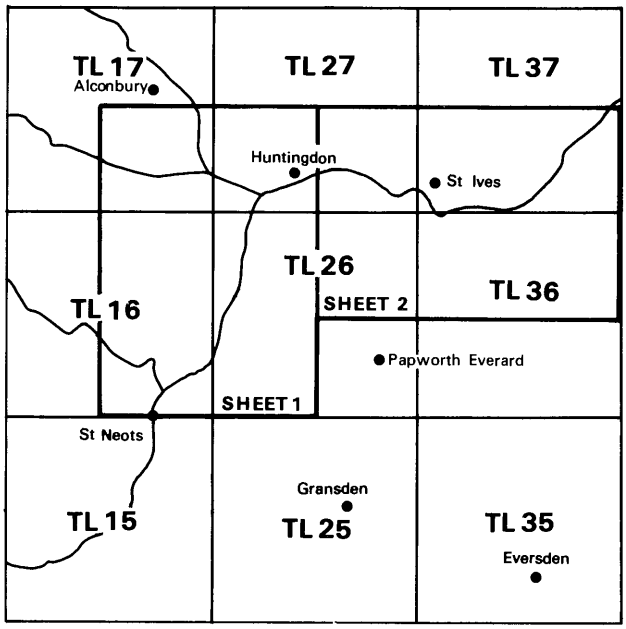
INSTITUTE OF GEOLOGICAL SCIENCES
Natural Environment Research Council

Mineral Assessment Report 54



The sand and gravel resources of the country around Huntingdon and St Ives, Cambridgeshire

Description of parts of 1:25 000 sheets TL 16, 17, 26, 27, 36 and 37

R. W. Gatliff

ISBN 0 11 884115 7

London Her Majesty's Stationery Office 1981

The first twelve reports on the assessment of British sand and gravel resources appeared in the Report series of the Institute of Geological Sciences as a subseries. Report 13 and subsequent reports appear as Mineral Assessment Reports of the Institute.

Details of published reports appear at the end of this Report.

Any enquiries concerning this report may be addressed to Head, Industrial Minerals Assessment Unit, Institute of Geological Sciences, Keyworth, Nottingham NG12 5GG.

The asterisk on the cover indicates that parts of sheets adjacent to the one cited are described in this report.

PREFACE

National resources of many industrial minerals may seem so large that stocktaking appears unnecessary, but the demand for minerals and for land for all purposes is intensifying and it has become increasingly clear in recent years that regional assessments of the resources of these minerals should be undertaken. The publication of information about the quantity and quality of deposits over large areas is intended to provide a comprehensive factual background against which planning decisions can be made.

Sand and gravel, considered together as naturally occurring aggregate, was selected as the bulk mineral demanding the most urgent attention, initially in the south-east of England, where about half the national output is won and very few sources of alternative aggregates are available. Following a short feasibility project, initiated in 1966 by the Ministry of Land and Natural Resources, the Industrial Minerals Assessment Unit (formerly the Mineral Assessment Unit) began systematic surveys in 1968. The work is now being financed by the Department of the Environment and is being undertaken with the cooperation of the Sand and Gravel Association of Great Britain.

This Report describes the resources of sand and gravel of 300 km^2 of country around Huntingdon and St Ives shown on the accompanying resource maps. The survey was conducted in 1976 and 1977 by Miss J. L. Knight, who supervised the drilling and sampling programme. The report was compiled by R. W. Gatliff. The work is based on a six-inch to one mile survey by A. C. G. Cameron, published on the one-inch to one mile scale in 1900 and revised by E. E. L. Dixon, R. L. Sherlock and S. E. Hollingworth between 1930 and 1939. J. W. Gardner, CBE (Land Agent), was responsible for negotiating access to land for drilling. The ready cooperation of landowners and tenants in this work is appreciated. Information provided by local gravel operators and the Cambridgeshire County Council is gratefully acknowledged.

G. M. Brown
Director

Institute of Geological Sciences
Exhibition Road
London SW7 2DE

21 April 1980

CONTENTS

FIGURES

MAPS

TABLES

The sand and gravel resources of the country around Huntingdon and St Ives, Cambridgeshire

Description of parts of 1:25 000 sheets TL 16, 17, 26, 27, 36 and 37

R. W. GATLIFF

SUMMARY

The geological maps of the Institute of Geological Sciences, pre-existing borehole information, and 118 boreholes drilled for the Industrial Minerals Assessment Unit form the basis of the assessment of sand and gravel resources in the district of Huntingdon and St Ives, Cambridgeshire. All deposits in the area that might be potentially workable for sand and gravel have been investigated and a simple statistical method has been used to estimate the volume. The reliability of the volume estimates is given at the symmetrical 95 per cent probability level.

The 1:25 000 maps are divided into eight resource blocks containing between 7.5 and 15.1 km^2 of potentially workable sand and gravel. For the blocks assessed statistically the geology of the deposits is described and the mineral-bearing area, the mean thickness of overburden and mineral, and the mean grading of the mineral are stated. Detailed borehole data are given. The geology, the position of the boreholes and the outlines of the resource blocks are shown on the accompanying maps.

Note

National grid references are given in square brackets. All lie within the 100-km square TL.

Bibliographical reference

GATLIFF, R. W. 1981. The sand and gravel resources of the country around Huntingdon and St Ives. Description of parts of 1:25 000 sheets TL 16, 17, 26, 27, 36 and 37. *Miner. Assess. Rep. Inst. Geol. Sci.*, No. 54.

Author

R. W. Gatliff, BA, MSc
Institute of Geological Sciences
Keyworth, Nottingham NG12 5GG

INTRODUCTION

The survey is concerned with the estimation of resources, which include deposits that are not currently exploitable but have a foreseeable use, rather than reserves, which can only be assessed in the light of current, locally prevailing, economic considerations. Clearly, both the economic and the social factors used to decide whether a deposit may be workable in the future cannot be predicted; they are likely to change with time. Deposits not currently economically workable may be exploited as demand increases, as higher grade or alternative materials become scarce, or as improved processing techniques are applied to them. The improved knowledge of the main physical properties of the resource and their variability, which this survey seeks to provide, will add significantly to the factual background against which planning policies can be decided (Archer, 1969; Thurrell, 1971; Harris and others, 1974).

The survey provides information at the 'indicated' level 'for which tonnage and grade are computed partly from specific measurements, samples or production data and partly from projection for a reasonable distance on geological evidence. The sites available for inspection, measurement, and sampling are too widely or otherwise inappropriately spaced to permit the mineral bodies to be outlined completely or the grade established throughout' (Bureau of Mines and Geological Survey, 1948, p. 15).

It follows that the whereabouts of reserves must still be established and their size and quality proved by the customary detailed exploration and evaluation undertaken by the industry. However, the information provided by the survey should assist in the selection of the best targets for such further work. The following arbitrary physical criteria have been adopted:

a The deposit should average at least 1 m in thickness.
b The ratio of overburden to sand and gravel should be no more than 3:1.
c The proportion of fines (particles passing the No. 240 mesh BS sieve, about $\frac{1}{16}$ mm)should not exceed 40 per cent.
d The deposit should lie within 25 m of the surface, this being taken as the likely maximum working depth under most circumstances. It follows from the second criterion that boreholes are drilled no deeper than 18 m if no sand and gravel has been proved.

A deposit of sand and gravel that broadly meets these criteria is regarded as 'potentially workable' and is described and assessed as 'mineral' in this report. As the assessment is at the indicated level, parts of such a deposit may not satisfy all the criteria.

For the particular needs of assessing sand and gravel resources, a grain-size classification based on

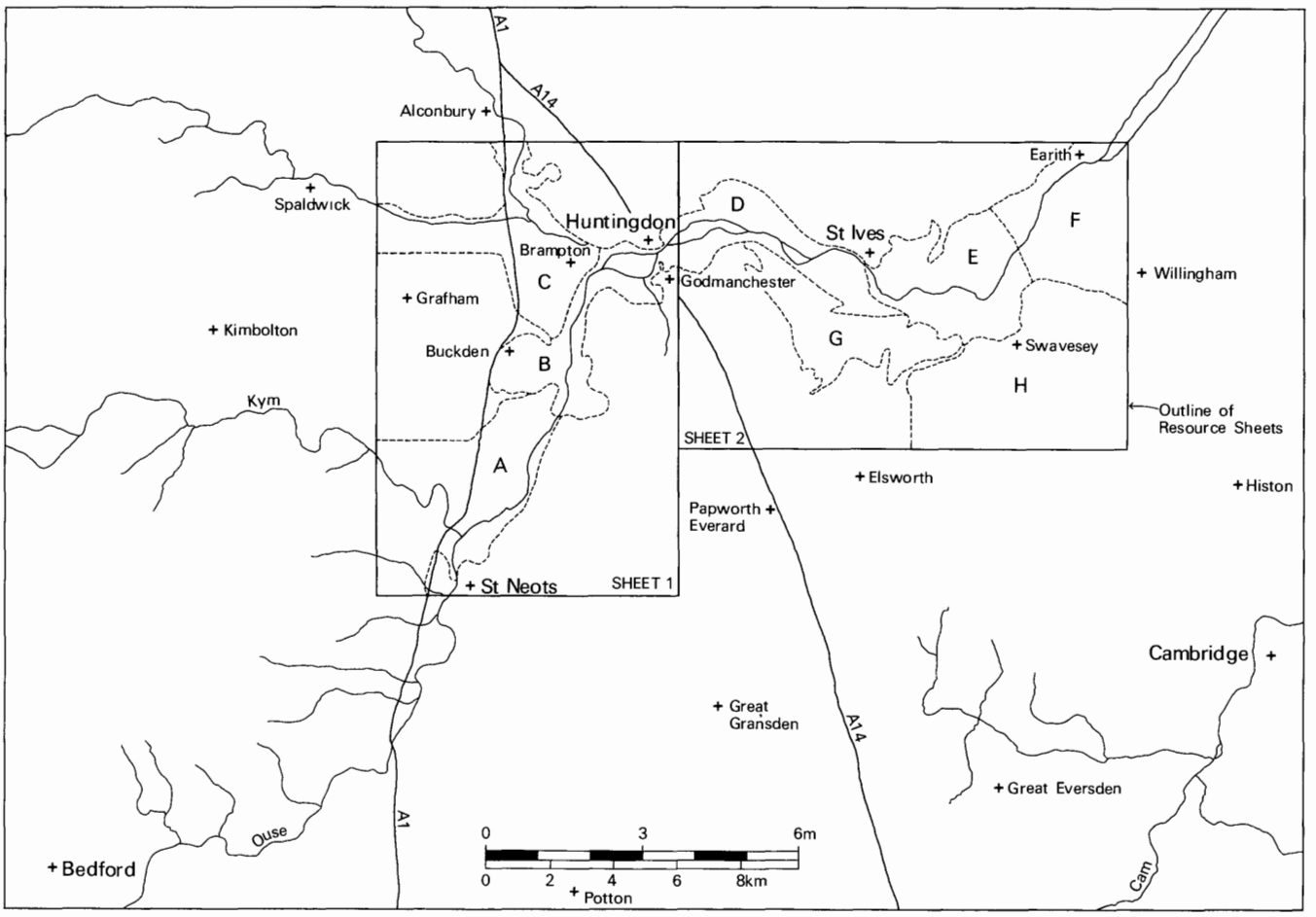


Figure 1 Sketch map showing the location of the Huntingdon and St Ives area and the position of the resource block boundaries

the geometric scale $\frac{1}{16}$ mm, $\frac{1}{4}$ mm, 1 mm, 4 mm, 16 mm has been adopted. The boundaries between fines (that is, the clay and silt fractions) and sand, and between sand and gravel grade material, are placed at $\frac{1}{16}$ mm and 4 mm respectively (see Appendix C).

The volume and other characteristics are assessed within resource blocks, each of which, ideally, contains approximately 10 km² of sand and gravel. No account is taken of any factors, for example, roads, villages and high agricultural or landscape value, which might stand in the way of sand and gravel being exploited, although towns are excluded. The estimated total volume therefore bears no simple relationship to the amount that could be extracted in practice.

It must be emphasised that the assessment applies to the resource block as a whole. Valid conclusions cannot be drawn about the mineral in parts of a block, except in the immediate vicinity of the actual sample points.

DESCRIPTION OF THE RESOURCE SHEETS

GENERAL

The two resource sheets cover a combined area of 300 km² of country around Huntingdon and St Ives, Cambridgeshire (Figure 1). Topographically the area is dominated by the valley of the Great Ouse, which flows northward from St Neots to Huntingdon and then east towards St Ives and Earith. Over the 30 km between St Neots and Earith the river floodplain falls about 10 m to approximately 2 m above sea level. The higher land either side of the river rises to no more than 60 m above Ordnance Datum. About a third (101.3 km²) of the area carries gravel-bearing deposits, of which 8.3 km² have been largely worked out. Nearly all the mineral-bearing deposits are terrace gravels of the Ouse; only 1.2 km² of mineral has a glacial origin not associated with the river. None of the glacial deposits has been worked.

Sheet 1 includes 33.9 km² of mineral and is divided into 3 resource blocks, and sheet 2 includes 59.1 km² of mineral in 5 resource blocks (Figure 1). Blocks C and G contain large areas of terrace deposits remote from the river; Block H contains small isolated areas of both terrace and glacial gravel. The remaining blocks (A, B, D, E and F) include the alluvium-covered terrace gravels in the centre of the main valley, together with small patches of terrace on both sides.

No assessment has been made of the mineral underlying the built-up areas of Huntingdon, Godmanchester, St Ives and St Neots. Neither the deposits in one small tributary west of St Neots, nor a number of small patches of both terrace and glacial gravel, each less than 0.25 km² in area, have been assessed (see Appendix B, para. 14).

GEOLOGY

The area falls entirely within one-inch Geological Sheet 187 (Huntingdon), which was originally surveyed on the one-inch scale by H. H. Howell, W. H. Penning and A. J. Jukes-Browne between 1864 and 1882, and resurveyed at the six-inch scale by A. C. G. Cameron in 1893. There have been various revisions since then and a few minor alterations were made during this survey. All have been incorporated into the resource maps.

The geological classification of the mapped deposits is shown in Table 1. The solid deposits are all of Jurassic age, ranging through most of the Oxford Clay, the Elsworth Rock Group and the Ampthill Clay, into the Kimmeridge Clay. Regional dips are to the east or east-south-east and are generally less than 2°. There is no known faulting and only minor folding.

Oxford Clay forms the bedrock for the whole of sheet 1 and much of sheet 2. The Elsworth Rock forms a narrow north–south feature near St Ives; to the east the bedrock is Ampthill Clay. There is a small area of Kimmeridge Clay in the extreme south-east of sheet 2, but it has not been sampled during this survey. A general account of the geology can be found in the Huntingdon and Biggleswade Memoir (Edmonds and Dinham, 1965).

Table 1 Classification of mapped deposits

		Maximum proved thickness m
DRIFT		
Recent and Pleistocene	Shell Marl	
	Peat	2.9
	Alluvium	7.0
	River Terrace Deposits	8.0
	Glacial Sand and Gravel	3.6
	Boulder Clay	30.0
SOLID		
Jurassic	Kimmeridge Clay	30
	Ampthill Clay	50
	Elsworth Rock Group	10
	Oxford Clay	70

SOLID

Oxford Clay: The base of the Oxford Clay is not seen. The Clay, which is up to 70 m thick is a bluish grey fossiliferous clay with pyrite crystals. Selenite occurs in the weathered zone. Ferruginous and calcareous concretions occur together with a few thin argillaceous limestone beds. In many places the clay has been worked for the production of bricks. The largest pits are at St Ives and St Neots.

Elsworth Rock Group: The Elsworth Rock Group is a term used to denote the beds between the Oxford Clay and the Ampthill Clay. It is a variable sequence of dark and pale grey irregularly bedded calcareous silty clays and soft argillaceous limestones, together with a few harder limestones. The limestones are sometimes sandy and clayey, in parts oolitic and often ferruginous. They are frequently fossiliferous with abundant tubes of *Serpula*. The overall thickness is generally less than 10 m.

Ampthill Clay: The Elsworth Rock Group passes into the overlying Ampthill Clay, and together they make up the Corallian, with a maximum proved thickness of 50 m. The clay is dark bluish grey, fossiliferous and generally phosphatic, and selenitic in the weathered zone. Many of the fossils have been pyritised and traces of baryte occur, usually associated with grey septarian nodules.

Kimmeridge Clay: Kimmeridge Clay is restricted to the south-eastern part of sheet 2; it forms the bedrock below spreads of the third and fourth terraces at Long Stanton. Although it has not been encountered during this survey, the Kimmeridge Clay is a bluish grey clay, weathering brown and is often laminated or shaly, similar to both the Ampthill and Oxford clays. However, there are more thin beds and nodules of argillaceous limestone and overall this clay has more bituminous material than the lower clays.

DRIFT

Boulder Clay: Most of the higher ground of the Ouse Valley is covered by Boulder Clay, deposited as till during the Pleistocene. In places it reaches thicknesses of at least 18 m (for example boreholes 26 NW 23 and 26 NW 28). It is typically grey, silty, sandy clay with pebbles of chalk, limestone, quartz, sandstone, siltstone and flint, together with a little igneous and metamorphic material. Occasionally large masses of the Jurassic clays may be found as rafts within the boulder clay.

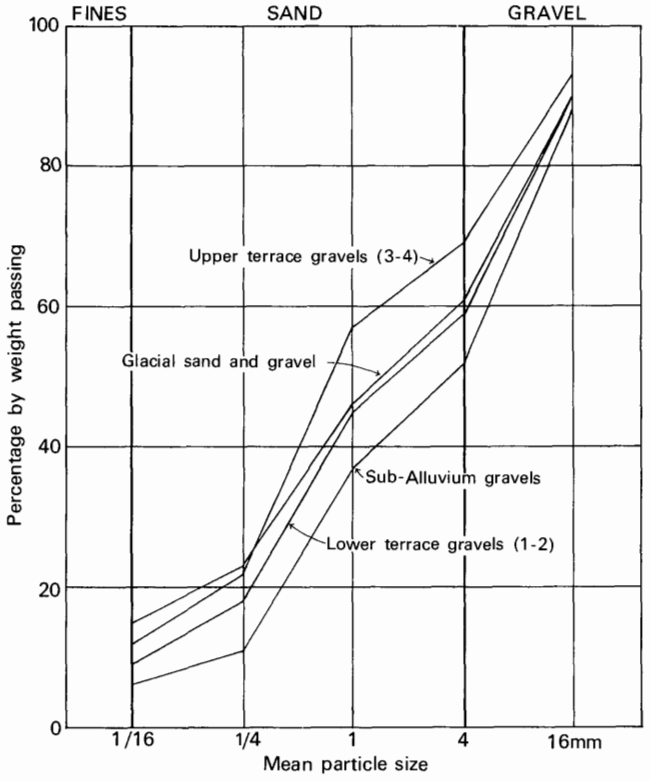
Between St Neots and Huntingdon much of the terrace gravel is underlain by boulder clay, which appears to fill an irregular hollow in the Oxford Clay (Horton, 1970). In a few boreholes (e.g. 26 NW 25), thick dark grey laminated sandy clays occur under the terrace gravel, associated with the boulder clay in the hollow. These are termed Buried Channel Deposits in the borehole records. Gravels, too thin to be classified as mineral, are sometimes found under these deposits. Similar buried channel deposits are found beneath many of the East Anglian rivers, and are considered to be of Pleistocene age. East of Huntingdon, Boulder Clay only rarely occurs under the terrace gravel, which generally rests directly on bedrock. Boreholes 37 SW 11 [3460 7238] and 37 SW 12 [3484 7268] however, exceptionally, proved boulder clay beneath terrace deposits.

Glacial Sand and Gravel: Several patches of glacial sand and gravel occur in the area. Two near Over (sheet 2, Block H) and one west of Huntingdon (sheet 1, Block C) are large enough to be considered as mineral. These mineral deposits occur above the boulder clay. However, there are a few pockets of gravel that occur beneath or within boulder clay (e.g. 16 SE 23). Nowhere have these deposits met the criteria for mineral given in the Introduction: either they are too clayey or the overburden: mineral ratio is too large.

The mineral deposits, which are up to 3.6 m thick, are probably of glaciofluvial origin, the product of a melting ice-sheet. They are generally more clayey and contain more chalk than the terrace gravels. Figure 2 shows the mean particle-size distribution.

River Terrace Deposits: These almost continuous spreads of alluvial deposits, which range up to 8.0 m thick, constitute the main source of gravel in the area. The mineral grades as sandy gravel, as defined in Appendix C.

Four terraces are recognised on the Huntingdon (187) one-inch geological map. There are only small areas of the upper terraces (3 and 4), which appear to have been strongly dissected prior to the deposition of the lower terraces (1 and 2); they show less relief



Deposit	Percentage by weight passing				
	$\frac{1}{16}$ mm	$\frac{1}{4}$ mm	1 mm	4 mm	16 mm
Sub-Alluvium gravels	6	11	37	52	88
Lower terraces (1–2)	9	18	45	59	90
Upper terraces (3–4)	12	22	57	69	93
Glacial sand and gravel	15	23	46	61	90

Figure 2 Particle-size distribution for the assessed thickness of sand and gravel in the different deposits

and are much more extensive. The lower terraces are rarely differentiated on the one-inch map and are probably made up of at least 3 levels (Horton, 1970). On the resource maps they are undifferentiated except near Over [39 71], where terraces 1 and 2 are mapped separately.

All the terraces consist mainly of gravel with very little overburden, although the gravels extend almost continuously beneath the Alluvium of the present-day floodplain. Only a very few boreholes, mainly those well away from the centre of the valley, have not proved mineral under the Alluvium.

Alluvium: The Alluvium of the River Ouse floodplain consists mainly of brown and grey silty clays, which are generally less than 3 m thick, but locally reach 7.0 m. In many places the clays are sandy and pebbly and frequently contain plant and shell debris. One small area in the east (sheet 2, Block F) is mapped separately as Shell Marl, probably representing the infilling of a small lake. This has not been proved by drilling. There are a number of areas where peat is mapped within the Alluvium in the wider part of the floodplain (Block F). In a few holes e.g. (37 SE 12) peat is found underlying the Alluvium, reaching thicknesses of about 3.0 m.

COMPOSITION OF THE SAND AND GRAVEL

River Terrace Deposits: Over 95 per cent of the area of the mineral deposits is river terrace gravels of the Great Ouse river system. The gravel fraction of the terrace gravels, which amounts to 43 per cent by weight of the resource (Table 2) consists dominantly of angular and subangular flint (usually about 70 per cent) together with generally more rounded quartz and quartzite (10 per cent), sandstone (10 per cent), limestone (10 per cent) and a small amount of ironstone. The limestone includes both Chalk and Jurassic limestone together with some shell debris. Over half is chalk which tends to be concentrated in the finer part of the fine gravel fraction (+4–8 mm diam.). Much of the calcareous material has been removed from the top metre of gravel by weathering.

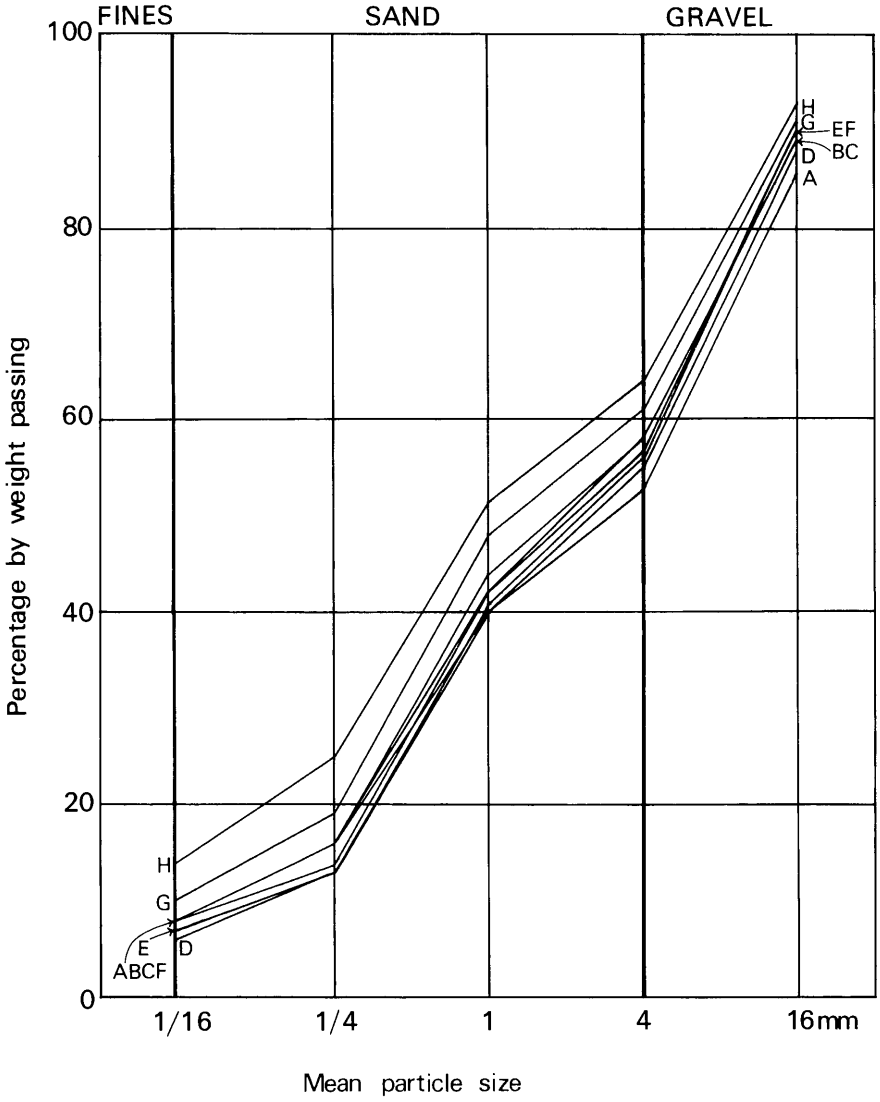
The sand fraction (49 per cent by weight) is composed mainly of quartz with flint and some chalk. The flint and chalk are concentrated in the coarse sand (+1–4 mm diameter).

The fines range from as little as 1 per cent (in borehole 37 SE 26) up to 24 per cent (27 SE 16), but are generally between 4 and 10 per cent of the total weight.

The composition is similar in all the terraces, but the fines content is higher in the upper terraces and

Table 2 Summary of statistical results

Resource block	Area		Mean thickness		Volume of mineral			Mean grading percentage		
	Block	Mineral	Over-burden	Mineral		Limits at the 95 per cent confidence level		Fines	Sand	Gravel
	km²	km²	m	m	$m^3 \times 10^6$	±%	$\pm m^3 \times 10^6$	$-\frac{1}{16}$ mm	$+\frac{1}{16}$ −4 mm	+4 mm
A	26.0	10.9	1.2	2.3	25	17	4	8	45	47
B	12.1	11.2	1.3	3.3	37	26	10	8	50	42
C	17.6	11.8	0.9	4.0	47	27	13	8	50	42
D	11.6	10.9	1.3	3.3	36	28	10	6	49	45
E	16.7	14.5	1.6	2.9	42	17	7	7	49	44
F	15.1	15.1	2.2	3.6	54	18	10	8	49	43
G	12.5	11.1	1.0	3.0	33	29	10	10	51	39
H	32.1	7.5	1.0	1.5	11	47	5	14	50	36
A to H	143.7	93.0	1.3	3.0	279	9	25	8	49	43



Block	Percentage by weight				
	$\frac{1}{16}$ mm	$\frac{1}{4}$ mm	1 mm	4 mm	16 mm
A	8	16	40	53	86
B	8	16	44	58	89
C	8	16	42	58	89
D	6	13	40	55	88
E	7	13	41	56	90
F	8	14	42	57	90
G	10	19	48	61	91
H	14	25	51	64	93

Figure 3 Particle-size distribution for the assessed thickness of sand and gravel in blocks A to H

lower in the sub-Alluvium gravels (Figure 2). Generally, the gravel near the centre of the valley contains less fines than the gravel towards the sides.

Of the 89 mineral-bearing holes drilled in the terrace deposits, 30 proved gravel, 31 sandy gravel, 23 'clayey' sandy gravel, 3 'clayey' gravel and 2 'very clayey' pebbly sand.

Glacial Sand and Gravel: The glacial gravels are similar in composition to the terrace gravels, but the gravel fraction has a higher chalk content (20 per cent) and lower flint content (60 per cent). In samples in the +4–8 mm size range the limestone content, which is predominantly chalk, is between 30 and 35 per cent.

The fines content of the glacial gravels is also higher (Block H in Figure 3), and of the 4 holes drilled, 2 proved 'clayey' sandy gravel, 1 'clayey' gravel and 1 'very clayey' sandy gravel.

THE MAPS

The sand and gravel resource maps are folded into the pocket at the end of this report. The base map is the Ordnance Survey 1:25 000 Outline Edition in grey, on which the topography is shown by contours in green, the geological data in black, and the mineral resource information in shades of red.

Geological data: The geological boundary lines are taken from the geological maps of the area, which were surveyed on the scale of 1:10 560. Borehole data, which include the stratigraphic relations and

Table 3 Block A: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
16 SE 22	2.5	0.5	11	9	40	9	22	9
16 SE 23	1.1	0.5	7	5	25	15	38	10
16 SE 25	2.5	1.0	6	5	25	12	35	17
16 SE 26	1.3	1.1	16	5	21	15	33	10
16 SE 28	2.7	2.1	5	4	21	11	36	23
16 SE 29	2.8	1.3	13	22	25	11	22	7
16 SE 30	3.4	1.7	8	6	22	14	36	14
26 SW 3	1.8	1.7	5	7	27	11	32	18
26 SW 4	1.9	1.7	3	2	9	17	50	19
Mean for block			8	8	24	12	33	14

mean particle-size distribution of the sand and gravel samples collected during the assessment survey, are also shown. The geological boundaries are the best interpretations of the information available at the time of survey. However, it is inevitable that local irregularities or discrepancies will be revealed by some boreholes. These are taken into account in the assessment of resources (see below and Appendix B).

Mineral resource information: The mineral-bearing ground is divided into resource blocks (see Appendix A). The block boundaries have been drawn, where possible, along mapped geological boundaries. The terrace areas have not been separated from alluvium-covered mineral areas because the small and irregular distribution of terrace areas would have given rise to an unnecessarily complicated pattern of block boundaries. Such a pattern of block distribution is not warranted when all the deposits are of a similar nature.

Within a resource block the mineral may be subdivided into areas where it is 'exposed' and areas where it is present beneath overburden. The mineral is identified as 'exposed' where the overburden, commonly consisting only of soil and subsoil, averages less than 1 m (3.5 ft) in thickness. Most of the terrace gravel is 'exposed', contrasting with the alluvium-covered areas of the present floodplain. Within each block the calculation of mean overburden thickness has been based on each mapped area of terrace.

Beneath overburden, the mineral may be continuous or discontinuous. Within the mineral area as shown on the resource map, 6 assessment boreholes, out of 99, proved less than 1 m of sand and gravel (e.g. 26 NW 31, 0.8 m) and these values have been used in the assessment of resources (see Appendix B, Figures 4 and 5). Where no sand and gravel was proved, as in borehole 37 SW 14, a 'nil' thickness value has been incorporated into the calculation of volume.

Areas where bedrock outcrops and where sand and gravel does not satisfy the definition of 'mineral' are uncoloured on the map. In such areas it has been assumed that mineral is absent except in infrequent and relatively minor patches which can neither be outlined nor assessed quantitatively in the context of this survey. Areas of unassessed sand and gravel are indicated by a red stipple.

The area of the exposed sand and gravel is measured from the mapped geological boundary lines. The whole of this area is considered as mineral, although it may include small areas where sand and gravel is not present or is not potentially workable. An inferred boundary (for which a distinctive zig-zag symbol is used) has been inserted to distinguish between an area of exposed mineral and an area where sand and gravel is interpreted to be not potentially workable, or absent, The zig-zag symbol is intended to convey an approximate location within a likely zone of occurrence rather than to represent the breadth of the zone, its size being limited only by cartographic considerations. For the purpose of measuring areas, the centre-line of the symbol is used.

RESULTS

The statistical results are summarised in Table 2. Fuller grading particulars are shown in Figure 3.

Accuracy of the results: For the eight resource blocks (A to H) assessed statistically, the accuracy of the results at the symmetrical 95 per cent probability level (that is, it is probable that 19 times out of 20 the true volume lies within the given limits) varies between 17 and 47 per cent. However, the true values are more likely to be nearer the volume calculated than either of the limits. Moreover, it is probable that roughly the same percentage limits would apply for the estimate of volume of a much smaller parcel of ground (say, 100 hectares) containing similar sand and gravel deposits if the results from the same number of sample points (as provided by, say, ten boreholes) were used in the calculation. Thus, if closer limits are needed for the quotation of reserves of parts of a block, it can be expected that data from more than ten sample points will be required, even if the area is quite small. This point can be illustrated by considering the whole of the statistically assessed sand and gravel on the sheet. The volume, 279 million m^3, can be estimated to limits of ± 9 per cent at the symmetrical 95 per cent probability level, by a calculation based on 125 data points in blocks A to H.

However, it must be emphasised that this quoted volume of sand and gravel bears no simple relationship to the amount that could be extracted in practice, as no allowance has been made in the calculations for any restraints (such as existing buildings and roads) on the use of land for mineral working.

Table 4 Block B; data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
16 NE 31	6.3	1.3	12	13	35	13	21	6
26 NW 24	1.9	2.6	5	3	29	8	28	27
26 NW 25	3.6	0.2	10	9	25	15	31	10
26 NW 26	3.6	1.1	9	11	29	12	27	12
26 NW 29	3.2	0.8	12	8	26	15	30	9
26 NW 30	3.5	1.4	3	5	24	18	35	15
29 NW 31*	0.8 (non-mineral)		6	2	24	14	36	18
26 NW 32	4.4	1.6	6	9	26	15	33	11
27 SW 56	5.9	0.3	8	5	27	13	34	13
27 SW 57	3.9	0.9	4	6	27	14	40	9
Mean for block			8	8	28	14	31	11

*Grading data not included in mean for block.

NOTES ON RESOURCE BLOCKS A TO H

Block A (Sheet 1)

Block A contains 10.9 km² of mineral between Buckden and St Neots. The Ouse floodplain is at its narrowest here and lies between +12–13 m Ordnance Datum. Most of the mineral was deposited in the lower terraces (terraces 1 and 2, between +14 –20 m Ordnance Datum) although there is an area of Terrace 3 [170 615] near Hail Weston. Borehole 16 SE 1 proved mineral under the Alluvium of the River Kym and this narrow alluvium-covered area has been included in the block calculation. The small tributary [160 605] west of St Neots has not been assessed. An isolated area of Terrace 3 [180 630] at Little Paxton proved to be non-mineral, as did the north-western part [160 625] of the outcrop of Terrace 3 at Hail Weston. Oxford Clay forms the bedrock for the entire area, although much of the mineral is underlain by chalky Boulder Clay. Sand and gravel has been worked extensively [200 640, 190 645] in the lower terraces (1–2) around Little Paxton.

The assessment is based on 9 IMAU boreholes and 149 other records. The mineral has a mean thickness of 2.3 m and ranges from 1.1 m in borehole 16 SE 23 up to 3.4 m in borehole 16 SE 30. The estimated volume of mineral is 25 million m³ ±17 per cent.

The overburden is a combination of pebbly soil overlying silty, sandy, alluvial clay; it has an average thickness of 1.2 m with a minimum of 0.5 m in boreholes 16 SE 22 and 16 SE 23.

The fines content of the mineral ranges between 3 per cent in borehole 26 SW 4 and 16 per cent in borehole 16 SE 26. The proportion of sand, which is dominantly medium grained, ranges between 28 and 58 per cent. The proportion of gravel, which is mainly fine grained, varies from 29 per cent in borehole 16 SE 29 up to 69 per cent in borehole 26 SW 4. Complete grading data are given in Table 3. The mean grading for the block is fines 8 per cent, sand 45 per cent and gravel 47 per cent; overall the mineral is classified as gravel.

Block B (Sheet 1)

Block B is the downstream continuation of Block A and contains 11.2 km² of mineral. About half the block is alluvium-covered, with surface level between +8–11 m Ordnance Datum, the remainder being mainly terraces 1–2 (between +9–17 m Ordnance Datum) although there are about 2 km² of Terrace 3 (+20–25 m Ordnance Datum) near Buckden [195 675]. Oxford Clay forms the bedrock for the entire area, although much of the gravel is underlain by chalky Boulder Clay. Sand and gravel has been worked [350 710] near Godmanchester and extensively between Buckden and Offord Cluny in the lower terraces [210 680] and in Terrace 3 [200 680].

The assessment is based on 10 IMAU boreholes and 88 other records. The mineral has a mean thickness of 3.3 m; it is locally less than 1 m thick and ranges up to 6.3 m in borehole 16 NE 21. The estimated volume of mineral is 37 million m³ ±26 per cent.

The overburden, usually gravelly soil overlying alluvial clay and silt, has an average thickness of 1.3 m (0.6 m in 'exposed' mineral areas, 1.8 m in 'covered' mineral areas): it ranges from about 0.2 m, where it is mostly soil, up to 3.0 m in places near the river.

The fines content of the mineral ranges between 3 per cent in borehole 26 NW 30 and 12 per cent in boreholes 26 NW 29 and 16 NE 31. The higher values tend to be found in the terrace gravels at the sides of the valley. The proportion of sand, which is dominantly medium grained, usually varies between 45 and 55 per cent. The gravel content, which is dominantly fine grained, has a minimum of 27 per cent in borehole 16 NE 31 and a maximum of 55 per cent in borehole 26 NW 24. Complete grading data are given in Table 4. The mean grading for the block is fines 8 per cent, sand 50 per cent and gravel 42 per cent; overall the mineral is classified as sandy gravel.

Block C (Sheet 1)

Block C contains 11.8 km² of mineral west of the river around Brampton. Sand and gravel from the lower terraces (1 and 2, between +11–16 m Ordnance Datum) forms the bulk of the mineral, although there is a small patch of glacial sand and gravel in the north [205 740]. Most of the alluvial cover is associated with two tributaries flowing south-east into the Great Ouse from Alconbury in the north and Ellington in the west. Boreholes 17 SE 3, 17 SE 4 and 17 SE 8 proved that the upper reaches of these tributaries contain gravels too thin to be classified as mineral. A small area of terrace (1–2) west of Elling-

Table 5 Block C: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
16 NE 29	5.6	1.1	10	10	24	14	31	11
17 SE 5	1.8	0.7	7	10	21	20	39	3
17 SE 6	7.3	0.7	6	4	26	15	35	14
17 SE 7	2.7	1.3	10	8	23	15	34	10
17 SE 9	2.2	2.2	6	7	25	20	34	8
26 NW 23	1.3	1.5	2	2	27	15	41	13
27 SW 50	3.6	0.6	11	5	19	21	31	13
27 SW 53	6.1	0.6	7	11	33	21	24	4
27 SW 54	4.1	0.3	7	5	25	13	34	16
27 SW 55	5.5	0.3	11	10	27	12	27	13
27 SW 58	6.2	1.2	6	9	26	17	31	11
Mean for block			8	8	26	16	31	11

ton [155 720] and an isolated area of glacial sand and gravel [151 715] have not been assessed. Oxford Clay forms the bedrock for the entire area. Sand and gravel has been worked extensively in the terrace deposits around Brampton [210 690, 215 700, 215 715].

The assessment is based on 11 IMAU boreholes and 50 other records. The mineral ranges in thickness from as little as 1.3 m in borehole 26 NW 23 up to 7.3 m in borehole 17 SE 6; it has a mean of 4.0 m. The estimated volume of mineral is 47 million m^3 ±27 per cent. Excluding the small area of glacial sand and gravel in the north [205 740], the estimated volume of river terrace gravels is 46 million m^3 ±29 per cent.

The overburden thickness varies from 0.3 m in borehole 27 SW 55 up to 2.2 m in borehole 17 SE 9 with a mean of 0.9 m. It is composed of a gravelly soil overlying alluvial clays and silts.

The fines content of the mineral generally ranges between 6 and 11 per cent. The proportion of sand, which is dominantly medium grained, varies between 43 and 65 per cent. The gravel content, which is dominantly fine gravel, is at a minimum of 28 per cent in borehole 27 SW 53 and a maximum of 54 per cent in borehole 26 NW 23. Complete grading data are given in Table 5. The mean grading for the block is fines 8 per cent, sand 50 per cent and gravel 42 per cent; overall the mineral is classified as sandy gravel.

Block D (Sheet 2)

Block D embraces 10.9 km^2 of mineral between St Ives and Huntingdon. The present floodplain (between +4–8 m Ordnance Datum) and areas of terraces 1–2 (between +6–12 m Ordnance Datum) on both sides of the valley are included. Oxford Clay forms the bedrock for the entire area. Sand and gravel has been extensively worked [265 725] east of Huntingdon, at Godmanchester [258 715] and at Hemingford Grey [297 710].

The assessment is based on 13 IMAU boreholes and 44 other records. The mineral ranges from zero thickness at borehole 37 SW 14 up to 7.0 m in borehole 36 NW 5; it has a mean of 3.3 m. The estimated volume of mineral is 36 million m^3 ±28 per cent. The overburden consists of soil and silty sandy alluvial clay and has a mean thickness of 1.3 m, ranging from as little as 0.1 m up to 2.7 m. The area of terraces 1–2 in the south-east of the block has an average overburden thickness of greater than 1 m and is coloured accordingly on the resource map.

Table 6 Block D: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
27 SE 6	3.6	1.2	7	7	29	19	33	5
27 SE 7	4.8	2.1	3	2	19	21	35	20
27 SE 8	4.6	0.7	6	4	24	16	36	14
27 SE 9	4.7	1.1	4	4	27	20	31	14
27 SE 10	5.0	0.1	13	10	24	12	29	12
27 SE 11	2.4	1.4	3	5	27	14	36	15
27 SE 12	4.7	1.5	5	2	15	16	44	18
27 SE 13	2.9	0.9	9	8	32	9	31	11
27 SE 14	3.8	0.7	6	7	30	14	33	10
36 NW 3	3.0	1.6	5	7	28	16	32	12
36 NW 4	2.8	1.6	5	10	34	14	30	7
36 NW 5	7.0	0.5	7	13	36	11	25	8
37 SW 14	Absent							
Mean for block			6	7	27	15	33	12

Table 7 Block E: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
36 NW 6	2.4	2.8	4	3	22	17	40	14
36 NW 7	2.9	1.0	10	9	26	15	33	7
36 NW 8	1.8	1.3	6	6	33	12	34	9
36 NW 9	4.7	1.4	4	3	21	20	41	11
36 NE 1	2.9	1.4	5	7	30	21	35	2
36 NE 2	2.2	0.6	15	9	36	13	24	3
37 SW 11	2.7	1.6	15	12	45	6	17	5
37 SW 12*	0.6 (non-mineral)		15	11	20	16	26	12
37 SW 13	1.5	1.5	15	11	35	12	21	6
37 SW 15	3.1	0.8	11	7	31	12	31	8
37 SW 16	2.7	1.0	7	4	31	14	35	9
37 SW 17	4.5	1.4	5	5	27	17	35	11
37 SW 18	3.4	2.7	5	2	23	14	42	14
37 SE 18	1.1	2.0	10	4	27	12	31	16
37 SE 23	2.7	1.0	7	5	28	14	31	15
37 SE 29	3.6	1.1	7	11	32	10	31	9
37 SE 30	3.7	1.9	4	2	19	13	47	15
Mean for block			7	6	28	14	34	10

*Grading data not included in mean for block.

The fines content of the mineral usually ranges between 3 and 9 per cent but increases exceptionally to 13 per cent in borehole 27 SE 10. The proportion of sand, which is dominantly medium grained, varies between 33 and 60 per cent. The gravel content, which is dominantly the fine fraction, varies from 33 per cent in borehole 36 NW 5 up to 62 per cent in borehole 27 SE 12, but more commonly ranges between 37 and 50 per cent. Complete grading data are given in Table 6. The mean grading for the block is fines 6 per cent, sand 49 per cent and gravel 45 per cent; overall the mineral is classified as sandy gravel.

Block E (Sheet 2)

Block E is the downstream continuation of Block D, and contains 14.5 km² of mineral. Although most of the block carries overburden of Alluvium, there are 3.1 km² of terrace deposits (terraces 1–2 and 3) where the average overburden is less than 1 m thick and the mineral is regarded as exposed. The area of Terrace 3 around Holywell-cum-Needingworth is at about +12 m Ordnance Datum and the main floodplain lies between +2–6 m Ordnance Datum. The bedrock is Oxford Clay in the west, and Elsworth Rock Group and Ampthill Clay in the east. Sand and gravel has been worked extensively [320 710] east of St Ives from terraces 1–2 and at [340 700] north of Fen Drayton from beneath Alluvium. A small area of Terrace 3 [343 725] at Holywell-cum-Needingworth has also been worked.

The assessment is based on 17 IMAU boreholes and 308 other records. The mineral ranges in thickness from less than a metre at a few places to 5.0 m in borehole 37 SW 3; it has a mean of 2.9 m. Generally the mineral is thinner in the northern area and thicker in the centre of the valley. The estimated volume of mineral is 42 million m³ ±17 per cent. The overburden is thickest, 2.7 m, at borehole 37 SW 18 and has a mean thickness of 1.6 m. It consists mainly of alluvial silty clays with occasional pebbly beds.

The fines content of the mineral ranges from 4 to 15 per cent. The higher values are found in the terrace gravels near the mapped limits of the mineral; there is generally less than 10 per cent fines in the sub-alluvium gravels in the centre of the valley. The proportion of sand, which is dominantly medium grained, ranges from 34 per cent in borehole 37 SE 30 up to 63 per cent in borehole 37 SW 11. The proportion of gravel, which is mainly fine grained, varies from 22 per cent in borehole 37 SW 11 up to 62 per cent in borehole 37 SE 30. Complete grading data are given in Table 7. The mean grading for the block is fines 7 per cent, sand 49 per cent and gravel 44 per cent; overall the mineral is classified as sandy gravel.

Block F (Sheet 2)

This block, which contains 15.1 km² of mineral includes the widest parts of the present floodplain, which lies between +2 – 3 m Ordnance Datum. There are a few small areas of the lower terraces (1–2) at a slightly higher level (+4–6 m Ordnance Datum) on both sides of the valley. The largest of these areas, to the south, has an average overburden thickness of more than 1 m. Ampthill Clay forms the bedrock for the entire area. There have been no major gravel workings.

The assessment is based on 15 IMAU boreholes and 11 other records. The mineral ranges in thickness from as little as 1.3 m up to 6.9 m in borehole 37 SE 20; it has a mean of 3.6 m. The estimated volume of mineral is 54 million m³ ±18 per cent. The overburden has a mean thickness of 2.2 m and consists mainly of alluvial clay and silt, although there may be up to 3.0 m of peat (borehole 37 SE 12). Near Earith peat [390 730] and Shell Marl [399 735] are mapped within the Alluvium. The maximum thickness of overburden is near the river where it frequently exceeds 3 m.

The fines content of the mineral generally ranges between 4 and 11 per cent and reaches a maximum of 14 per cent in borehole 37 SE 14. The proportion of sand, which is dominantly medium grained, varies between 35 and 64 per cent. The gravel content, which is dominantly fine gravel, has a minimum of 27

Table 8 Block F: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
37 SE 12	2.7	3.4	9	5	48	11	22	5
37 SE 13	6.5	2.7	5	4	30	18	35	8
37 SE 14	4.8	0.9	14	8	42	9	21	6
37 SE 15	5.1	2.5	6	4	21	17	40	12
37 SE 16	4.4	2.2	7	6	31	19	29	8
37 SE 17	4.5	1.6	5	5	24	19	37	10
37 SE 19	2.1	1.5	8	9	21	12	39	11
37 SE 20	6.9	0.6	11	8	29	14	29	9
37 SE 21	3.3	2.0	5	2	18	15	44	16
37 SE 22	3.3	1.3	7	8	36	9	32	8
37 SE 24	3.2	3.6	4	3	27	15	39	12
37 SE 25	3.7	1.2	8	8	28	13	31	12
37 SE 26	1.3	3.0	1	1	10	10	59	19
37 SE 27	3.8	0.7	8	6	26	17	38	5
37 SE 28	2.7	1.5	10	12	14	15	30	19
Mean for block			8	6	28	15	33	10

per cent and a maximum of 60 per cent, but generally ranges between 37 and 47 per cent. Complete grading data are given in Table 8. The mean grading for the block is fines 8 per cent, sand 49 per cent and gravel 43 per cent; overall the mineral is classified as sandy gravel.

Block G (Sheet 2)

Block G is entirely south of the river, adjacent to blocks D and E, and includes 11.1 m^2 of mineral. Most of the block is 'exposed' terrace gravel of the lower terraces (1–2) and Terrace 3, lying between +6–12 m Ordnance Datum. Oxford Clay forms the bedrock except in the east, where there are subcrops of the Elsworth Rock Group and the Ampthill Clay. Sand and gravel has been extensively worked from the lower terraces [293 690, 305 685] around Hemingford Grey and from Terrace 3 [330 685] west of Fen Drayton.

The assessment is based on 13 IMAU boreholes and 51 other records. Sand and gravel ranges in thickness from 0.6 m in borehole 36 NW 12 up to a maximum of 6.7 m in borehole 26 NE10; it has a mean of 3.0 m. The estimated volume of mineral is 33 million m^3 ±29 per cent. The overburden consists of soil and silty sandy clay and has a mean thickness of about 1.0 m, ranging from as little as 0.1 m up to 1.7 m in borehole 27 SE 16.

The fines content of the mineral usually ranges between 3 and 13 per cent, although three boreholes, 26 NE 11 (19 per cent), 27 SE 16 (24 per cent) and 36 NW 15 (22 per cent) have a considerably higher quantity. The proportion of sand, which is dominantly medium grained, varies between 36 and 71 per cent. The gravel content, which is dominantly the fine fraction, has a minimum of 7 per cent in borehole 36 NW 15 and a maximum of 61 per cent in borehole 36 NW 11, but generally ranges between 35 and 50 per cent. Complete grading data are given in Table 9. The mean grading for the block is fines 10 per cent, sand 51 per cent and gravel 39 per cent; overall the mineral is classified as 'clayey' sandy gravel.

Table 9 Block G: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
26 NE 9	3.2	1.4	4	4	22	17	41	12
26 NE 10	6.7	0.2	10	11	24	14	33	8
26 NE 11	1.9	0.6	19	9	25	12	30	5
26 NE 12	2.1	1.5	8	12	24	16	32	8
27 SE 16	1.8	1.7	24	27	30	5	9	5
27 SE 17	2.6	1.1	4	2	16	21	43	14
36 NW 10	1.2	1.0	4	3	21	17	47	8
36 NW 11	2.6	0.5	3	4	20	12	37	24
36 NW 12*	0.6 (non-mineral)		6	11	20	16	34	13
36 NW 13	5.9	0.4	8	6	34	13	30	9
36 NW 14	3.1	1.4	9	9	30	14	33	5
36 NW 15	2.4	0.4	22	19	48	4	5	2
36 NW 16	5.2	0.7	13	9	44	9	18	7
Mean for block			10	9	29	13	30	9

*Grading data not included in mean for block.

Table 10 Block H: data from assessment boreholes

Borehole number	Recorded thickness		Mean grading percentage					
	Mineral m	Overburden m	Fines $-\frac{1}{16}$ mm	Fine sand $+\frac{1}{16}-\frac{1}{4}$ mm	Medium sand $+\frac{1}{4}-1$ mm	Coarse sand $+1-4$ mm	Fine gravel $+4-16$ mm	Coarse gravel $+16$ mm
36NW17	1.3	1.5	8	8	23	21	38	2
36NW18	1.1	0.6	14	16	38	9	20	3
36NW19	1.4	1.1	6	15	29	16	28	6
36NE3	1.8	0.4	13	5	20	12	43	7
36NE4	2.5	0.3	18	10	25	10	29	8
36NE5	Absent							
36NE6	1.1	1.1	17	19	27	10	23	4
36NE7*	0.6 (non-mineral)		17	8	42	11	16	6
36NE8	1.5	0.7	13	10	16	24	35	2
36NE9	3.8	1.2	13	9	25	16	26	11
36SE31	1.9	0.9	22	11	32	7	17	11
Mean for block			14	11	26	14	29	7

*Grading data not included in mean for block.

Block H (Sheet 2)

Block H includes 7.5 m^2 of mineral, in the south-east of sheet 2. About 0.8 km^2 is composed of isolated areas of glacial sand and gravel, and the rest is river terrace material from all terraces away from the centre of the valley. Ampthill Clay forms the bedrock for most of the area, although Kimmeridge Clay occurs at Long Stanton [398 662]. There have been no major gravel workings. The area of terraces 3 and 4 around Long Stanton contains more flint (75 per cent) and less quartz and sandstone than the other river terrace gravels.

The assessment is based on 11 IMAU boreholes. The sand and gravel reaches a maximum thickness of 3.8 m in borehole 36NE9 and thins to zero in borehole 36NE5; this 'nil' value has been incorporated in the calculation of the mean thickness of potentially workable sand and gravel, which is 1.5 m. The estimated volume of mineral is 11 million m^3 ±47 per cent. Excluding the two areas of glacial sand and gravel [375 695, 385 690] around Over, the estimated volume of river terrace gravels is 10 million m^3 ±68 per cent.

The overburden reaches a maximum thickness of 1.5 m in borehole 36NW17 and a minimum of 0.3 m in borehole 36NE4; it has a mean of 1.0 m. It consists of gravelly soil and alluvial silty clay.

The fines content of the mineral ranges between 6 and 22 per cent, and is generally over 10 per cent. The proportion of sand, which is dominantly medium grained, varies between 37 and 63 per cent, and the proportion of gravel, which is mainly fine gravel, varies between 23 and 50 per cent. Complete grading data are given in Table 10. The mean grading for the block is fines 14 per cent, sand 50 per cent and gravel 36 per cent; overall the mineral is classified as 'clayey' sandy gravel.

WORKED-OUT AREAS

The main worked-out areas are shown on the maps. In some areas complete extraction may not have been carried out and only the gravel above the water table may have been removed. Besides the main areas there are a number of old, small workings not shown. Gravel has also been worked locally along parts of the railway line. A list of operational sand and gravel pits is given in Appendix G.

APPENDIX A

FIELD AND LABORATORY PROCEDURES

Trial and error during initial studies of the complex and variable glacial deposits of East Anglia and Essex showed that an absolute minimum of five sample points evenly distributed across the sand and gravel is needed to provide a worthwhile statistical assessment, but that, where possible, there should be not less than ten. Sample points are any points for which adequate information exists about the nature and thickness of the deposit and may include boreholes other than those drilled during the survey and exposures. In particular, the cooperation of sand and gravel operators ensures that boreholes are not drilled where reliable information is already available; although this may be used in the calculations, it is held confidentially by the Institute and cannot be disclosed.

The mineral shown on each 1:25 000 sheet is divided into resource blocks. The arbitrary size selected, 10 km², is a compromise to meet the aims of the survey by providing sufficient sample points in each block. As far as possible the block boundaries are determined by geological boundaries so that, for example, glacial and river terrace gravels are separated. Otherwise division is by arbitrary lines, which may bear no relationship to the geology. The blocks are drawn provisionally before drilling begins.

A reconnaissance of the ground is carried out to record any exposures and inquiries are made to ascertain what borehole information is available. Borehole sites are then selected to provide an even pattern of sample points at a density of approximately one per square kilometre. However, because broad trends are independently overlain by smaller scale characteristically random variations, it is unnecessary to adhere to a square grid pattern. Thus such factors as ease of access and the need to minimise disturbance to land and the public are taken into account in siting the holes; at the same time it is necessary to guard against the possibility that ease of access (that is, the positions of roads and farms) may reflect particular geological conditions, which may bias the drilling results.

The drilling machine employed should be capable of providing a continuous sample representative of all unconsolidated deposits, so that the in-situ grading can be determined, if necessary, to a depth of 30 m at a diameter of about 200 mm, beneath different types of overburden. It should be reliable, quiet, mobile and relatively small (so that it can be moved to sites of difficult access). Shell and auger rigs have proved to be almost ideal.

The rigs are modified to enable deposits above the water table to be drilled 'dry', instead of with water added to facilitate the drilling, to minimise the amount of material drawn in from outside the limits of the hole. The samples thus obtained are representative of the in-situ grading, and satisfy one of the most important aims of the survey. Below the water table the rigs are used conventionally, although this may result in the loss of some of the fines fraction and the pumping action of the bailer tends to draw unwanted material into the hole from the sides or the bottom.

A continuous series of bulk samples is taken throughout the sand and gravel. Ideally samples are composed exclusively of the whole of the material encountered in the borehole between stated depths. However, care is taken to discard, as far as possible, material which has caved or has been pumped from the bottom of the hole. A new sample is commenced whenever there is an appreciable lithological change within the sand and gravel, or at every 1 m depth. The samples, each weighing between 25 and 45 kg, are despatched in heavy duty polythene bags to a laboratory for grading. The grading procedure is based on British Standard 1377 (1967). Random checks on the accuracy of the grading are made in the Institute's laboratories.

All data, including mean grading analysis figures calculated for the total thickness of the mineral, are entered on standard record sheets, abbreviated copies of which are reproduced in Appendix F.

Detailed records may be consulted at the appropriate offices of the Institute, upon application to the Head, Mineral Assessment Unit.

APPENDIX B

STATISTICAL PROCEDURE

Statistical assessment

1 A statistical assessment is made of an area of mineral greater than 2 km², if there is a minimum of five evenly spaced boreholes in the resource block (for smaller areas see paragraph 12 below).

2 The simple methods used in the calculations are consistent with the amount of data provided by the survey. Conventional symmetrical confidence limits are calculated for the 95 per cent probability level, that is, there is a 5 per cent or one in twenty chance of a result falling outside the stated limits.

3 The volume estimate (V) for the mineral in a given block is the product of the two variables, the sampled areas (A) and the mean thickness ($\bar{l}_m$) calculated from the individual thicknesses at the sample points. The standard deviations for these variables are related such that

$$S_V = \sqrt{(S_A{}^2 + S_{\bar{l}_m}{}^2)} \qquad [1]$$

4 The above relationship may be transposed such that

$$S_V = S_{\bar{l}_m} \sqrt{(1 + S_A{}^2/S_{\bar{l}_m}{}^2)} \qquad [2]$$

From this it can be seen that as $S_A{}^2/S_{\bar{l}_m}{}^2$ tends to 0, S_V tends to $S_{\bar{l}_m}$.

If, therefore, the standard deviation for area is small with respect to that for mean thickness, the standard deviation for volume approximates to that for mean thickness.

5 Given that the number of approximately evenly spaced sample points in the sampled area is n with mineral thickness measurements $l_{m_1}, l_{m_2}, \ldots l_{m_n}$, then the best estimate of mean thickness, $\bar{l}_m$, is given by

$$\Sigma(l_{m_1} + l_{m_2} \ldots l_{m_n})/n.$$

For groups of closely spaced boreholes a discretionary weighting factor may be applied to avoid bias (see note on weighting below). The standard deviation for mean thickness $S_{\bar{l}}$, expressed as a proportion of the mean thickness, is given by

$$S_{\bar{l}} = (1/\bar{l}_m) \sqrt{[\Sigma(l_m - \bar{l}_m)^2/(n-1)]}$$

where l_m is any value in the series l_{m_1} to l_{m_n}.

6 The sampled area in each resource block is coloured pink on the map. Wherever possible, calculations relate to the mineral within mapped geological boundaries (which may not necessarily correspond to the limits of deposit). Where the area is not defined by a mapped boundary, that is, where the boundary is inferred, a distinctive symbol is used. Experience suggests that the errors in determining area are small relative to those in thickness. The relationship $S_A/S_{\bar{l}_m} \leqslant \frac{1}{3}$ is assumed in all cases. It follows from equation [2] that

$$S_{\bar{l}_m} \leqslant S_V \leqslant 1.05\, S_{\bar{l}_m} \quad . \qquad [3]$$

7 The limits on the estimate of mean thickness of mineral, $L_{\bar{l}_m}$, may be expressed in absolute units $\pm (t/\sqrt{n}) \times S_{\bar{l}_m}$ or as a percentage $\pm (t/\sqrt{n}) \times S_{\bar{l}_m} \times (100/\bar{l}_m)$ per cent, where t is Student's t at the 95 per cent probability level for $(n-1)$ degrees of freedom, evaluated by reference to statistical tables. (In applying Student's t it is assumed that the measurements are distributed normally).

Block calculation 1:25 000 Block } Fictitious

Area
Block: 11.08 km²
Mineral: 8.32 km²

Mean thickness
Overburden: 2.5 m
Mineral: 6.5 m

Volume
Overburden: 21 million m³
Mineral: 54 million m³

Confidence limits of the estimate of mineral volume at the 95 per cent probability level: ±20 per cent
That is, the volume of mineral (with 95 per cent probability): 54 ±11 million m³

Thickeness estimate measurements in metres
l_o = overburden thickness l_m = mineral thickness

Sample point	Weighting w	Overburden l_o	Overburden wl_o	Mineral l_m	Mineral wl_m	Remarks
SE 14	1	1.5	1.5	9.4	9.4	IMAU boreholes
SE 18	1	3.3	3.3	5.8	5.8	
SE 20	1	nil	–	6.9	6.9	
SE 22	1	0.7	0.7	6.4	6.4	
SE 23	1	6.2	6.2	4.1	4.1	
SE 24	1	4.3	4.3	6.4	6.4	
SE 17	½	1.2	1.6	9.8	7.2	Hydrogeology Unit record
123/45	½	2.0		4.6		
1	¼	2.7	2.6	7.3	5.8	Close group of four boreholes (commercial)
2	¼	4.5		3.2		
3	¼	0.4		6.8		
4	¼	2.8		5.9		
Totals	$\Sigma w = 8$		$\Sigma wl_o = 20.2$		$\Sigma wl_m = 52.0$	
Means			$\overline{wl}_o = 2.5$		$\overline{wl}_m = 6.5$	

Calculation of confidence limits

wl_m	$\lvert(wl_m - \overline{wl}_m)\rvert$	$(wl_m - \overline{wl}_m)^2$
9.4	2.9	8.41
5.8	0.7	0.49
6.9	0.4	0.16
6.4	0.1	0.01
4.1	2.4	5.76
6.4	0.1	0.01
7.2	0.7	0.49
5.8	0.7	0.49

$\Sigma(wl_m - \overline{wl}_m)^2 = 15.82$

$n = 8$

t = 2.365

L_V is calculated as

$1.05(t/\overline{wl}_m)\sqrt{[\Sigma(wl_m - \overline{wl}_m)^2/n(n-1)]} \times 100$

$= 1.05 \times (2.365/6.5)\sqrt{[15.82/(8 \times 7)]} \times 100$

$= 20.3$

$\simeq 20$ per cent

Figure 4 Example of resource block assessment: calculation and results

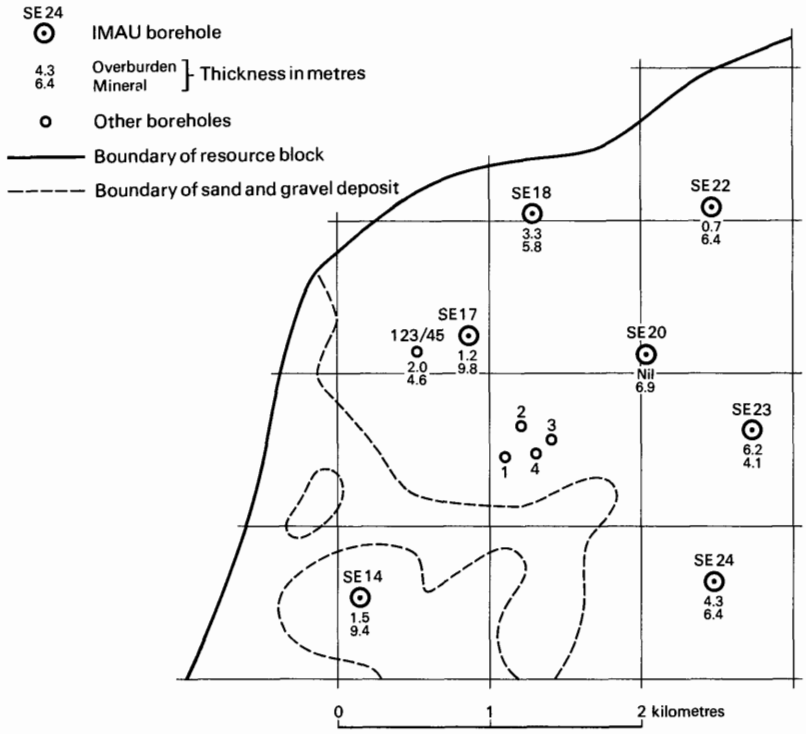


Figure 5 Example of resource block assessment: map of a fictitious block

8 Values of t at the 95 per cent probability level for values of n up to 20 are as follows:

n	t	n	t
1	infinity	11	2.228
2	12.706	12	2.201
3	4.303	13	2.179
4	3.182	14	2.160
5	2.776	15	2.145
6	2.571	16	2.131
7	2.447	17	2.120
8	2.365	18	2.110
9	2.306	19	2.101
10	2.262	20	2.093

(from Table 12, Biometrika Tables for Statisticians, Volume 1, Second Edition, Cambridge University Press, 1962). When n is greater than 20, 1.96 is used (the value of t when n is infinity).

9 In calculating confidence limits for volume, L_V, the following inequality corresponding to equation [3] is applied: $L_{\bar{l}_m} \leq L_V \leq 1.05\, L_{\bar{l}_m}$

10 In summary, for values of n between 5 and 20, L_V is calculated as

$$[(1.05 \times t)/\bar{l}_m] \times [\sqrt{\Sigma(l_m - \bar{l}_m)^2/n(n-1)}] \times 100$$

per cent, and when n is greater than 20, as

$$[(1.05 \times 1.96)/\bar{l}_m] \times [\sqrt{\Sigma(l_m - \bar{l}_m)^2/n(n-1)}] \times 100$$

per cent.

11 The application of this procedure to a fictitious area is illustrated in Figures 4 and 5.

Inferred assessment

12 If the sampled area of mineral in a resource block is between 0.25 km² and 2 km² an assessment is inferred, based on geological and topographical information usually supported by the data from one or two boreholes. The volume of mineral is calculated as the product of the area, measured from field data, and the estimated thickness. Confidence limits are not calculated.

13 In some cases a resource block may include an area left uncoloured on the map, within which mineral (as defined) is interpreted to be generally absent. If there is reason to believe that some mineral may be present, an inferred assessment may be made.

14 No assessment is attempted for an isolated area of mineral less than 0.25 km².

15 *Note on weighting* The thickness of a deposit at any point may be governed solely by the position of the point in relation to a broad trend. However, most sand and gravel deposits also exhibit a random pattern of local, and sometimes considerable, variation in thickness. Thus the distribution of sample points need be only approximately regular and in estimating the mean thickness only simple weighting is necessary. In practice, equal weighting can often be applied to thicknesses at all sample points. If, however, there is a distinctly unequal distribution of points, bias is avoided by dividing the sampled area into broad zones, to each of which a value roughly proportional to its area is assigned. This value is then shared between the data points within the zone as the weighting factor.

APPENDIX C

CLASSIFICATION AND DESCRIPTION OF SAND AND GRAVEL

For the purposes of assessing resources of sand and gravel a classification should take account of economically important characteristics of the deposit, in particular the absolute content of fines and the ratio of sand to gravel.

The terminology commonly used by geologists when describing sedimentary rocks (Wentworth, 1922) is not entirely satisfactory for this purpose. For example, Wentworth proposed that a deposit should be described as a 'gravelly sand' when it contains more sand than gravel and there is at least 10 per cent of gravel, provided that there is less than 10 per cent of material finer than sand (less than $\frac{1}{16}$ mm) and coarser than pebbles (more than 64 mm in diameter). Because deposits containing more than 10 per cent fines are not embraced by this system a modified binary classification based on Willman (1942) has been adopted.

When the fines content exceeds 40 per cent the material is not considered to be potentially workable and falls outside the definition of mineral. Deposits which contain 40 per cent fines or less are classified primarily on the ratio of sand to gravel but qualified in the light of the fines content, as follows: less than 10 per cent fines – no qualification; 10 per cent or more but less than 20 per cent fines – 'clayey'; 20 to 40 per cent fines – 'very clayey'.

The term 'clay' (as written, with single quote marks) is used to describe all material passing $\frac{1}{16}$ mm. Thus it has no mineralogical significance and includes particles falling within the size range of silt. The normal meaning applies to the term clay where it does not appear in single quotation marks.

The ratio of sand to gravel defines the boundaries between sand, pebbly sand, sandy gravel and gravel (at 19:1, 3:1 and 1:1).

Thus it is possible to classify the mineral into one of twelve descriptive categories (see Figure 6). The procedure is as follows:

1 Classify according to ratio of sand to gravel.
2 Describe fines.

For example, a deposit grading 11 per cent gravel, 70 per cent sand and 19 per cent fines is classified as 'clayey' pebbly sand. This short description is included in the borehole log (see Note 11, Appendix D).

Many differing proposals exist for the classification of the grain size of sediments (Atterberg, 1905; Udden, 1914; Wentworth, 1922; Wentworth, 1935; Allen, 1936; Twenhofel, 1937; Lane and others, 1947). As Archer (1970a, b) has emphasised, there is a pressing need for a simple metric scale acceptable to both scientific and engineering interests, for which the class limit sizes correspond closely with certain marked changes in the natural properties of mineral particles. For example, there is an important change in the degree of cohesion between particles at about the $\frac{1}{16}$-mm size, which approximates to the generally accepted boundary between silt and sand. These and other requirements are met by a system based on Udden's geometric scale and a simplified form of Wentworth's terminology (Table 11), which is used in this Report.

The fairly wide intervals in the scale are consistent with the general level of accuracy of the qualitative assessments of the resource blocks. Three sizes of sand are recognised, fine ($+\frac{1}{16}$ $-\frac{1}{4}$ mm), medium ($+\frac{1}{4}$ -1 mm) and coarse ($+1$ -4 mm). The boundary at 16 mm distinguishes a range of finer gravel ($+4$ -16 mm), often characterised by abundance of worn tough pebbles of vein quartz, from larger pebbles often of notably different materials. The boundary of 64 mm distinguishes pebbles from cobbles. The term 'gravel' is used loosely to denote both pebble-sized and cobble-sized material.

The size distribution of borehole samples is determined by sieve analysis, which is presented by the laboratory as logarithmic cumulative curves (see, for example, British Standard 1377: 1967). In this report the grading is tabulated on the borehole record sheets (Appendix F), the intercepts corresponding with the simple geometric scale $\frac{1}{16}$ mm, $\frac{1}{4}$ mm, 1 mm, 4 mm, 16 mm and so on as required. Original sample grading curves are available for reference at the appropriate office of the Institute.

Each bulk sample is described, subjectively, by a geologist at the borehole site. Being based on visual examination, the description of the grading is inexact, the accuracy depending on the experience of the observer. The descriptions recorded are modified, as necessary, when the laboratory results become available.

The relative proportions of the rock types present in the gravel fraction are indicated by the use of the words 'and' or 'with'. For example, 'flint and quartz' indicates very approximate equal proportions with neither constituent accounting for less than about 25 per cent of the whole; 'flint with quartz' indicates that flint is dominant and quartz, the principle accessory rock type, comprises 5 to 25 per cent of the whole. Where the accessory material accounts for less than 5 per cent of the whole, but is still readily apparent, the phrase 'with some' has been used. Rare constituents are referred to as 'trace'.

The terms used in the field to describe the degree of rounding of particles, which is concerned with the sharpness of the edges and corners of a clastic fragment and not the shape (after Pettijohn, 1957), are as follows.

Angular: showing little or no evidence of wear; sharp edges and corners.

Subangular: showing definite effects of wear. Fragments still have their original form but edges and corners begin to be rounded off.

Subrounded: showing considerable wear. The edges and corners are rounded off to smooth curves. Original grain shape is still distinct.

Rounded: original faces almost completely destroyed, but some comparatively flat surfaces may still remain. All original edges and corners have been smoothed off to rather broad curves. Original shape is still apparent.

Well-rounded: no original faces, edges or corners left. The entire surface consists of broad curves; flat areas are absent. The original shape is suggested by the present form of the grain.

Table 11 Classification of gravel, sand and fines

Size limits	Grain size description	Qualification	Primary classification
	Cobble		
64 mm –			
		Coarse	Gravel
16 mm –	Pebble		
		Fine	
4 mm –			
		Coarse	
1 mm –			
	Sand	Medium	Sand
$\frac{1}{4}$ mm –			
		Fine	
$\frac{1}{16}$ mm –			
	Fines (silt and clay)		Fines

I Gravel
II 'Clayey' gravel
III 'Very clayey' gravel
IV Sandy gravel
V 'Clayey' sandy gravel
VI 'Very clayey' sandy gravel
VII Pebbly sand
VIII 'Clayey' pebbly sand
IX 'Very clayey' pebbly sand
X Sand
XI 'Clayey' sand
XII 'Very clayey' sand

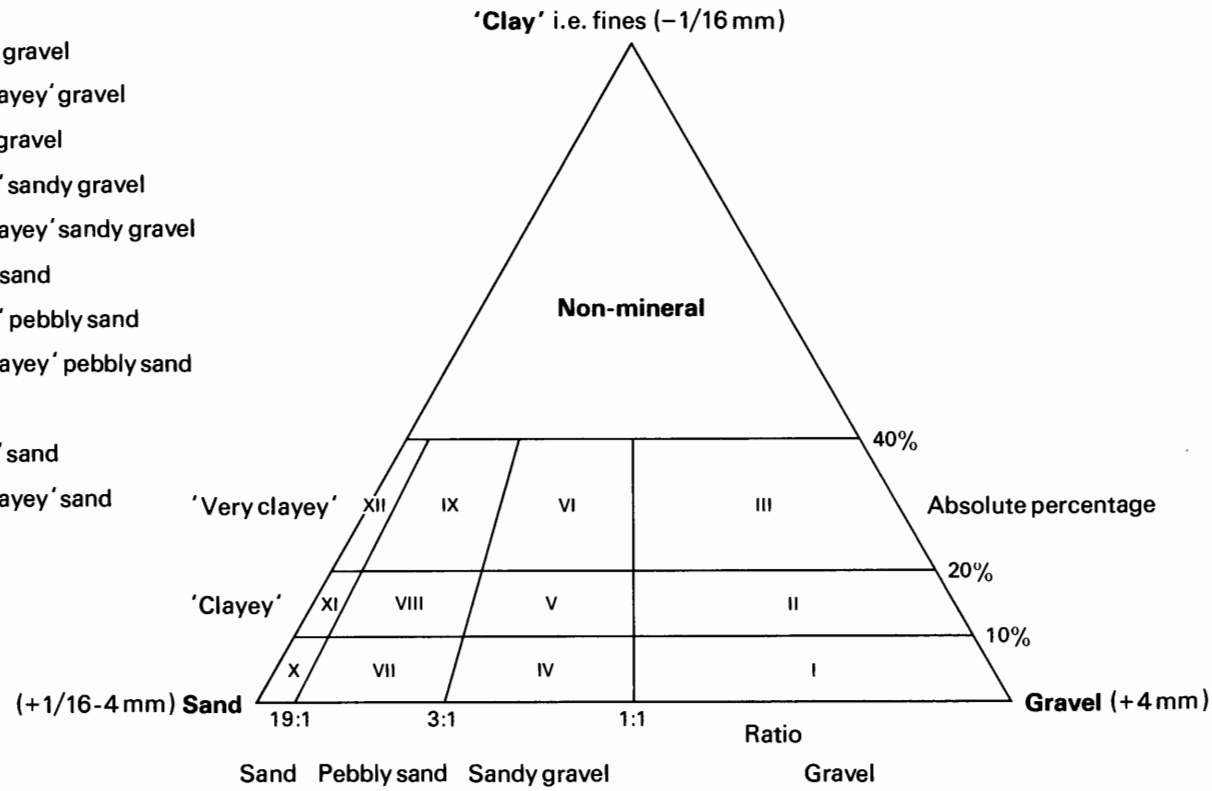


Figure 6 Diagram to show the descriptive categories used in the classification of sand and gravel

APPENDIX D

EXPLANATION OF THE BOREHOLE ROCORDS

Annotated example

TL 27 SE 10[1] **2661 7189[2]** **Eastside Common,[3] Godmanchester** **Block D**

Surface level +10.0 m[4]
Water struck at +7.2 m[5]
Dando Shell, 152 mm diameter[6]
May 1976

Overburden 0.1 m[7]
Mineral 5.0 m
Bedrock 3.6 m+

LOG

Geological classification[10]	Lithology[11]	Thickness m	Depth[8] m
	Soil	0.1	0.1
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine with coarse, some cobbles, angular flint with subrounded chalk, quartzite, limestone and sandstone with some ironstone Sand: medium with coarse and fine, quartz with coarse flint and chalk Fines: upper part very 'clayey'. Several thin clayey bands, yellow-brown in lower part	5.0	5.1
Oxford Clay	Clay, silty, stiff, green-grey, fossiliferous	3.6+[9]	8.7

GRADING

Mean for deposit[14] *percentages*			Depth below surface (m)[12]	*percentages*[13]						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	46	41	0.1–1.7	30	24	41	2	3	0	0
			1.7–2.7	7	6	23	13	38	14	0
			2.7–3.7	3	1	9	19	48	20	0
			3.7–5.1	3	2	16	17	41	20	0
			Mean	13	10	24	12	29	12	0

The numbered paragraphs below correspond with the annotations given on the specimen record above.

1 Borehole Registration Number
Each Industrial Minerals Assessment Unit (IMAU) borehole is identified by a Registration Number. This consists of two statements.

1 The number of the 1:25 000 sheet on which the borehole lies, for example, TL 27
2 The quarter of the 1:25 000 sheet on which the borehole lies and its number in a series for that quarter, for example SE 10.

Thus the full Registration Number is TL 27 SE 10. Usually this is abbreviated to 27 SE 10 in the text.

2 The National Grid reference
All National Grid references in this publication lie within the 100-km square TL unless otherwise stated. Grid references are given to eight figures, accurate to within 10 m for borehole locations. (In the text, six-figure grid references are used for more approximate locations, for example, for farms.)

3 Location
The position of the borehole is generally referred to the nearest named locality on the 1:25 000 base map and the resources block in which it lies is stated.

4 Surface level
The surface level at the borehole site is given in metres above Ordnance Datum. Where the measurements were made in feet approximate conversions to metres are given in brackets.

5 Ground-water conditions
If ground-water was present the level at which it was encountered is normally given (in metres above Ordnance Datum).

6 Type of drill and date of drilling
Modified shell and auger rigs were used in this survey. The type of machine, the external diameter of the casing used, and the month and year of completion of the borehole are stated.

7 Overburden, mineral, waste and bedrock
Mineral is sand and gravel which, as part of a deposit, falls within the arbitrary definition of potentially workable material (see p. 1). Bedrock is the 'formation', 'country rock' or 'rock head' below which potentially workable sand and gravel will not be found. Waste is any material other than bedrock or mineral. Where waste occurs between the surface and mineral it is classified as overburden.

8 Thickness and depth
All measurements were made in metres.

9 The plus sign (+) indicates that the base of the deposit was not reached during drilling.

10 Geological classification
The geological classification is given whenever possible.

11 Lithological description
When sand and gravel is recorded a general description based on the mean grading characteristics (for details see Appendix C) is followed by more detailed particulars. The description of other rocks is based on visual examination, in the field.

12 Sampling
A continuous series of bulk samples is taken throughout the thickness of sand and gravel. A new sample is commenced whenever there is an appreciable lithological change within the sand and gravel or at every 1 m of depth.

13 Grading results
The limits are as follows: Gravel, +4 mm; sand, $+\frac{1}{16}-4$ mm; fines, $-\frac{1}{16}$ mm. (See Appendix C.)

14 Mean grading
The grading of the full thickness of the mineral horizon identified in the log is the mean of the individual sample gradings weighted by the thicknesses represented, if these vary. The classification used is shown in Table 11.

Fully representative sampling of sand and gravel is difficult to achieve, particularly where ground-water levels are high. Comparison between boreholes and adjacent exposures suggest that in borehole samples the proportion of sand may be higher and the proportions of fines and coarse gravel (+16 mm) may be lower.

APPENDIX E

BOREHOLES USED IN THE ASSESSMENT OF RESOURCES

IMAU BOREHOLES

Borehole number*	Grid reference
TL 16 NE (pp. 19–20)	
29	1987 6939
30	1800 6782
31	1911 6692
TL 16 SE (pp. 21–26)	
22	1957 6472
23	1821 6401
24	1596 6367
25	1945 6364
26	1738 6275
27	1780 6325
28	1979 6238
29	1834 6221
30	1979 6197
31	1621 6235
TL 17 SE (pp. 27–30)	
3	1949 7475
4	1910 7396
5	1971 7334
6	1991 7212
7	1924 7114
8	1529 7226
9	1735 7194
TL 26 NW (pp. 30–36)	
23	2022 6993
24	2196 6994
25	2338 6996
26	2442 6974
27	2052 6849
28	2293 6868
29	2031 6782
30	2075 6694
31	2147 6620
32	2238 6625
TL 26 NE (pp. 37–39)	
9	2876 6942
10	2907 6998
11	2917 6891
12	2946 6775
TL 26 SW (pp. 39–40)	
3	2080 6463
4	2042 6348
5	2245 6255
TL 27 SW (pp. 41–47)	
50	2054 7394
51	2101 7287
52	2174 7292
53	2068 7242
54	2051 7140
55	2178 7094
56	2285 7085
57	2291 7022
58	2087 7162
TL 27 SE (pp. 47–57)	
5	2544 7427
6	2671 7306
7	2632 7220
8	2768 7293
9	2515 7174
10	2661 7189
11	2783 7165
12	2863 7152
13	2897 7177
14	2533 7078
15	2658 7025
16	2787 7045
17	2846 7077
TL 36 NW (pp. 58–70)	
3	3059 6952
4	3136 6970
5	3063 6997
6	3269 6966
7	3354 6909
8	3429 6941
9	3427 6984
10	3014 6874
11	3104 6895
12	3216 6872
13	3339 6848
14	3063 6767
15	3179 6816
16	3280 6769
17	3461 6828
18	3398 6740
19	3292 6675
TL 36 NE (pp. 70–74)	
1	3601 6980
2	3570 6930
3	3762 6968
4	3911 6981
5	3693 6877
6	3838 6904
7	3982 6886
8	3771 6823
9	3981 6702
TL 37 SW (pp. 75–81)	
9	3461 7437
10	3303 7265
11	3460 7238
12	3484 7268
13	3309 7163
14	3081 7112
15	3402 7127
16	3483 7106
17	3172 7061
18	3325 7049
TL 37 SE (pp. 81–100)	
9	3534 7492
10	3639 7497
11	3724 7477
12	3870 7423
13	3950 7450
14	3657 7337
15	3765 7345
16	3876 7355
17	3939 7330
18	3555 7226
19	3629 7254
20	3734 7258
21	3854 7255
22	3947 7241
23	3529 7144
24	3691 7159
25	3859 7177
26	3743 7123
27	3831 7112
28	3960 7098
29	3528 7060
30	3634 7053
31	3705 7020

*By sheet quadrant.

APPENDIX F

INDUSTRIAL MINERALS ASSESSMENT UNIT BOREHOLE RECORDS

TL 16 NE 29 1987 6939 By A1, SW of Brampton Block C

Surface level + 16.6 m
Water struck at + 14.2 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.1 m
Mineral 5.6 m
Waste 15.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	Clay, sandy, pebbly at base, orange-brown	0.9	1.1
	'Clayey', sandy gravel Gravel: fine with coarse, rare cobbles. Angular flint with subangular quartzite and sandstone, some chalk and rare ironstone Sand: medium, with coarse and fine, quartz with flint Fines: clayey, orange, with thin bands of yellow silt in upper part	5.6	6.7
Boulder Clay	Clay, dark grey, with chalk, flint and mudstone pebbles	15.3+	22.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
10	48	42	1.1–2.1	20	15	20	15	26	5	0
			2.1–3.1	18	21	24	11	21	5	0
			3.1–4.1	5	9	30	14	35	8	0
			4.1–5.1	3	4	24	15	40	14	0
			5.1–6.1	4	6	30	13	29	19	0
			6.1–6.7	5	4	14	18	39	20	0
			Mean	10	10	24	14	31	11	0

TL 16 NE 30 1800 6782 Buckden Wood, Buckden

Surface level (+ 48.3 m) + 158.5 ft
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 20.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.3	0.3
Boulder Clay	Clay, yellow mottled grey and brown, with chalk and flint pebbles	3.8	4.1
	Clay, stiff, dark grey, with chalk, flint, limestone, siltstone and sandstone pebbles	15.9+	20.0

TL 16 NE 31 1911 6692 Stirtloe Park, Stirtloe **Block B**

Surface level +24.6 m
Water struck at +21.6 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.3 m
Mineral 6.3 m
Waste 13.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terrace 3)	Clay, sandy, hard, brown, with flint and sandstone pebbles	1.1	1.3
	'Clayey' sandy gravel Gravel: fine with coarse, rare cobbles, angular to rounded flint with quartzite, limestone and sandstone Sand: medium with coarse and fine, quartz with flint and chalk Fines: silty, orange, concentrated in upper part	6.3	7.6
Boulder Clay	Clay, stiff, dark grey, many chalk, flint and mudstone pebbles	13.8+	21.4

GRADING

Mean for deposit *percentages*			Dept below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
12	61	27	1.3–1.7	15	13	24	13	30	5	0
			1.7–2.6	20	9	59	4	8	0	0
			2.6–3.6	15	9	47	10	12	6	0
			3.6–4.6	24	31	34	3	5	4	0
			4.6–5.0	8	19	55	7	9	2	0
			5.0–6.0	2	4	19	29	40	6	0
			6.0–7.0	6	8	22	16	33	15	0
			7.0–7.6	7	13	26	18	29	7	0
			Mean	12	13	35	13	21	6	0

TL 16 SE 22 1957 6472 Boughton Farm, Southoe **Block A**

Surface + 22.2 m
Water struck at + 19.6 m
Dando Shell, 152 mm diameter
March 1976

Overburden 0.5 m
Mineral 2.5 m
Waste 17.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.5	0.5
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine, with some coarse, few cobbles, angular flint with subangular quartzite, rounded chalk and quartz Sand: medium, quartz Fines: thin, yellow laminated silts throughout	2.5	3.0
Boulder Clay	Clay, silty, dark grey, with pebbles of chalk and mudstone. Occasional bands of chalk rubble	17.0+	20.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
11	58	31	0.5–1.2	18	13	32	9	20	9	0
			1.2–2.2	8	7	58	7	15	5	0
			2.2–3.0	9	7	44	13	32	15	0
			Mean	11	9	40	9	22	9	0

TL 16 SE 23 1821 6401 Manor Farm, Southoe **Block A**

Surface level + 17.9 m
Water struck at + 17.0 m
Dando Shell, 152 mm diameter
March 1976

Overburden 0.5 m
Mineral 1.1 m
Waste 23.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.5	0.5
Terrace Deposits (Terraces 1–2)	**a** Gravel Gravel: fine with some coarse, rare cobbles, angular flint with some subangular quartzite, sandstone and limestone Sand: medium with coarse, quartz with flint grains Fines: yellow silty clay	1.1	1.6
Boulder Clay	Clay, dark grey, with pebbles of chalk, flint and siltstone: upper parts yellow-brown	12.2	13.8
Glacial Sand and Gravel	**b** 'Clayey' pebbly sand Gravel: fine with coarse, angular to subrounded chalk with flint Sand: coarse and medium, very chalky Fines: clay, increases with depth	3.9	17.7
Boulder Clay	Clay, dark grey, with pebbles of chalk flint and mudstone	7.1+	24.8

GRADING

	Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
	Fines	Sand	Gravel		Fines	Sand			Gravel		
					$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
a	7	45	48	0.5–1.1	8	5	31	11	35	10	0
				1.1–1.6	5	6	17	19	42	11	0
				Mean	7	5	25	15	38	10	0
b	17	63	20	14.0–15.0	9	5	12	33	25	17	0
				15.0–16.0	9	5	24	39	17	6	0
				16.0–17.0	21	8	31	33	5	2	0
				17.0–17.7	34	13	41	11	1	1	0
				Mean	17	7	26	30	13	7	0

(No sample for gravel between 13.8 and 14.0 m)

TL 16 SE 24 1596 6367 Meagre Farm, Hail Weston **Block A**

Surface level + 32.8 m
Water not struck
Dando Shell, 152 mm diameter
March 1976

Waste 9.9 m
Bedrock 1.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.3	0.3
	Subsoil, clayey, stony, ironstained	0.4	0.7
Boulder Clay	Clay, yellow mottled grey, becoming dark grey lower down. Numerous chalk, sandstone and mudstone pebbles	9.2	9.9
Oxford Clay	Clay, very stiff, silty, grey-green	1.1+	11.0

TL 16 SE 25 1945 6364 Manor Farm, Southoe **Block A**

Surface level + 14.1 m
Water struck at 12.6 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.0 m
Mineral 2.5 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.5	0.5
Terrace Deposits (Terraces 1–2)	Clay, silty, yellow-brown, some flint pebbles	0.5	1.0
	Gravel Gravel: fine with coarse, some cobbles, angular flint with subangular shelly limestone and quartzite, subrounded sandstone and chalk, some ironstone Sand: medium with coarse, quartz, with some flint and chalk Fines: thin silty clay, bands throughout, yellow-brown	2.5	3.5
Oxford Clay	Clay, silty, stiff, blue-grey, fossiliferous	1.5+	5.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	42	52	1.0–2.0	8	9	30	9	25	19	0
			2.0–3.0	5	2	21	11	47	14	0
			3.0–3.5	3	1	22	19	34	21	0
			Mean	6	5	25	12	35	17	0

TL 16 SE 26 1738 6275 NE of Hail Weston **Block A**

Surface level + 19.7 m
Water struck at + 18.0 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.1 m
Mineral 1.3 m
Waste 17.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.6	0.6
Terrace Deposits (Terraces 1–2)	Clay, sandy, pebbly, mottled yellow-brown	0.5	1.1
	'Clayey' gravel Gravel: fine with coarse, rare cobbles, angular flints with more rounded quartzite, some sandstone and limestone Sand: medium and coarse, quartz with coarse flint and chalk Fines: yellow, very clayey	1.3	2.4
Boulder Clay	Clay, yellow, dark grey lower down, many chalk, flint, limestone and mudstone pebbles	17.2+	19.6

GRADING

Mean for deposit *percentage*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
16	41	43	1.1–2.4	16	5	21	15	33	10	0

TL 16 SE 27 1780 6325 Hill Farm, Hail Weston **Block A**

Surface level about + 25 m
Water not struck
Dando Shell, 152 mm diameter
March 1976

Waste 19.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits	'Clayey' gravel, angular flints	0.7	1.1
Boulder Clay	Clay, stiff, sandy with flint and chalk pebbles, yellow, becoming grey lower down	18.0+	19.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	37	53	0.4–1.1	10	8	18	11	38	15	0

TL 16 SE 28 1979 6238 Brook Farm, Great Paxton **Block A**

Surface level + 12.7 m
Water struck at + 10.6 m
Dando Shell, 152 mm diameter
August 1976

Overburden 2.1 m
Mineral 2.7 m
Waste 4.1 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Silt, clayey, yellow-brown, much shell debris, few flint pebbles	0.7	1.1
Peat	Peat, silty, soft, grey-brown, rotted plant material and shell debris	1.0	2.1
Terrace Deposits	Gravel Gravel; fine and coarse with some cobbles, angular to subroundedflint with quartzite, shelly limestone, chalk and some ironstone Sand: medium with coarser sand lower down	2.7	4.8
Boulder Clay	Clay, silty, sandy, grey with pebbles and cobbles of flint, chalk and shelly limestone	4.1	8.9
Oxford Clay	Clay, silty, blue-grey, fossiliferous	3.0+	11.9

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	36	59	2.1–3.1	7	4	19	9	38	23	0
			3.1–4.1	5	3	22	14	36	21	0
			4.1–4.8	3	4	22	12	32	28	0
			Mean	5	4	21	11	36	23	0

TL 16 SE 29 1834 6221 St Neots Mill, St Neots **Block A**

Surface level + 16.2 m
Water struck at + 13.5 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.3 m
Mineral 2.8 m
Waste 0.2 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.6	0.6
Terrace Deposits (Terraces 1–2)	Clay, sandy, orange, some flint pebbles	0.7	1.3
	'Clayey' sandy gravel, upper part 'clayey' pebbly sand Gravel: fine with coarse, some cobbles, angular flint with subangular quartzite and chalk, few large shell fragments Sand: medium and fine, with coarse: quartz with flint Fines: upper part very silty, orange-brown, bands of sandy silt to 2.9 m	2.8	4.1
	Silt, grey with orange-yellow bands	0.2	4.3
Oxford Clay	Clay, silty, green-blue	1.5+	5.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	58	29	1.3–2.3	22	40	26	4	6	1	0
			2.3–2.9	15	30	48	2	3	2	0
			2.9–3.9	4	2	15	21	46	11	0
			3.9–4.1	7	2	10	14	40	27	0
			Means	13	22	25	11	22	7	0

TL 16 SE 30 1979 6197 Brook Farm, St Neots **Block A**

Surface level + 16.1 m
Water struck at + 14.6 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.7 m
Mineral 3.4 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Clay, brown, pebbly at base	0.4	0.8
	'Clayey' sandy gravel	0.5	1.3
	Clay, sandy, yellow	0.4	1.7
	Gravel Gravel: fine with coarse, few cobbles, angular flint with subangular quartzite and chalk Sand: medium and coarse, quartz with coarse flint and some chalk	3.4	5.1
Oxford Clay	Siltstone, 'clayey', blue-green	1.5+	6.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	42	50	0.8–1.3	16	13	22	8	18	22	0
			1.7–2.7	7	6	24	13	41	10	0
			2.7–3.7	9	6	24	18	35	10	0
			3.7–4.7	4	5	23	14	38	18	0
			4.7–5.1	5	4	18	18	40	17	0
			Mean	8	6	22	14	36	14	0

TL 16 SE 31 1621 6235 Hail Weston **Block A**

Surface level + 30.6 m
Water not struck
Dando Shell, 152 mm diameter
March 1976

Waste 18.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Boulder Clay	Clay, sandy, pale brown, with flint pebbles	0.3	0.5
	Clay, sandy, silty, yellow mottled grey, with flint and chalk pebbles	1.9	2.4
	Clay, yellow, very pebbly, upper part clayey gravel, chalk and flint pebbles	1.7	4.1
	Clay, stiff, dark grey with pebbles and chalk, flint, limestone and mudstone	14.8+	18.9

TL 17 SE 3 1949 7475 Low Farm, Alconbury **Block C**

Surface level +16.2 m
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 1.1 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	1.0	1.0
Terrace Deposits	Sand, silty, yellow, with flint pebbles	0.1	1.1
Oxford Clay	Clay, buff-grey, passing into firm blue-grey clay below, fossiliferous	2.5+	3.6

TL 17 SE 4 1910 7396 Huntingdon Research Centre, Alconbury **Block C**

Surface level (+14.6 m) +48 ft
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 1.7 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits	Clay, silty with flint and chalk pebbles, yellow-brown	1.1	1.3
	'Clayey' sandy gravel	0.4	1.7
Oxford Clay	Clay, silty, buff mottled grey, selenite crystals, iron-rich nodules	2.2+	3.9

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
12	47	41	1.3–1.7	12	5	23	19	31	10	0

TL 17 SE 5 1971 7334 West of Little Stukeley Lodge, Little Stukeley **Block C**

Surface level (+ 13.0 m) + 42.5 ft
Water struck at + 11.2 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.7 m
Mineral 1.8 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Silt, sandy, yellow-orange, pebbly	0.3	0.7
	Sandy gravel Gravel: fine, angular flint with some chalk, quartzite and ironstone Sand: medium and coarse, yellow-brown, quartz and flint	1.8	2.5
Oxford Clay	Clay, silty, blue, fossiliferous	1.0+	3.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	51	42	0.7–1.7	9	15	23	14	35	3	0
			1.7–2.5	4	5	19	26	43	3	0
			Mean	7	10	21	20	39	3	0

TL 17 SE 6 1991 7212 ESE of Meadow Farm, Brampton **Block C**

Surface level (+ 11.9 m) + 39 ft
Water struck at + 10.3 m
Dando Shell, 152 mm diameter
August 1976

Overburden 0.7 m
Mineral 7.3 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace deposits	Clay, silty, sandy, with flint pebbles, yellow-orange	0.4	0.7
	Gravel· Gravel: fine with coarse, angular to subrounded flint, sandstone, limestone, quartzite and some chalk and ironstone Sand: medium with coarse, yellow-brown Fines: few thin silt bands, buff	7.3	8.0
Oxford Clay	Clay, stiff, green-blue, chert nodules, fossiliferous	3.0+	11.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	45	49	0.7–1.6	10	7	24	18	38	3	0
			1.6–2.6	9	8	30	16	35	2	0
			2.6–3.6	6	6	35	11	37	6	0
			3.6–4.6	5	4	36	9	31	15	0
			4.6–5.6	5	3	33	13	35	11	0
			5.6–6.6	4	1	10	19	34	31	0
			6.6–7.6	2	2	15	18	39	24	0
			7.6–8.0	7	3	14	15	39	22	0
			Mean	6	4	26	15	36	14	0

TL 17 SE 7 1924 7114 Grove Farm, Brampton **Block C**

Surface level (+ 11.1 m) + 36.5 ft
Water struck at + 10.1 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.3 m
Mineral 1.0 m
Waste 1.8 m
Mineral 1.7 m
Bedrock 1.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, silty, yellow-grey, with flint and chalk pebbles	0.9	1.3
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel, with yellow-brown, sandy silt waste between 2.3 and 4.1 m Gravel: fine with coarse, some cobbles, angular flint with rounded quartzite, sandstone and chalk Sand: medium with coarse, yellow Fines: upper bed very clayey	4.5	5.8
Oxford Clay	Clay, silty, grey-green, fossiliferous	1.4+	7.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	46	44	1.3–2.3	21	11	18	16	30	4	0
			4.1–5.1	4	6	22	16	38	14	0
			5.1–5.8	4	7	30	12	33	14	0
			Mean	10	8	23	15	34	10	0

TL 17 SE 8 1529 7226 Ellington Common, Ellington **Block C**

Surface level + 15.5 m
Water struck at + 12.7 m
Dando Shell, 152 mm diameter
July 1977

Waste 3.1 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness	Depth
	Made ground	0.9	0.9
Alluvium	Clay, greyish brown, silty, pebbly, lower part very sandy	1.7	2.6
Terrace Deposits	Sandy gravel Gravel: fine with some coarse, angular brown flints with subrounded sandstone, quartz and rounded chalk in fine gravel Sand: coarse and medium with some fine, angular flint with subrounded sandstone and rounded chalk in coarse sand, subrounded quartz with some flint and chalk in finer sand Fines: yellowish brown	0.5	3.1
Oxford Clay	Clay, dark olive-grey, fossiliferous	1.0+	4.1

TL 17 SE 9 1735 7194 West of Toll Gate House, Ellington **Block C**

Surface level + 14.8 m
Water struck at + 12.5 m
Dando Shell, 152 mm diameter
July 1977

Overburden 2.2 m
Mineral 2.2
Bedrock 1.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Alluvium	Clay, silty, yellowish brown, upper part pebbly	2.2	2.2
Terrace Deposits	Sandy gravel Gravel: fine with some coarse, cobbles near base, angular flints with subrounded sandstone, quartz, chalk and limestone Sand: medium and coarse with fine. Coarse angular flint and rounded sandstone and chalk. Medium and fine subrounded quartz with some flints Fines: yellowish brown, with thin peaty band at 2.9 m, and grey clay band at 3.7 m	2.2	4.4
Oxford Clay	Clay, dark grey	1.2+	5.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	52	42	2.2–3.3	8	7	27	19	34	5	0
			3.3–4.4	5	7	22	21	34	11	0
			Mean	6	7	25	20	34	8	0

TL 26 NW 23 2022 6993 Park Farm, Brampton **Block C**

Surface level + 12.9 m
Water struck at + 11.4 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.5 m
Mineral 1.3 m
Waste 19.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Clay, sandy, pebbly, yellow-brown	1.2	1.5
	Gravel Gravel: fine, angular flint with subrounded quartzite and chalk Sand: medium with coarse, quartz with flint and chalk	1.3	2.8
Boulder Clay	Clay, stiff, dark grey, pebbles of chalk, flint, red and black mudstones	19.2+	22.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
2	44	54	1.5–2.8	2	2	27	15	41	13	0

TL 26 NW 24 **2196 6994** **River Lane, Brampton** **Block B**

Surface level (+9.1 m) + 30 ft
Water struck at +6.5 m
Dando Shell, 152 mm diameter
August 1976

Overburden 2.6 m
Mineral 1.9 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, hard, yellow mottled brown, becoming grey lower down. Shell fragments	2.4	2.6
Terrace Deposits	Gravel Gravel: fine and coarse with some cobbles, angular to rounded flint with quartzite, sandstone and limestone, rare ironstone Sand: medium quartz sand, some flint Fines: thin silty, yellow-brown bands near base	1.9	4.5
Oxford Clay	Clay, stiff, green-grey	3.0+	7.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	40	55	2.6–3.6	4	3	28	5	30	29	0
			3.6–4.5	5	3	32	11	25	24	0
			Mean	5	3	29	8	28	27	0

TL 26 NW 25 2338 6996 Berry Lane, Godmanchester **Block B**

Surface level (+9.3 m) +30.5 ft
Water struck at +7.9 m
Dando Shell, 152 mm diameter
May 1976

Overburden 0.2 m
Mineral 3.6 m
Waste 14.9 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine with coarse, rare cobbles, angular flint with subangular quartzite, limestone, chalk, trace of ironstone Sand: medium with coarse, quartz with some flint and chalk Fines: thin brown silt bands near base, very silty in upper part	3.6	3.8
Boulder Clay	Clay, stiff, dark grey, with pebbles of chalk, flint and limestone. Upper part decalcified	2.2	6.0
Buried Channel Deposits	Clay, silty, grey	2.0	8.0
	Silt, sandy, buff, becoming grey lower down, laminated, pebbly clay near base	10.7	18.7
Oxford Clay	Clay, silty, green-grey, fossiliferous	3.3+	22.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	49	41	0.2–1.0	25	23	28	7	12	5	0
			1.0–2.0	12	9	22	14	30	12	0
			2.0–3.0	4	4	28	13	37	13	0
			3.0–3.8	2	3	21	28	39	7	0
			Mean	10	9	25	15	31	10	0

TL 26 NW 26 2442 6974 Wigmore Farm, Godmanchester **Block B**

Surface level (+ 11.6 m) + 38 ft
Water struck at 9.4 m
Dando Shell, 152 mm diameter
May 1976

Overburden 1.1 m
Mineral 3.6 m
Waste 18.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Clay, sandy, dark brown, rare pebbles	0.7	1.1
	Sandy gravel Gravel: fine with coarse, some cobbles, angular flint, with some subrounded quartzite, sandstone and limestone Sand: medium with coarse and fine, quartz with some flint and chalk Fines: clay, silty, yellow bands near base, upper part very silty	3.6	4.7
Boulder Clay	Clay, stiff, dark grey with chalk, flint and mudstone pebbles	18.0+	22.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
9	52	39	1.1–1.9	18	26	25	10	17	5	0
			1.9–2.9	6	9	31	9	33	11	0
			2.9–3.9	9	5	29	15	31	12	0
			3.9–4.7	4	4	31	15	25	20	0
			Mean	9	11	29	12	27	12	0

TL 26 NW 27 2052 6849 Lodge Farm, Buckden

Surface level (+ 17.2 m) + 56.5 ft
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 8.0 m
Bedrock 0.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Boulder Clay	Clay, silty, hard, yellow, becoming sandy and grey lower down, pebbles of flint throughout, chalk absent from upper part	7.6	8.0
Oxford Clay	Clay, silty, grey-green	0.9+	8.9

TL 26 NW 28 2293 6868 Offord Hill, Godmanchester

Surface level (+34.5 m) +113 ft
Water struck at +28.5 m
Dando Shell, 152 mm diameter
May 1976

Waste 19.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.4	0.4
Boulder Clay	Clay, silty, sandy, brown mottled grey, becoming dark grey lower down. Numerous pebbles of chalk, flint, limestone, sandstone and mudstone throughout. Rare bands of coarse grey sand	18.6+	19.0

TL 26 NW 29 2031 6782 Westfield Farm, Buckden **Block B**

Surface level (+21.7 m) +71 ft
Water struck at +19.7 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.8 m
Mineral 3.2 m
Waste 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.8	0.8
Terrace Deposits (Terrace 3)	'Clayey' sandy gravel Gravel: fine with coarse and some cobbles, angular to subrounded flint with quartzite, chalk and limestone Sand: medium with coarse, quartz and some coarse flint and chalk Fines: yellow and brown, rare silty bands	3.2	4.0
Boulder Clay	Clay, silty, brown, becoming grey lower down. Numerous chalk pebbles	3.0+	7.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
12	49	39	0.8–1.8	12	11	35	19	21	2	0
			1.8–2.8	16	13	27	14	24	6	0
			2.8–4.0	8	2	18	14	42	16	0
			Mean	12	8	26	15	30	9	0

TL 26 NW 30 **2075 6694** **Margetts Farm, Buckden** **Block B**

Surface level (+ 12.4 m) + 40.5 ft
Water struck at + 10.4 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.4 m
Mineral 3.5 m
Waste 5.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	Clay, sandy, yellow-brown, rare flint pebbles	1.2	1.4
	Gravel Gravel: fine with coarse, rare cobbles, angular flint with subrounded quartzite, sandstone and chalk Sand: medium and coarse quartz with some coarse flint and chalk	3.5	4.9
Boulder Clay	Clay, stiff, dark grey, with pebbles of chalk, flint and red mudstone	5.7+	10.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
3	47	50	1.4–2.4	3	7	25	15	35	15	0
			2.4–3.4	4	7	32	17	30	11	0
			3.4–4.4	3	2	17	24	38	17	0
			4.4–4.9	3	3	20	18	34	22	0
			Mean	3	5	24	18	35	15	0

TL 26 NW 31 **2147 6620** **Manor Farm, Offord D'Arcy** **Block B**

Surface level (+ 11.8 m) + 38.5 ft
Water struck at + 8.8 m
Dando Shell, 152 mm diameter
March 1976

Waste 5.5 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, soft, yellow, becoming dark brown, mottled grey lower down. Few small shell fragments	4.5	4.7
Terrace Deposits	Gravel, angular flint with some subrounded chalk and quartzite	0.8	5.5
Oxford Clay	Clay, silty, green-blue	2.5+	8.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	40	54	4.7–5.5	6	2	24	14	36	18	0

TL 26 NW 32 2238 6625 Grove Farm, Offord D'Arcy **Block B**

Surface level (+ 17.0 m) + 56 ft
Water struck at 13.4 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.6 m
Mineral 4.4 m
Waste 12.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Clay, hard, yellow-brown, with some sand and flint gravel	1.3	1.6
	Sandy gravel, upper part 'clayey' Gravel: fine with coarse and rare cobbles, angular flint and some sub-rounded quartzite, shelly limestone and chalk Sand: medium with coarse, quartz with some flint and chalk	4.4	6.0
Boulder Clay	Clay, dark grey, many chalk pebbles	12.5+	18.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	50	44	1.6–2.6	11	16	30	14	24	5	0
			2.6–3.6	10	14	29	13	28	6	0
			3.6–4.6	4	4	30	16	33	13	0
			4.6–5.6	3	2	18	22	42	13	0
			5.6–6.0	1	6	10	10	50	23	0
			Mean	6	9	26	15	33	11	0

TL 26 NE 9 2876 6942 Gore Tree, Hemingford Grey **Block G**

Surface level +7.3 m
Water struck at +5.2 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.4 m
Mineral 3.2 m
Bedrock 2.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.7	0.7
Terrace Deposits (Terraces 1–2)	Clay, sandy, orange-brown, few pebbles	0.7	1.4
	Gravel Gravel: fine with coarse, many cobbles, angular flint with subangular quartzite, limestone, sandstone and chalk Sand: medium and coarse, quartz with coarse flint and chalk Fines: 'clayey', yellow-brown, bands of brown silt near base	3.2	4.6
Oxford Clay	Clay, silty, green-grey, fossiliferous	2.4+	7.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
4	43	53	1.4–2.0	6	5	22	16	40	11	0
			2.0–3.0	3	5	21	15	43	13	0
			3.0–4.0	4	2	22	20	40	12	0
			4.0–4.6	5	3	24	18	38	12	0
			Mean	4	4	22	17	41	12	0

TL 26 NE 10 2907 6998 Gore Tree Road, Hemingford Grey **Block G**

Surface level + 6.4 m
Water struck at + 4.0 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.2 m
Mineral 6.7 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine with coarse, angular flint with quartzite and some subrounded ironstone, chalk and limestone Sand: medium and coarse, upper part fine Fines: bands of clay and silt common, yellow-brown	6.7	6.9
Oxford Clay	Clay, silty, grey-green, fossiliferous	2.1+	9.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	49	41	0.2–0.9	19	16	30	11	18	7	0
			0.9–1.3	23	51	18	5	3	0	0
			1.3–2.3	6	17	33	11	28	5	0
			2.3–3.3	4	13	27	12	38	7	0
			3.3–4.3	14	5	18	12	45	7	0
			4.3–5.3	5	2	23	21	39	10	0
			5.3–6.3	3	3	20	19	39	16	0
			6.3–6.9	21	6	18	12	34	10	0
			Mean	10	11	24	14	33	8	0

TL 26 NE 11 2917 6891 The Grove, Hemingford Grey **Block G**

Surface level + 7.5 m
Water struck at + 5.2 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.6 m
Mineral 1.9 m
Bedrock 1.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.6	0.6
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine with some coarse, angular flint with quartzite and shelly limestone, some chalk in lower part Sand: medium with coarse, quartz with flint Fines: upper part very silty, brown	1.9	2.5
Oxford Clay	Clay, silty, grey-blue, stiff, fossiliferous	1.6+	4.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
19	46	35	0.6–1.2	39	17	29	6	7	3	0
			1.2–2.5	10	5	24	15	41	6	0
			Mean	19	9	25	12	30	5	0

TL 26 NE 12 2946 6775 Linton's Farm, Hemingford Grey **Block G**

Surface level +8.3 m
Water struck at +6.3 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.5 m
Mineral 2.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.5	0.5
Terrace Deposits (Terraces 1–2)	Clay, sandy, pebbly, hard, yellow mottled orange	1.0	1.5
	Sandy gravel Gravel: fine with coarse, some cobbles, angular flint with subrounded limestone, quartzite, chalk and some ironstone Sand: medium and coarse with fine, some coarse chalk and flint Fines: clayey, yellow	2.1	3.6
Oxford Clay	Clay, silty, blue-grey, fossiliferous, lower part siltstone	1.5+	5.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	52	40	1.5–2.0	15	27	30	8	18	2	0
			2.0–3.0	4	7	23	19	38	9	0
			3.0–3.6	10	7	21	18	35	9	0
			Mean	8	12	24	16	32	8	0

TL 26 SW 3 2080 6463 Manor Farm, Great Paxton **Block A**

Surface level (+12.8 m) +42 ft
Water struck at +11.1 m
Dando Shell, 152 mm diameter
March 1976

Overburden 1.7 m
Mineral 1.8 m
Waste 4.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, soft, yellow mottled grey	1.5	1.7
Terrace Deposits	Gravel Gravel: fine with coarse, angular flint, some subangular to subrounded quartzite, sandstone, chalk and ironstone Sand: medium, coarse in upper part	1.8	3.5
Boulder Clay	Clay, gritty, with chalk pebbles, brown, becoming grey lower down	4.0+	7.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	45	50	1.7–2.7	5	5	26	10	33	22	0
			2.7–3.5	5	10	28	12	33	13	0
			Mean	5	7	27	11	33	18	0

TL 26 SW 4 2042 6348 River Lane, Great Paxton **Block A**

Surface level (+ 12.0 m) + 39.5 ft
Water struck at + 10.3 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.7 m
Mineral 1.9 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Silt, clayey, sandy, hard, yellow-brown, with some flint pebbles and shell debris	1.4	1.7
Terrace Deposits	Gravel Gravel: fine with coarse, angular to rounded flint with some quartzite, quartz, shelly limestone and chalk, trace of ironstone Sand: coarse with medium, quartz and flint Fines: yellow-brown, upper part silty	1.9	3.6
Oxford Clay	Clay, very silty, stiff, blocky, green-grey	3.0+	6.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
3	28	69	1.7–2.7	3	1	5	12	52	27	0
			2.7–3.6	3	2	13	24	48	10	0
			Mean	3	2	9	17	50	19	0

TL 26 SW 5 2245 6255 Toseland Lodge Farm, Toseland

Surface level (+ 51.9 m) + 170.5 ft
Water not struck
Dando Shell, 152 mm diameter
March 1976

Waste 18.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.6	0.6
Boulder Clay	Clay, pebbly, yellow mottled grey	1.9	2.5
	Clay, stiff, dark grey, with chalk, flint and mudstone pebbles	15.9+	18.4

TL 27 SW 50 2054 7394 NNE of Little Stukeley Lodge, Little Stukeley **Block C**

Surface level (+ 18.6 m) + 61 ft
Water struck at 15.7 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.6 m
Mineral 3.6 m
Bedrock 2.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Glacial Sand and Gravel	Clay, sandy, pebbly, brown-yellow	0.3	0.6
	'Clayey' sandy gravel, more sandy in upper part Gravel: fine with coarse, angular flint, rounded quartzite, with some chalk and sandstone Sand: coarse and medium, quartz with flint and chalk	3.6	4.2
Oxford Clay	Clay, firm, yellow-grey, becoming blue-green below	2.8+	7.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
11	45	44	0.6–1.6	14	6	21	18	37	4	0
			1.6–2.6	12	5	19	17	29	19	0
			2.6–4.2	8	5	18	25	29	15	0
			Mean	11	5	19	21	31	13	0

TL 27 SW 51 2101 7287 Waterloo Lodge, Great Stukeley

Surface level (+ 21.0 m) + 69 ft
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 12.5 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Boulder Clay	Clay, silty, with chalk and flint pebbles, orange-yellow, becoming grey below. Large clay clast between 6.4 and 6.9 m	12.2	12.5
Oxford Clay	Clay, silty, green-grey, fossiliferous	2.0+	14.5

TL 27 SW 52 2174 7292 Brookfield Farm, Great Stukeley

Surface level (+ 14.6 m) + 48 ft
Water not struck
Dando Shell, 152 mm diameter
April 1976

Waste 1.5 m
Bedrock 2.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits	Clay, sandy, yellow-brown, with flint pebbles	1.2	1.5
Oxford Clay	Clay, yellow-grey, pockets of sand, calcareous nodules	2.1	3.6
	Clay, silty, blue-grey, fossiliferous	0.2+	3.8

TL 27 SW 53 2068 7242 NE of Huntingdon Racecourse, Brampton **Block C**

Surface level + 11.6 m
Water struck at + 8.9 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.6 m
Mineral 6.1 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	Clay, sandy, hard, orange-brown	0.4	0.6
	Sandy gravel Gravel: fine, angular and subangular flints with subrounded and rounded limestone and quartzite, some ironstaining Sand: medium with coarse, subrounded quartz with coarse limestone and angular flint grains Fines: greyish brown silty clay, occasionally in thin bands	6.1	6.7
Oxford Clay	Clay, silty, green-grey, fossiliferous	1.0+	7.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	65	28	0.6–1.4	23	12	26	29	10	0	0
			1.4–2.4	9	17	27	21	24	2	0
			2.4–3.4	5	7	24	27	36	2	0
			3.4–4.4	6	15	34	18	23	4	0
			4.4–5.4	4	10	33	19	27	7	0
			5.4–6.7	3	6	51	13	22	7	0
			Mean	7	11	33	21	24	4	0

TL 27 SW 54 2051 7140 NNW of Meadow Farm, Brampton **Block C**

Surface level (+ 12.6 m) + 41.5 ft
Water struck at + 10.0 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.3 m
Mineral 4.1 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Gravel, more silty and sandy in upper part Gravel: fine with coarse, rare cobbles, angular flints, with subangular to subrounded quartzite, chalk, limestone and some ironstone Sand: medium with coarse orange-brown quartz sand, some coarse flint and chalk	4.1	4.4
Oxford Clay	Clay, silty, green-grey, fossiliferous	2.2+	6.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	43	50	0.3–1.1	17	12	38	6	16	11	0
			1.1–2.1	6	5	30	11	36	12	0
			2.1–3.1	4	4	25	22	37	9	0
			3.1–4.4	4	2	15	13	39	27	0
			Mean	7	5	25	13	34	16	0

TL 27 SW 55 2178 7094 Bell End, Brampton **Block C**

Surface level (+12.9 m) +42.5 ft
Water struck at +10.4 m
Dando Shell, 152 mm diameter
April 1976

Overburden 0.3 m
Mineral 5.5 m
Waste 19.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel, more sandy in upper part Gravel: fine with coarse, angular to subangular flint, with quartzite, rare chalk and ironstone: rare cobbles Sand: medium, quartz, some coarse angular flint	5.5	5.8
Boulder Clay	Clay, green-grey, Oxford Clay raft	2.4	8.2
	Clay, silty, sandy, dark grey, with flint, chalk, mudstone, sandstone and limestone pebbles, few cobbles	16.8+	25.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
11	49	40	0.3–1.3	21	31	31	5	10	3	0
			1.3–2.2	14	14	50	9	13	1	0
			2.2–3.2	6	5	35	11	38	6	0
			3.2–4.2	1	1	13	18	40	27	0
			4.2–5.2	20	4	13	13	31	19	0
			5.2–5.8	4	3	22	15	33	23	0
			Mean	11	10	27	12	27	13	0

TL 27 SW 56 2285 7085 Bromholme Bridge, Brampton **Block B**

Surface level +9.6 m
Water struck at +6.9 m
Dando Shell, 152 mm diameter
August 1976

Overburden 0.3 m
Mineral 4.2 m
Waste 1.4 m
Mineral 1.7 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Gravel, clay waste between 4.5 and 5.9 m Gravel: fine with coarse, rare cobbles, angular to subangular flint with quartzite, limestone, sandstone, some chalk and ironstone Sand: medium with coarse, orange-yellow Fines: rare bands of grey-brown silty clay	7.3	7.6
Oxford Clay	Clay, silty, stiff, green-grey	3.0+	10.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	45	47	0.3–1.3	11	11	37	8	26	7	0
			1.3–2.3	11	5	36	7	34	7	0
			2.3–3.3	9	6	29	15	35	6	0
			3.3–4.3	5	4	23	17	39	13	0
			5.9–6.9	4	2	11	18	41	24	0
			6.9–7.6	7	2	25	12	32	22	0
			Mean	8	5	27	13	34	13	0

TL 27 SW 57 2291 7022 West Meadow, Godmanchester **Block B**

Surface level +8.2 m
Water struck at +7.3 m
Dando Shell, 152 mm diameter
May 1976

Overburden 0.9 m
Mineral 3.9 m
Bedrock 4.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, soft, yellow-brown mottled orange	0.3	0.6
Terrace Deposits	Clay, sandy, yellow-brown with fine gravel	0.3	0.9
	Gravel Gravel: fine, angular flint with subangular quartzite, limestone, chalk and rare ironstone Sand: medium with coarse, quartz with some flint and chalk	3.9	4.8
Oxford Clay	Clay, silty, green-grey, fossiliferous	4.9+	9.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	47	49	0.9–1.9	8	6	24	12	44	6	0
			1.9–2.9	3	5	27	13	43	10	0
			2.9–3.9	3	5	27	13	38	15	0
			3.9–4.8	3	7	30	17	36	7	0
			Mean	4	6	27	14	40	9	0

TL 27 SW 58 2087 7162 SE of Huntingdon Racecourse, Brampton **Block C**

Surface level + 11.1 m
Water struck at + 8.7 m
Dando Shell, 152 mm diameter
April 1976

Overburden 1.2 m
Mineral 6.2 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, sandy, pebbly, brown-orange	1.0	1.2
Terrace Deposits	Sandy gravel, upper part clayey Gravel: fine with coarse, rare cobbles, angular flint with subrounded limestone, sandstone and quartzite, some ironstone Sand: medium with coarse, quartz, with some limestone and flint Fines: silty, grey-brown. Few clay-gravel nodules in upper part	6.2	7.4
Oxford Clay	Clay, silty, blue-grey	1.0+	8.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	52	42	1.2–2.2	13	19	21	23	24	1	0
			2.2–3.2	8	15	35	12	26	4	0
			3.2–4.2	5	11	28	14	36	6	0
			4.2–5.2	4	7	32	18	30	9	0
			5.2–6.2	3	3	22	18	35	20	0
			6.2–7.4	2	2	19	19	34	20	4
			Mean	6	9	26	17	31	10	1

TL 27 SE 5 2544 7427 Lodge Farm, Hartford

Surface level + 38.9 m
Water not struck
Dando Shell, 152 mm diameter
August 1976

Waste 18.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Boulder Clay	Clay, very sandy, yellow-orange with flint pebbles	0.9	1.2
	Clay, gritty, silty, yellow-grey with flint and chalk pebbles	4.3	5.5
	Clay, silty, dark grey with pebbles of chalk, shelly limestone, greensand, black, red and green mudstone	12.9+	18.4

TL 27 SE 6 2671 7306 Ruddle's Lane, Wyton **Block D**

Surface level +8.4 m
Water struck at +7.0 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.2 m
Mineral 3.6 m
Bedrock 1.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Silt, sandy, clayey, yellow-brown, with flint pebbles	0.9	1.2
	Sandy gravel Gravel: fine, angular to subrounded flint with chalk and limestone, some quartzite, sandstone and ironstone Sand: medium and coarse, quartz with some flint and chalk Fines: silt, yellow, few thin bands, lower part more silty	3.6	4.8
Oxford Clay	Clay, silty, stiff, blue-grey, fossiliferous	1.2+	6.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	55	38	1.2–2.2	7	4	22	20	41	6	0
			2.2–3.2	8	10	37	13	28	4	0
			3.2–4.2	4	6	27	21	36	6	0
			4.2–4.8	13	5	33	25	22	2	0
			Mean	7	7	29	19	33	5	0

TL 27 SE 7 **2632 7220** **Eastside Common, Godmanchester** **Block D**

Surface level +9.7 m
Water struck at +7.6 m
Dando Shell, 152 mm diameter
May 1976

Overburden 2.1 m
Mineral 4.8 m
Bedrock 4.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.4	0.4
Alluvium	Clay, silty, pebbly, yellow, lower part grey	1.7	2.1
Terrace Deposits	Gravel Gravel: fine with coarse, several cobbles, angular flint and subangular limestone, quartzite, chalk, with some ironstone Sand: coarse with medium, quartz and coarse flint and chalk Fines: rare silt bands in upper part	4.8	6.9
Oxford Clay	Clay, silty, grey, fossiliferous	4.0+	10.9

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
3	42	55	2.1–3.1	4	4	22	22	39	9	0
			3.1–4.1	2	2	14	15	36	33	0
			4.1–5.1	3	2	19	23	37	16	0
			5.1–6.1	2	2	16	24	39	18	0
			6.1–6.9	3	3	23	19	28	19	5
			Mean	3	2	19	21	35	19	1

TL 27 SE 8 2768 7293 Splash Lane, Wyton **Block D**

Surface level +7.7 m
Water struck at +6.4 m
Dando Shell, 152 mm diameter
August 1976

Overburden 0.7 m
Mineral 4.6 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Silt, sandy, firm, grey mottled orange, with rare flint pebbles	0.4	0.7
	Gravel Gravel: fine with coarse, some cobbles, angular to subrounded flint and limestone, quartzite, sandstone, trace of ironstone, some chalk near base Sand: medium and coarse, quartz with coarse flint and chalk Fines: rare clay bands, upper part silty, yellow	4.6	5.3
Oxford Clay	Clay, very silty, blue-grey	1.5+	6.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	44	50	0.7–1.1	18	8	25	14	30	6	0
			1.1–2.1	3	4	21	14	44	15	0
			2.1–3.1	9	3	22	20	34	13	0
			3.1–4.1	7	4	23	17	26	23	0
			4.1–5.3	3	5	27	14	40	11	0
			Mean	6	4	24	16	36	14	0

TL 27 SE 9 2515 7174 Westside Common, Godmanchester **Block D**

Surface level +8.4 m
Water struck at +7.2 m
Dando Shell, 152 mm diameter
May 1976

Overburden 1.1 m
Mineral 4.7 m
Waste 18.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, very sandy, yellow-brown, some flint pebbles	0.8	1.1
Terrace Deposits	Sandy gravel Gravel: fine with coarse, several cobbles, angular flint with subrounded quartzite, limestone and sandstone, with some ironstone Sand: medium and coarse, yellow-brown Fines: upper part very silty	4.7	5.8
Boulder Clay	Clay, gritty, dark grey, with chalk, limestone, black and yellow mudstone, and greensand pebbles	18.2+	24.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	51	45	1.1–2.1	8	12	31	16	27	8	0
			2.1–3.1	4	2	33	26	22	13	0
			3.1–4.1	4	2	30	19	34	11	0
			4.1–5.1	3	2	36	20	37	12	0
			5.1–5.8	1	1	11	19	35	33	0
			Mean	4	4	27	20	31	14	0

TL 27 SE 10 2661 7189 Eastside Common, Godmanchester **Block D**

Surface level + 10.0 m
Water struck at + 7.2 m
Dando Shell, 152 mm diameter
May 1976

Overburden 0.1 m
Mineral 5.0 m
Bedrock 3.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.1	0.1
Terrace Deposits (Terraces 1–2)	'Clayey' sandy gravel Gravel: fine with coarse, some cobbles, angular flint, with subrounded chalk, quartzite, limestone and sandstone, with some ironstone Sand: medium, with coarse and fine, quartz with coarse flint and chalk Fines: upper part very clayey, several thin clayey bands, yellow-brown in lower part	5.0	5.1
Oxford Clay	Clay, silty, stiff, green-grey, fossiliferous	3.6+	8.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	46	41	0.1–1.7	30	24	41	2	3	0	0
			1.7–2.7	7	6	23	13	38	14	0
			2.7–3.7	3	1	9	19	48	20	0
			3.7–5.1	3	2	16	17	41	20	0
			Mean	13	10	24	12	29	12	0

TL 27 SE 11 2783 7165 Hemingford Meadow, Hemingford Abbots **Block D**

Surface level + 7.0 m
Water struck at + 5.6 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.4 m
Mineral 2.4 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, lower part pebbly, yellow-brown mottled grey	1.2	1.4
Terrace Deposits	Gravel Gravel: fine with coarse, angular flint and quartzite with some limestone, sandstone, chalk and ironstone Sand: medium with coarse, quartz with some coarse flint and chalk	2.4	3.8
Oxford Clay	Clay, silty, green-blue	3.3+	7.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
3	46	51	1.4–2.4	2	5	26	10	40	17	0
			2.4–3.8	3	5	28	17	33	14	0
			Mean	3	5	27	14	36	15	0

TL 27 SE 12 2863 7152 Houghton Meadow, Houghton **Block D**

Surface level +6.8 m
Water struck at +5.2 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.5 m
Mineral 4.7 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Silt, clayey, sandy, hard, yellow-brown mottled grey and orange, with flint pebbles and shell debris	1.3	1.5
Terrace Deposits	Gravel	4.7	6.2
	Gravel; fine with coarse, several cobbles, angular to subrounded flint, limestone and quartzite		
	Sand: coarse and medium, quartz with flint and some chalk in lower part		
	Fines: few thin bands of silt, yellow		
Oxford Clay	Clay, silty, stiff, blue-grey, fossiliferous	1.5+	7.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	33	62	1.5–2.5	3	2	13	12	44	27	0
			2.5–3.5	4	2	15	16	43	20	0
			3.5–4.5	5	1	17	19	42	15	0
			4.5–5.5	4	4	13	19	49	11	0
			5.5–6.2	7	4	15	14	41	19	0
			Mean	5	2	15	16	44	18	0

TL 27 SE 13 2897 7177 Manor Farm, Houghton **Block D**

Surface level +7.2 m
Water struck at +3.9 m
Dando Shell, 152 mm diameter
August 1976

Overburden 0.9 m
Mineral 2.9 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	Silt, very sandy, clayey, brown, with flint pebbles	0.7	0.9
	Sandy gravel Gravel: fine with coarse, some cobbles, angular flint with subangular quartzite, limestone and chalk, with some ironstone Sand: medium, yellow-brown Fines: upper part clayey, brown	2.9	3.8
Oxford Clay	Clay, very silty, blue-grey, fossiliferous	1.5+	5.3

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
9	49	42	0.9–1.9	12	4	33	5	35	10	0
			1.9–3.3	9	8	30	11	30	12	0
			3.3–3.8	6	13	36	11	25	9	0
			Mean	9	8	32	9	31	11	0

TL 27 SE 14 2533 7078 Rectory Farm, Godmanchester **Block D**

Surface level (+9.3 m) +30.5 ft
Water struck at +6.9 m
Dando Shell, 152 mm diameter
May 1976

Overburden 0.7 m
Mineral 3.8 m
Waste 10.2 m
Bedrock 4.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.7	0.7
Terrace Deposits (Terraces 1–2)	Sandy gravel Gravel: fine with coarse, angular flint with subrounded quartzite, limestone and chalk, with some ironstone Sand: medium with coarse, quartz with chalk and some flint Fines: upper part silty, rare laminated silt bands, buff and yellow	3.8	4.5
Boulder Clay	Clay, dark grey-blue, with pebbles of chalk, flint, limestone, green and grey mudstone and shell fragments	10.2	14.7
Oxford Clay	Clay, silty, green-grey, some siltstone, fossiliferous	4.3+	19.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	51	43	0.7–1.7	12	12	33	11	25	7	0
			1.7–2.4	6	8	37	10	32	7	0
			2.4–3.4	3	5	28	14	38	13	0
			3.4–4.5	2	5	23	18	39	12	0
			Mean	6	7	30	14	33	10	0

TL 27 SE 15 2658 7025 Harcourt Farm, Godmanchester

Surface level (+28.3 m) +93 ft
Water struck at +26.2 m
Dando Shell, 152 mm diameter
May 1976

Waste 15.8 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.4	0.4
Boulder Clay	Clay, silty, sandy, brown-grey, lower part dark grey, with pebbles of chalk, flint, limestone, sandstone and mudstones; thin bands of silty sand, yellow	15.4	15.8
Oxford Clay	Clay, silty, green-grey, thin siltstone bands, fossiliferous	2.2+	18.0

TL 27 SE 16 2787 7045 Hemingford Park Lodge, Hemingford Abbots **Block G**

Surface level (+9.3 m) +30.5 ft
Water struck at +7.3 m
Dando Shell, 152 mm diameter
May 1976

Overburden 1.7 m
Mineral 1.8 m
Waste 5.9 m
Bedrock 3.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	'Very clayey' pebbly sand	0.7	1.0
	Clay, sandy, pebbly, brown	0.7	1.7
	'Very clayey' pebbly sand Medium and fine yellow sand with flint pebbles	1.8	3.5
Buried Channel Deposits	Silt, sandy, grey mottled brown, with much rotten plant debris, laminated silty clay bands	5.9	9.4
Oxford Clay	Clay, silty, green-grey, fossiliferous	3.6+	13.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
24	62	14	0.3–1.0	30	30	29	4	5	2	0
			1.7–2.7	23	27	28	5	9	8	0
			2.7–3.5	21	25	31	7	13	4	0
			Mean	24	27	30	5	9	5	0

TL 27 SE 17 2846 7077 Cross Keys, Hemingford Abbots **Block G**

Surface level (+7.6 m) +25 ft
Water struck at +6.2 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.1 m
Mineral 2.6 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.4	0.4
Terrace Deposits (Terrace 1–2)	Clay, sandy, pebbly, dark brown mottled orange	0.7	1.1
	Gravel Gravel: fine with coarse, several cobbles near base, angular flint, some subangular quartzite, sandstone, limestone and chalk Sand: coarse with medium, yellow-brown	2.6	3.7
Oxford Clay	Clay, silty, grey-blue, some siltstone, fossiliferous	3.0+	6.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	39	57	1.1–2.1	4	2	14	28	44	7	0
			2.1–3.1	4	2	16	16	45	17	0
			3.1–3.7	3	2	17	17	40	21	0
			Mean	4	2	16	21	43	14	0

TL 36 NW 3 3059 6952 Stepping Stone Bridge, Fenstanton **Block D**

Surface level (+5.3 m) +17.5 ft
Water struck at +2.6 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.6 m
Mineral 3.0 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Clay, sandy, pebbly, yellow-brown	1.2	1.6
	Sandy gravel Gravel: fine with coarse, large cobbles near base, angular flint with subrounded quartzite, limestone, sandstone, chalk and some ironstone Sand: medium and coarse, brown Fines: upper part clayey, orange-brown	3.0	4.6
Oxford Clay	Clay, silty, blue, fossiliferous	1.5+	6.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	51	44	1.6–2.6	10	15	36	11	23	6	0
			2.6–3.6	0	3	20	20	41	16	0
			3.6–4.6	4	4	29	19	32	13	0
			Mean	5	7	28	16	32	12	0

TL 36 NW 4 3136 6970 White Bridge, Fenstanton **Block D**

Surface level + 6.3 m
Water struck at + 3.6 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.6 m
Mineral 2.8 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.5	0.5
Terrace Deposits (Terraces 1–2)	Sand and silt, hard, pebbly, yellow-brown	1.1	1.6
	Sandy gravel Gravel: fine with coarse, rare cobbles, angular flint with some subrounded quartz, sandstone, chalk and ironstone Sand: medium, with coarse and fine, yellow-brown	2.8	4.4
Oxford Clay	Clay, silty, stiff, blue-grey, fossiliferous	2.0+	6.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	58	37	1.6–2.6	6	8	34	10	34	8	0
			2.6–3.6	5	14	35	15	27	4	0
			3.6–4.4	6	6	32	16	30	11	0
			Mean	5	10	34	14	30	7	0

TL 36 NW 5 3063 6997 Cullum Farm, Hemingford Grey **Block D**

Surface level (+6.1 m) +20 ft
Water struck at +3.0 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.5 m
Mineral 7.0 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Silt and sand, very clayey, pebbly	0.1	0.5
	Sandy gravel, upper part 'clayey' Gravel: fine with coarse, rare cobbles, angular flint with subangular quartzite, sandstone, some chalk and ironstone Sand: medium with fine, quartz, with coarse flint and chalk Fines: thin silt bands, buff	7.0	7.5
Oxford Clay	Clay, silty, blue-grey, fossiliferous	2.0+	9.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	60	33	0.5–1.1	17	10	37	8	24	4	0
			1.1–2.2	8	30	45	3	12	2	0
			2.2–3.1	9	14	44	14	12	7	0
			3.1–4.1	7	7	26	20	30	10	0
			4.1–5.1	3	8	25	15	35	13	0
			5.1–6.1	3	11	38	8	30	10	0
			6.1–7.5	7	9	38	11	29	7	0
			Mean	7	13	36	11	25	8	0

TL 36 NW 6 3269 6966 Fen Lane, Fenstanton **Block E**

Surface level (+5.1 mm) +16.5 ft
Water struck at +2.3 m
Dando Shell, 152 mm diameter
June 1976

Overburden 2.8 m
Mineral 2.4 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, coarse sand in lower part, buff-grey mottled orange, rare flint pebbles	2.6	2.8
Terrace Deposits	Gravel Gravel: fine with coarse, some cobbles, angular flint with subangular quartzite, sandstone, limestone and some chalk Sand: medium and coarse, quartz with coarse flint and chalk Fines: clayey, grey	2.4	5.2
Oxford Clay	Clay, silty, grey-green	2.0+	7.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	42	54	2.8–3.8	4	3	19	16	37	21	0
			3.8–4.8	4	3	23	16	45	9	0
			4.8–5.2	7	3	27	19	36	8	0
			Mean	4	3	22	17	40	14	0

TL 36 NW 7 3354 6909 Low Fen, Fen Drayton **Block E**

Surface level (+4.7 m) +15.5 ft
water struck at +2.7 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.0 m
Mineral 2.9 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, sandy, yellow-brown, rare pebbles	0.6	1.0
Terrace Deposits	'Clayey' sandy gravel Gravel: fine with coarse, angular to subangular flint with quartzite, sandstone, limestone, some chalk and ironstone Sand: medium and coarse, yellow Fines: rare silty clay bands, upper part very silty	2.9	3.9
Oxford Clay	Clay, very silty, blue-grey, fossiliferous	2.5+	6.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	50	40	1.0–2.0	18	16	34	11	16	6	0
			2.0–3.0	7	4	24	17	41	7	0
			3.0–3.9	3	6	20	17	45	8	0
			Mean	10	9	26	15	33	7	0

TL 36 NW 8 3429 6941 Holywell Ferry Road, Fen Drayton **Block E**

Surface level (+4.4 m) +14.5 ft
Water struck at +2.0 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.3 m
Mineral 1.8 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, brown mottled orange and grey, rare pebbles	0.6	1.0
Terrace Deposits	Silt and clay, very sandy, orange-yellow	0.3	1.3
	Sandy gravel Gravel: fine with coarse, some cobbles, angular to subangular flint, quartzite, sandstone, limestone and some chalk and ironstone Sand: medium with coarse, yellow	1.8	3.1
Oxford Clay	Clay, silty, blue-grey, fossiliferous	2.5+	5.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	51	43	1.3–2.3	7	8	37	8	33	7	0
			2.3–3.1	6	2	28	16	36	12	0
			Mean	6	6	33	12	34	9	0

TL 36 NW 9 3427 6984 Holywell Ferry Road, Fen Drayton **Block E**

Surface level (+3.9 m) +13 ft
Water struck at +1.6 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.4 m
Mineral 4.7 m
Bedrock 1.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, brown-grey mottled orange, rare pebbles	1.1	1.4
Terrace Deposits	Gravel Gravel: fine with coarse, angular to subrounded flint with limestone, quartzite, sandstone and some chalk Sand: medium and coarse, quartz with some flint and chalk Fines: rare silt bands, dark brown	4.7	6.1
Oxford Clay	Clay, silty, blue-grey, fossiliferous	1.9+	8.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	44	52	1.4–2.3	5	6	30	18	36	5	0
			2.3–3.3	3	4	24	21	42	7	0
			3.3–4.3	4	2	21	16	46	11	0
			4.3–5.3	4	1	14	21	43	18	0
			5.3–6.1	5	1	17	23	41	13	0
			Mean	4	3	21	20	41	11	0

TL 36 NW 10 3014 6874 Galley Hill, Fenstanton **Block G**

Surface level (+6.2 m) +20.5 ft
Water struck at +4.9 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.0 m
Mineral 1.2 m
Bedrock 2.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Silt and sand, pebbly at base, orange-brown, hard	0.7	1.0
	Gravel Gravel: fine with coarse, angular flint, with some shelly limestone, sandstone and chalk, trace of ironstone Sand: medium and coarse, quartz with some chalk and flint Fines: very silty at top, yellow-brown	1.2	2.2
Oxford Clay	Clay, silty, dark grey, stiff, fossiliferous	2.3+	4.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	41	55	1.0–2.2	4	3	21	17	47	8	0

TL 36 NW 11 3104 6895 Hall Green Farm, Fenstanton **Block G**

Surface level +6.6 m
Water not struck
Dando Shell, 152 mm diameter
June 1976

Overburden 0.5 m
Mineral 2.6 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pebbly at base	0.5	0.5
Terrace Deposits (Terraces 1–2)	Gravel Gravel: fine and coarse, several cobbles in lower part, angular flint with subrounded quartzite, sandstone, limestone, some chalk Sand: medium and coarse, yellow-brown, quartz, with coarse flint and chalk Fines: rare silt bands	2.6	3.1
Oxford Clay	Clay, silty, blue-grey	2.1+	5.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
3	36	61	0.5–1.0	7	9	31	13	35	5	0
			1.0–2.0	3	5	24	9	37	22	0
			2.0–3.1	2	2	10	15	37	34	0
			Mean	3	4	20	12	37	24	0

TL 36 NW 12 3216 6872 Church Farm, Fenstanton **Block G**

Surface level (+10.6 m) +35 ft
Water not struck
Dando Shell, 152 mm diameter
June 1976

Waste 2.3 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	1.7	1.7
Terrace Deposits	Sandy gravel, fine with coarse flint, gravel, medium and coarse sand	0.6	2.3
Oxford Clay	Clay, silty, grey, selenite crystals, fossiliferous	2.5+	4.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	47	47	1.7–2.3	6	11	20	16	34	13	0

TL 36 NW 13 3339 6848 Cootes Lane, Fen Drayton **Block G**

Surface level (+8.0 m) +26 ft
Water struck at +5.2 m
Dando Shell, 152 m diameter
June 1976

Overburden 0.4 m
Mineral 5.9 m
Bedrock 0.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits (Terrace 3)	Sandy gravel Gravel: fine with coarse, some cobbles, angular to subrounded flint, with quartzite, sandstone and limestone, fine chalk Sand: medium with coarse, quartz with coarse flint and chalk Fines: upper part silty, orange-brown	5.9	6.3
Oxford Clay	Clay, silty, blue-grey, fossiliferous	0.8	7.1
	Limestone, very silty, dark grey	0.1+	7.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	53	39	0.4–0.9	14	12	31	15	27	1	0
			0.9–1.9	13	7	33	12	31	3	0
			1.9–2.8	10	4	51	8	23	4	0
			2.8–3.8	9	9	45	8	27	2	0
			3.8–4.8	4	4	26	23	34	10	0
			4.8–5.8	3	3	23	14	37	20	0
			5.8–6.3	7	7	22	9	32	23	0
			Mean	8	6	34	13	30	9	0

TL 36 NW 14 3063 6767 Hilton Road, Fenstanton **Block G**

Surface level (+7.1 m) +23.5 ft
Water struck at +5.0 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.4 m
Mineral 3.1 m
Bedrock 3.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.5	0.5
Terrace Deposits (Terraces 1–2)	Clay, silty, yellow-brown mottled orange, flint and chalk pebbles	0.9	1.4
	Sandy gravel Gravel: fine with coarse, some cobbles, angular to subangular flint with limestone, quartzite, sandstone, chalk and some ironstone Sand: medium with coarse, yellow Fines: upper part silty, thin clay layers in lower part	3.1	4.5
Oxford Clay	Clay, silty, green-grey, fossiliferous	3.1+	7.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
9	53	38	1.4–2.1	17	27	46	6	4	0	0
			2.1–3.1	7	4	35	13	38	3	0
			3.1–4.5	6	3	19	18	47	8	0
			Mean	9	9	30	14	33	5	0

TL 36 NW 15 3179 6816 Conington Road, Fenstanton **Block G**

Surface level +11.5 m
Water struck at +9.7 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.4 m
Mineral 2.4 m
Waste 5.4 m
Bedrock 1.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits	'Very clayey' pebbly sand Gravel: fine flint and chalk Sand: medium with fine, brown mottled orange Fines: several bands of buff silt and grey clay	2.4	2.8
Buried Channel Deposits (?)	Clay, silty, pale grey mottled yellow, shell debris and calcareous nodules, plant remains; lower part darker, sandy	5.4	8.2
Ampthill Clay (?)	Clay, silty, dark grey, fossiliferous	1.8+	10.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
22	71	7	0.4–1.5	26	19	44	4	6	1	0
			1.5–2.8	18	19	52	4	4	3	0
			Mean	22	19	48	4	5	2	0

TL 36 NW 16 3280 6769 Cambridge Road, Fen Drayton Block G

Surface level (+11.9 m) +39 ft
Water struck at +7.7 m
Dando Shell, 152 mm diameter
August 1976

Overburden 0.7 m
Mineral 2.3 m
Waste 1.1 m
Mineral 2.9 m
Waste 3.9 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 3)	Silt, very sandy, orange-brown, pebbly	0.4	0.7
	'Clayey' sandy gravel with banded sandy silt between 3.0 and 4.1 m Gravel: fine with coarse, some large cobbles, subrounded flint with limestone, quartzite, sandstone, some chalk and ironstone Sand: medium, orange-yellow Fines: thin silty bands throughout	6.3	7.0
Buried Channel Deposits (?)	Peat, silty, dark brown, shell debris; lower part sandy, grey	3.2	10.2
	Gravel, fine, angular flint with chalk	0.7	10.9
Oxford Clay (?)	Clay, silty, blue-grey, fossiliferous	1.5+	12.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	62	25	0.7–1.7	20	10	42	4	18	7	0
			1.7–2.7	15	13	39	8	17	9	0
			2.7–3.0	13	13	27	11	23	14	0
			4.1–5.1	10	7	34	15	28	5	0
			5.1–6.1	7	7	59	9	14	4	0
			6.1–7.0	11	6	55	8	13	8	0
			Mean	13	9	44	9	18	7	0

TL 36 NW 17 3461 6828 Home Farm, Fen Drayton **Block H**

Surface level (+5.5 m) +18 ft
Water struck at +3.7 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.5 m
Mineral 1.3 m
Bedrock 3.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, silty, sandy, orange-brown, rare flint pebbles	1.1	1.5
Terrace Deposits	Sandy gravel Gravel: fine, angular to subangular flint with quartzite, chalk, some ironstone Sand: medium and coarse, quartz with coarse flint and chalk Fines: silty, grey clay band near base	1.3	2.8
Ampthill Clay (?)	Clay, silty, firm, dark blue-black, blocky, fossiliferous	3.2+	6.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	52	40	1.5–2.8	8	8	23	21	38	2	0

TL 36 NW 18 3398 6740 St John's College Farm, Fen Drayton **Block H**

Surface level (+6.2 m) +20.5 ft
Water not struck
Dando Shell, 152 mm diameter
August 1976

Overburden 0.6 m
Mineral 1.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 1–2)	Clay, silty, sandy, yellow-buff, flint pebbles near base	0.3	0.6
	'Clayey' sandy gravel Gravel: fine, angular flint with quartzite and sandstone Sand: medium with fine, orange-yellow, iron-stained Fines: some silty bands, buff	1.1	1.7
Ampthill Clay	Clay, silty, dark grey, lower part black, fossiliferous	1.5+	3.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
14	63	23	0.6–1.7	14	16	38	9	21	2	0

TL 36 NW 19 3292 6675 New Barn, Conington **Block H**

Surface level (+11.1 m) +36.5 ft
Water not struck
Dando Shell, 152 mm diameter
June 1976

Overburden 1.1 m
Mineral 1.4 m
Bedrock 4.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 3)	Clay, sandy, pebbly, orange-yellow	0.8	1.1
	Sandy gravel Gravel: fine with some coarse, angular to subangular flint with quartzite, limestone and some chalk Sand: medium with coarse and fine, yellow-brown Fines: thin silt and clay bands	1.4	2.5
Ampthill Clay	Clay, silty, grey to dark grey, fossiliferous, selenite crystals	4.5	7.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	60	34	1.1–2.5	6	15	29	16	28	6	0

TL 36 NE 1 3601 6980 Middle Fen Drove, Swavesey **Block E**

Surface level +5.6 m
Water struck at +4.2 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.4 m
Mineral 2.9 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, orange-brown, rare pebbles	1.2	1.4
Terrace Deposits	Sandy gravel Gravel: fine, angular flint with subrounded quartzite, limestone, some chalk and ironstone Sand: medium and coarse, lower part coarser Fines: upper part silty, grey	2.9	4.3
Oxford Clay	Clay, silty, grey-blue, fossiliferous	2.2+	6.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	58	37	1.4–2.4	8	14	41	12	25	2	0
			2.4–3.4	5	4	27	23	38	3	0
			3.4–4.3	3	4	21	28	42	2	0
			Mean	5	7	30	21	35	2	0

TL 36 NE 2 3570 6930 Church End, Swavesey **Block E**

Surface level +4.3 m
Water struck at +2.4 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.6 m
Mineral 2.2 m
Bedrock 0.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.6	0.6
Terrace Deposits (Terraces1–2)	'Clayey' sandy gravel Gravel: fine, angular flint, with quartzite, sandstone and some chalk Sand: medium with coarse, orange-yellow Fines: upper part very silty	2.2	2.8
Elsworth Rock (?)	Limestone, oolitic, shelly, orange-yellow-grey, interbedded with grey calcareous mudstone	0.7+	3.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
15	58	27	0.6–1.1	28	21	42	4	5	0	0
			1.1–1.9	12	7	32	15	30	4	0
			1.9–2.8	11	5	35	17	30	3	0
			Mean	15	9	36	13	24	3	0

TL 36 NE 3 3762 6968 Mustill's Lane, Over **Block H**

Surface level +12.7 m
Water struck at +7.8 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.4 m
Mineral 1.8 m
Waste 11.6 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Glacial Sand and Gravel	'Clayey' gravel Gravel: fine with coarse, angular to subangular flint with quartzite, limestone, sandstone and chalk Sand: medium and coarse, quartz with flint and chalk Fines: silty, yellow	1.8	2.2
Boulder Clay	Silt, clayey, grey, rare chalk pebbles	1.6	3.8
	Clay, silty, dark grey, pebbles of chalk, siltstone, limestone and flint; more silty and sandy lower down	10.0	13.8
Ampthill Clay (?)	Clay, silty, stiff, dark blue, fossiliferous	1.5+	15.3

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	37	50	0.4–1.0	14	7	20	10	38	10	0
			1.0–2.2	12	5	19	13	45	6	0
			Mean	13	5	20	12	43	7	0

TL 36 NE 4 3911 6981 Cold Harbour Farm, Willingham **Block H**

Surface level +13.5 m
Water struck at +11.0 m
Dando Shell, 152 mm diameter
July 1976

Overburden 0.3 m
Mineral 2.5 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 4)	'Clayey' sandy gravel Gravel: fine with coarse, rare flint cobbles, angular flint with some limestone and quartzite, fine chalk Sand: medium, with coarse and fine, quartz with coarse chalk Fines: few silty bands, pale yellow	2.5	2.8
Ampthill Clay	Clay, blue-grey, fossiliferous, selenite crystals	2.0+	4.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
18	45	37	0.3–1.5	23	13	25	6	24	9	0
			1.5–2.8	12	7	25	14	34	8	0
			Mean	18	10	25	10	29	8	0

TL 36 NE 5 3693 6877 Cow Fen Road, Swavesey **Block H**

Surface level +3.7 m
Water not struck
Dando Shell, 152 mm diameter
June 1976

Waste 2.7 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.5	0.5
Alluvium	Clay, silty, sandy silt in lower part, yellow-brown, laminated, rare flint pebbles	2.2	2.7
Ampthill Clay	Clay, silty, dark blue-grey, upper part grey mottled yellow, fossiliferous, selenite crystals	2.0+	4.7

TL 36 NE 6 3838 6904 Hill Farm, Over **Block H**

Surface level +16.8 m
Water struck at +14.7 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.1 m
Mineral 1.1 m
Waste 18.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground and soil	0.4	0.4
Glacial Sand and Gravel	Silt, clayey, sandy, yellow-brown, flint pebbles throughout	0.7	1.1
	'Clayey' sandy gravel Gravel: fine with some coarse, rare cobbles, mainly angular flint Sand: medium and fine with coarse, yellow	1.1	2.2
Boulder Clay	Clay, silty, brown, grey in lower part, pebbles of siltstone, chalk and flint	18.4+	20.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
17	56	27	1.1–2.2	17	19	27	10	23	4	0

TL 36 NE 7 3982 6886 Stanton Mere Way, Willingham **Block H**

Surface level +7.6 m
Water not struck
Dando Shell, 152 mm diameter
June 1976

Waste 2.6 m
Bedrock 3.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 3)	Clay, sandy, brown mottled grey, with flint pebbles and thin bands of fine sandy gravel	1.7	2.0
	'Clayey' sandy gravel, fine angular flints with some limestone and chalk	0.6	2.6
Ampthill Clay	Clay, silty, grey, selenite crystals	3.4+	6.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
17	61	22	2.0–2.6	17	8	42	11	16	6	0

TL 36 NE 8 3771 6823 Cow Fen Road, Swavesey **Block H**

Surface level +4.2 m
Water struck at +2.5 m
Dando Shell, 152 m diameter
June 1976

Overburden 0.7 m
Mineral 1.5 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Silt, clayey, sandy, grey-brown, rare flint pebbles	0.4	0.7
Terrace Deposits	'Clayey' sandy gravel Gravel: fine, subangular and subrounded flint with sandstone and chalk Sand: coarse and medium with fine, quartz with flint and chalk Fines: silt bands in upper part, yellow-brown	1.5	2.2
Ampthill Clay	Clay, silty, blue-grey, fossiliferous	1.5+	3.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
13	50	37	0.7–1.7	16	13	19	24	27	1	0
			1.7–2.2	8	4	9	25	51	3	0
			Mean	13	10	16	24	35	2	0

TL 36 NE 9 3981 6702 Brookfield House, Long Stanton **Block H**

Surface level +7.6 m
Water struck at +5.4 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.2 m
Mineral 1.1 m
Waste 2.1 m
Mineral 2.7 m
Bedrock 2.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits	Silt, very sandy, brown mottled grey, some flint and chalk pebbles	1.0	1.2
	'Clayey' sandy gravel, with grey pebbly silt waste between 2.3 and 4.4 m Gravel: fine with coarse, angular flint with some limestone and fine chalk Sand: medium and coarse, quartz with coarse flint and chalk Fines: upper bed very silty, yellow	5.9	7.1
Ampthill Clay	Clay, silty, grey-blue, fossiliferous, some siltstone nodules	2.5+	9.6

GRADING

	Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
	Fines	Sand	Gravel		Fines	Sand			Gravel		
					$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
a	28	58	14	1.2–2.3	28	16	36	6	12	1	0
b	7	46	47	4.4–5.4	9	6	18	14	31	22	0
				5.4–6.4	6	5	23	24	32	11	0
				6.4–7.1	7	6	21	21	34	11	0
Total	13	50	37	Mean for **b**	7	6	20	20	32	15	0
				Mean for total	13	9	25	16	26	11	0

TL 37 SW 9 3461 7437 Wood Farm, Bluntisham

Surface level +28.7 m
Water struck at +22.7 m
Dando Shell, 152 mm diameter
July 1976

Waste 8.4 m
Bedrock 1.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Boulder Clay	Clay, silty, sandy, yellow becoming grey lower down, with chalk, flint, limestone and mudstone pebbles; boulders of Ampthill Clay (?) towards base	8.2	8.4
Ampthill Clay	Clay, very silty, fissile, dark grey-black, fossiliferous	1.3+	9.7

TL 37 SW 10 3303 7265 Chivers Farm, Needingworth

Surface level +12.1 m
Water not struck
Dando Shell, 152 mm diameter
August 1976

Waste 2.2 m
Bedrock 5.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Terrace Deposits	Silt, 'clayey', sandy, rare pebbles, yellow	1.8	2.2
Ampthill Clay	Clay, silty, yellow mottled grey, green-blue lower down; upper part brecciated, fossiliferous	5.8+	8.0

TL 37 SW 11 3460 7238 Daintree's Farm Needingworth Block E

Surface level +11.8 m
Water struck at +8.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.6 m
Mineral 2.7 m
Waste 10.9 m
Bedrock 0.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terrace 3)	Silt, 'clayey', sandy, with pebbles, yellow-brown	1.4	1.6
	'Clayey' sandy gravel Gravel: fine, angular to subrounded flint with subrounded limestone, sandstone and quartzite Sand: medium, yellow-orange Fines: silty, orange-yellow, laminated bands	2.7	4.3
Boulder Clay	Clay, grey, with pebbles of chalk, flint and limestone, lenses of silty sand	3.7	8.0
	Silt, pale grey, laminated	1.4	9.4
	Clay, gritty, dark grey, lenses of silty chalk sand	5.8	15.2
Ampthill Clay (?)	Clay, very silty, dark grey-black, fossiliferous	0.6+	15.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
15	63	22	1.6–2.6	18	14	34	8	20	7	0
			2.6–3.4	16	14	68	0	2	1	0
			3.4–4.3	11	8	38	9	27	8	0
			Mean	15	12	45	6	17	5	0

TL 37 SW 12 3484 7268 Bluntisham Road, Needingworth **Block E**

Surface level +8.3 m
Water struck at +3.4 m
Dando Shell, 152 mm diameter
July 1976

Waste 10.7
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terraces 1–2)	Sand, very clayey, brown, pebbly	0.2	0.5
	'Clayey' sandy gravel Gravel: fine with coarse, angular to subrounded flint, limestone, quartzite, some chalk Sand: medium and coarse with fine, brown Fines: clayey silt, yellow-brown	0.6	1.1
	Silt, clayey, grey mottled yellow	0.1	1.2
Boulder Clay	Clay, gritty, grey, yellow in upper part, with pebbles of chalk, siltstone, limestone, flint, greensand, lenses of silty gravel and chalk sand, large fragments of Ampthill Clay (?) near base	9.5	10.7
Ampthill Clay (?)	Clay, silty, dark grey-black, fossiliferous	1.5+	12.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
15	47	39	0.5–1.1	15	11	20	16	27	12	0

TL 37 SW 13 3309 7163 Western Farm, Needingworth **Block E**

Surface level +5.4 m
Water struck at +3.6 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.5 m
Mineral 1.5 m
Waste 0.4 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty	0.3	0.3
Alluvium	Clay, silty, sandy, grey mottled orange, rare pebbles in lower part	1.2	1.5
Terrace Deposits	'Clayey' sandy gravel Gravel: fine, angular flint with some subangular chalk, quartzite and ironstone Sand: medium, orange-yellow	1.5	3.0
	Clay, silty, very sandy, blue-yellow	0.4	3.4
Oxford Clay (?)	Clay, blocky, very silty, grey-blue	1.5+	4.9

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
15	58	27	1.5–2.5	19	12	33	7	22	8	0
			2.5–3.0	8	11	40	21	18	2	0
			Mean	15	11	35	12	21	6	0

TL 37 SW 14 3081 7112 Hemingford Meadow, Hemingford Grey **Block D**

Surface level (+6.2 m) +20.5 ft
Water struck at +4.5 m
Dando Shell, 152 mm diameter
June 1976

Waste 4.3 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, sandy, orange-grey, rare pebbles	1.4	1.6
Buried Channel Deposits (?)	Silt, sandy, laminated, yellow, orange, grey, thin sand layers, rare pebbles	2.7	4.3
Oxford Clay	Clay, silty, grey-blue, fossiliferous	1.5+	5.8

TL 37 SW 15 3402 7127 Mill Way, Holywell-cum-Needingworth **Block E**

Surface level (+12.2 m) +40 ft
Water not struck
Dando Shell, 152 mm diameter
August 1976

Overburden 0.8 m
Mineral 3.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Terrace Deposits (Terrace 3)	Silt, very clayey, very sandy, brown with fine gravel	0.5	0.8
	'Clayey' sandy gravel, upper part more sandy Gravel: fine with some coarse, angular to subrounded flint, with quartzite, limestone, some chalk and ironstone; few cobbles Sand: medium, with coarse, quartz with flint Fines: thin bands of silt, laminated, orange-yellow, ironstained	3.1	3.9
Ampthill Clay	Clay, silty, dark blue-grey, fossiliferous	1.5+	5.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
11	50	39	0.8–1.8	11	9	35	7	31	7	0
			1.8–2.8	17	8	38	15	20	3	0
			2.8–3.9	6	4	22	14	41	13	0
			Mean	11	7	31	12	31	8	0

TL 37 SW 16 3483 7106 ENE of Moyne's Hall, Holywell **Block E**

Surface level (+4.5 m) +15 ft
Water struck at +2.7 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.0 m
Mineral 2.7 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, lower part sandy, grey-brown mottled orange, rare pebbles near base	0.8	1.0
Terrace Deposits	Sandy gravel Gravel: fine with coarse, angular to subrounded flint, with limestone, quartzite and rare ironstone and chalk Sand: medium with coarse, orange-brown	2.7	3.7
Oxford Clay (?)	Clay, silty, blue-grey, fossiliferous	1.5+	5.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	49	44	1.0–1.8	11	7	36	10	31	6	0
			1.8–2.8	4	5	31	15	38	7	0
			2.8–3.7	5	1	27	17	36	13	0
			Mean	7	4	31	14	35	9	0

TL 37 SW 17 3172 7061 Old River, St Ives **Block E**

Surface level +52 m
Water struck at +3.4 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.4 m
Mineral 4.5 m
Bedrock 3.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, very sandy, buff-orange, many pebbles	1.1	1.4
Terrace Deposits	Sandy gravel Gravel: fine with coarse, few cobbles near base, angular to subangular flint with quartzite, limestone, and some chalk and ironstone Sand: medium and coarse, yellow-brown	4.5	5.9
Oxford Clay	Clay, very silty, grey-green	3.1+	9.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	49	46	1.4–2.4	8	5	20	12	46	9	0
			2.4–3.4	6	3	18	16	43	14	0
			3.4–4.4	4	2	23	22	34	14	0
			4.4–5.4	2	8	32	19	27	12	0
			5.4–5.9	6	9	54	10	17	4	0
			Mean	5	5	27	17	35	11	0

TL 37 SW 18 3325 7049 Holywell Fen, Holywell **Block E**

Surface level +4.9 m
Water struck at +2.2 m
Dando Shell, 152 mm diameter
August 1976

Overburden 2.7 m
Mineral 3.4 m
Bedrock 2.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, buff mottled orange, with calcareous nodules	0.6	0.8
	Clay, silty, buff mottled grey with orange iron-rich nodules	0.8	1.6
	Clay, very silty, sandy, grey, very pebbly at base	1.1	2.7
Terrace Deposits	Gravel Gravel: fine with some coarse, several cobbles, angular to subrounded flint with quartzite and limestone, some chalk and ironstone Sand: medium with coarse, yellow-brown	3.4	6.1
Oxford Clay	Clay, very silty, green-blue, blocky, fossiliferous	2.3+	8.4

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	39	56	2.7–3.7	2	2	20	9	51	15	0
			3.7–4.7	6	1	16	16	45	16	0
			4.7–6.1	6	3	30	17	33	11	0
			Mean	5	2	23	14	42	14	0

TL 37 SE 9 3534 7492 Wood Farm, Bluntisham

Surface level +27.1 m
Water not struck
Dando Shell, 152 mm diameter
July 1976

Waste 6.0 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Glacial Sand and Gravel	'Clayey' pebbly sand Sand: medium and fine with pebbles of chalk, flint and limestone; laminated silt bands near base	0.9	1.2
Boulder Clay	Clay, silty, grey mottled brown, bands of silty sand, grey, pebbles of chalk, siltstone, limestone and flint, blocks of bedrock near base	4.8	6.0
Ampthill Clay	Clay, very silty, dark grey-black, fossiliferous	1.5+	7.5

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
14	76	10	0.3–1.2	14	21	52	3	6	4	0

TL 37 SE 10 3639 7497 Noble Lane, Bluntisham

Surface level +28.4 m
Water struck at +17.6 m
Dando Shell, 152 mm diameter
July 1976

Waste 12.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Boulder Clay	'Clayey' gravel, coarse and fine gravel, pebbles of chalk and flint, with brown silty coarse and medium sand	0.7	1.0
	Clay, silty, grey-yellow, dark grey lower down, with pebbles of chalk, flint, limestone, greensand and siltstone, blocks of bedrock near base	11.1	12.1
Ampthill Clay	Clay, very silty, dark grey, fossiliferous	1.5+	13.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
12	33	55	0.3–1.0	12	6	11	16	20	36	0

TL 37 SE 11 3724 7477 Holliday's Road, Bluntisham

Surface level +13.5 m
Water not struck
Dando Shell, 152 mm diameter
July 1976

Waste 2.4 m
Bedrock 2.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground and soil	0.3	0.3
Terrace Deposits	Clay, sandy, yellow-brown, chalk and flint pebbles, shell debris	1.0	1.3
	Sandy gravel, fine and coarse flint gravel with medium and coarse sand	0.6	1.9
	Silt, firm grey-yellow	0.5	2.4
Ampthill Clay	Clay, silty, blue-grey mottled yellow, fossiliferous	2.3+	4.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
9	49	42	1.3–1.9	9	6	24	19	31	11	0

TL 37 SE 12 3870 7423 Cranesfen Farm, Earith **Block F**

Surface level (+2.3 m) +7.5 ft
Water struck at −1.1 m
Dando Shell, 152 mm diameter
July 1976

Overburden 3.4 m
Mineral 2.7 m
Waste 1.0 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty	0.2	0.2
Alluvium	Clay, silty, buff mottled grey and orange, rare pebbles, some coarse sand	0.3	0.5
Peat	Peat, silty, dark brown and grey, plant remains, shell debris and patches of buff silt	2.9	3.4
Terrace Deposits	Sandy gravel, with layer of laminated sandy silt between 6.1 and 6.4 m Gravel: fine with some coarse, angular to rounded flint, quartzite, limestone with some chalk and ironstone, some plant debris near top Sand: medium, buff-grey	3.7	7.1
Ampthill Clay	Clay, silty, dark blue-grey, siltstone nodules, fossiliferous	1.5+	8.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	65	28	3.4–4.4	8	5	53	11	18	6	0
			4.4–5.4	10	3	43	10	28	6	0
			5.4–6.1	9	6	49	13	20	3	0
			6.4–7.1	2	5	35	29	24	4	0
			Mean	7	5	45	15	23	5	0

TL 37 SE 13 3950 7450 Shelford's Farm, Earith **Block F**

Surface level +3.0 m
Water struck at +0.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 2.7 m
Mineral 6.5 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground and soil	0.4	0.4
Alluvium	Clay, silty, hard, yellow-brown	0.8	1.2
	Sand, silty, orange and dark brown, with flint and chalk pebbles	0.4	1.6
	Silt, pale grey, plant debris, rare flint pebbles	1.1	2.7
Terrace Deposits	Sandy gravel Gravel: fine with coarse, several cobbles, angular to subrounded flint with limestone, some ironstone and chalk Sand: medium and coarse, buff Fines: thin bands of grey silt in upper part	6.5	9.2
Ampthill Clay	Clay, silty, dark blue-black, fossiliferous	1.5+	10.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	52	43	2.7–3.7	7	4	26	16	40	8	0
			3.7–4.7	11	6	36	14	26	6	0
			4.7–5.7	3	5	25	24	38	5	0
			5.7–6.7	2	3	23	22	44	6	0
			6.7–7.7	2	3	23	18	33	20	0
			7.7–8.7	5	4	38	16	33	4	0
			8.7–9.2	7	3	29	19	35	8	0
			Mean	5	4	29	18	35	8	0

TL 37 SE 14 3657 7337 Barleycroft Farm, Bluntisham **Block F**

Surface level +5.8 m
Water struck at +2.8 m
Dando Shell, 152 mm diameter
July 1976

Overburden 0.9 m
Mineral 4.8 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground and soil	0.4	0.4
Terrace Deposits (Terraces 1–2)	Clay, silty, very sandy, yellow-brown, with flint and chalk pebbles	0.5	0.9
	'Clayey' sandy gravel Gravel: fine with some coarse, few cobbles, angular to subrounded flint, with limestone, quartzite, some chalk and ironstone Sand: medium, quartz, orange-brown, yellow in lower part	4.8	5.7
Ampthill Clay	Clay, silty, blocky, blue-grey, fossiliferous	1.5+	7.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
14	59	27	0.9–1.9	15	10	48	8	16	3	0
			1.9–2.9	8	5	40	14	28	5	0
			2.9–3.9	17	9	55	6	11	2	0
			3.9–4.9	20	8	42	8	17	5	0
			4.9–5.7	6	4	23	11	35	21	0
			Mean	14	8	42	9	21	6	0

TL 37 SE 15 3765 7345 Trinity College Farm, Ouse Fen, Over **Block F**

Surface level +2.0 m
Water struck at −0.5 m
Dando Shell, 152 mm diameter
July 1976

Overburden 2.5 m
Mineral 5.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground and soil	0.6	0.6
Alluvium	Clay, silty, yellow mottled orange, rare pebbles	0.2	0.8
Peat	Peat, silty, dark brown, rare pebbles	0.6	1.4
	Silt, peaty, grey-green, shell debris	1.1	2.5
Terrace Deposits	Gravel Gravel: fine with coarse, angular to subrounded flint with quartzite, limestone, sandstone and some chalk, ironstone Sand: medium and coarse, dark grey, lower part buff	5.1	7.6
Ampthill Clay	Clay, silty, grey-blue, fossiliferous	1.5+	9.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
6	42	52	2.5–3.5	5	6	24	11	40	14	0
			3.5–4.5	5	3	22	13	38	20	0
			4.5–5.5	5	3	18	21	42	11	0
			5.5–6.5	6	2	20	20	42	10	0
			6.5–7.6	8	5	23	18	41	6	0
			Mean	6	4	21	17	40	12	0

TL 37 SE 16 3876 7355 Potash Farm, Earith **Block F**

Surface level +2.5 m
Water struck at +0.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 2.2 m
Mineral 4.4 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, silty, yellow-orange mottled grey	0.5	0.9
Peat	Peat, silty, dark brown, with lenses and bands of grey-green silt; shell debris and more silty in lower part	1.2	2.1
	Silt, sandy, grey-buff, dark grey laminations, shelly	0.1	2.2
Terrace Deposits	Sandy gravel Gravel: fine with coarse, rare cobbles, angular to rounded flint with quartzite, limestone, siltstone, chalk and some ironstone Sand: medium with coarse, buff-grey Fines: several bands of laminated, grey and yellow pebbly silt	4.4	6.6
Ampthill Clay	Clay, silty, blue-grey, blocky, fossiliferous	1.5+	8.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	56	37	2.2–3.2	6	6	22	18	37	11	0
			3.2–4.2	5	11	30	14	31	9	0
			4.2–5.3	6	5	40	21	24	4	0
			5.3–6.6	9	3	32	23	26	7	0
			Mean	7	6	31	19	29	8	0

TL 37 SE 17 3939 7330 Long Holmes, Earith **Block F**

Surface level +2.2 m
Water struck at +0.6 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.6 m
Mineral 4.5 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty	0.2	0.2
Alluvium	Clay, silty, orange-brown mottled grey, rare pebbles	0.6	0.8
Peat	Peat, silty, dark brown, laminated orange, brown and grey, shelly, rootlets	0.3	1.1
	Silt, grey-green, laminated, shell fragments and rootlets, lower part sandy, pebbly	0.5	1.6
Terrace Deposits	Sandy gravel Gravel: fine with coarse, rare cobbles, angular to subrounded flint with quartzite, limestone, some ironstone and chalk Sand: medium and coarse, grey-buff, lower part yellow Fines: rare bands of grey pebbly silt	4.5	6.1
Ampthill Clay	Clay, silty, blue-grey	1.5+	7.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
5	48	47	1.6–2.6	7	3	22	28	36	4	0
			2.6–3.6	5	7	28	17	33	10	0
			3.6–4.6	4	5	12	21	43	16	0
			4.6–5.6	5	6	30	14	36	9	0
			5.6–6.1	6	7	36	9	33	9	0
			Mean	5	5	24	19	37	10	0

TL 37 SE 18 3555 7226 West Fen, Bluntisham **Block E**

Surface level +3.7 m
Water struck at +1.7 m
Dando Shell, 152 mm diameter
August 1976

Overburden 2.0 m
Mineral 1.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, dark grey-brown mottled orange, rare shells	0.6	0.8
	Silt, sandy, clayey, laminated, grey, yellow and orange, with flint pebbles	1.2	2.0
Terrace Deposits	'Clayey' gravel Gravel: fine with coarse, some cobbles, angular to subrounded flint with quartzite, limestone and some chalk and ironstone Sand: medium with coarse, grey-buff	1.1	3.1
Ampthill Clay	Clay, silty, fissile, dark grey, buff siltstone nodules, fossiliferous	1.5+	4.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	43	47	2.0–3.1	10	4	28	12	31	16	0

TL 37 SE 19 3629 7254 Queen's Grounds, Bluntisham **Block F**

Surface level +3.9 m
Water struck at +1.9 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.5 m
Mineral 2.1 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, grey-orange, rare flint pebbles, thin silty sands	1.2	1.5
Terrace Deposits	Gravel Gravel: fine with coarse angular to subrounded flint with quartzite, limestone, some ironstone and chalk Sand: medium with coarse, buff-yellow Fines: upper part silty, mottled orange-grey, thin silts in lower part	2.1	3.6
Ampthill Clay	Clay, silty, blocky, dark grey, siltstone nodules	1.5+	5.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	42	50	1.5–2.5	10	16	17	12	38	7	0
			2.5–3.6	6	3	24	13	39	15	0
			Mean	8	9	21	12	39	11	0

TL 37 SE 20 3734 7258 Long Drove, Over **Block F**

Surface level +3.2 m
Water struck at +1.5 m
Dando Shell, 152 mm diameter
July 1976

Overburden 0.6 m
Mineral 6.9 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, very sandy, peaty, dark brown, orange mottling, rare flint pebbles	0.3	0.6
Terrace Deposits	'Clayey' sandy gravel, 'clayey' sand to 1.7 m Gravel: fine with coarse, some cobbles, angular to rounded flint with chalk, limestone, quartzite and some ironstone Sand: medium with coarse, upper part fine, orange, becoming buff in lower part Fines: upper part very silty, thin grey silt and clay bands in lower part	6.9	7.5
Ampthill Clay	Clay, silty, dark blue-grey, fossiliferous	1.5+	9.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
11	51	38	0.6–1.7	14	19	65	1	1	0	0
			1.7–3.5	25	14	31	6	20	4	0
			3.5–4.5	7	5	17	17	43	12	0
			4.5–5.5	5	3	23	23	37	10	0
			5.5–6.5	4	2	15	20	46	14	0
			6.5–7.5	4	1	18	20	40	17	0
			Mean	11	8	29	14	29	9	0

TL 37 SE 21 3854 7255 Long Holme Drove, Low Grounds, Earith **Block F**

Surface level +2.4 m
Water struck at +0.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 2.0 m
Mineral 3.3 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, silty, grey-buff, with orange silt	0.3	0.7
Peat	Silt, very peaty, sandy, dark green-black mottled buff, plant and shell remains	1.3	2.0
Terrace Deposits	Gravel Gravel: fine with coarse, several cobbles, angular to rounded flint with limestone, quartzite, sandstone, some siltstone and chalk Sand: medium and coarse, buff-grey Fines: rare, thin grey sandy silt bands	3.3	5.3
Ampthill Clay	Clay, silty, dark grey, fossiliferous	1.5+	6.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	+1–4	+4–16	+16–64	+64
5	35	60	2.0–3.0	7	2	21	15	45	10	0
			3.0–4.0	4	3	15	16	49	13	0
			4.0–5.0	4	2	16	14	37	27	0
			5.0–5.3	5	3	22	19	40	11	0
			Mean	5	2	18	15	43	16	0

TL 37 SE 22 3947 7241 West Fen, Willingham **Block F**

Surface level +2.1 m
Water struck at +0.4 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.3 m
Mineral 3.3 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, brown mottled grey and orange, lower part sandy and pebbly	1.0	1.3
Terrace Deposits	Sandy gravel Gravel: fine with coarse, rare cobbles, angular to subrounded flint with quartzite, limestone, sandstone and some chalk and ironstone Sand: medium, orange mottled yellow Fines: upper part very silty, yellow-buff	3.3	4.6
Ampthill Clay	Clay, silty, dark blue-grey, siltstone nodules, fossiliferous	1.5+	6.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	53	40	1.3–2.3	16	9	35	8	29	5	0
			2.3–3.3	7	9	39	8	31	6	0
			3.3–4.6	2	7	32	12	35	13	0
			Mean	7	8	35	9	32	8	0

TL 37 SE 23 3529 7144 Fen Lane, Needingworth **Block E**

Surface level +4.0 m
Water struck at +2.7 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.0 m
Mineral 2.7 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, sandy, dark brown-grey, flint pebbles common in lower part	0.8	1.0
Terrace Deposits	Sandy gravel Gravel: fine with coarse, some cobbles, angular to rounded flint with quartzite, sandstone and some shelly limestone, chalk and ironstone Sand: medium with coarse, quartz with coarse flint and chalk Fines: silty, orange-brown	2.7	3.7
Oxford Clay (?)	Clay, silty, blue-grey, fossiliferous	2.0+	5.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	47	46	1.0–2.0	8	9	40	11	26	7	0
			2.0–3.0	5	4	21	13	31	26	0
			3.0–3.7	7	3	20	19	40	11	0
			Mean	7	5	28	14	32	15	0

TL 37 SE 24 3691 7159 Duge's Drive, Over **Block F**

Surface level +2.9 m
Water struck at −0.7 m
Dando Shell, 152 mm diameter
July 1976

Overburden 3.6 m
Mineral 3.2 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, brown mottled orange-grey, rare pebbles	0.8	1.1
Peat	Peat, silty, dark brown, mottled orange	0.3	1.4
	Silt, very sandy in lower part, grey-buff, rare plant remains and pebbles	2.2	3.6
Terrace Deposits	Gravel Gravel: fine with coarse, angular flint with subangular quartzite, limestone, sandstone, chalk and some ironstone Sand: medium and coarse, buff-brown Fines: few thin sandy silts	3.2	6.8
Ampthill Clay	Clay, silty, dark-blue, fossiliferous	1.5+	8.3

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	45	51	3.6–4.6	3	2	21	18	39	17	0
			4.6–5.6	3	4	22	13	47	11	0
			5.6–6.8	5	3	36	14	35	7	0
			Mean	4	3	27	15	39	12	0

TL 37 SE 25 3859 7177 Middle Way, Over **Block F**

Surface level +4.2 m
Water struck at +2.0 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.2 m
Mineral 2.4 m
Waste 0.7 m
Mineral 1.3 m
Waste 0.5 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, brown-grey, rare pebbles	0.9	1.2
Terrace Deposits (Terraces 1–2)	Sandy gravel, with clayey pebbly silt between 3.6 and 4.3 m Gravel: fine with coarse, several cobbles, angular to subangular flint with quartzite, limestone and sandstone, lower part coarser Sand: medium with coarse, quartz with flint Fines: upper part silty, yellow	4.4	5.6
	Silt, laminated, grey-brown	0.5	6.1
Ampthill Clay	Clay, silty, dark blue-grey, siltstone nodules, fossiliferous	1.5+	7.6

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	49	43	1.2–2.2	13	19	41	5	19	3	0
			2.2–3.6	8	5	31	14	35	8	0
			4.3–5.6	6	3	14	20	36	23	0
			Mean	8	8	28	13	31	12	0

TL 37 SE 26 3743 7123 Chain House, Over **Block F**

Surface level +2.9 m
Water struck at −0.1 m
Dando Shell, 152 mm diameter
July 1976

Overburden 3.0 m
Mineral 1.3 m
Waste 0.4 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty	0.2	0.2
Alluvium	Clay, silty, grey-brown mottled orange, iron-rich sandy nodules	0.8	1.0
Peat	Peat, silty, brown-black, very soft, shelly	1.2	2.2
	Silt, sandy, blue-grey with yellow laminations, calcareous nodules, plant debris	0.8	3.0
Terrace Deposits	Gravel Gravel: fine with some coarse, angular to subangular flint with sandstone, quartzite, limestone and chalk Sand: medium and coarse, grey-buff	1.3	4.3
	Clay, silty, dark-grey, shell and plant remains, some peat	0.4	4.7
Ampthill Clay	Clay, silty, dark blue-grey, siltstone, fossiliferous	1.5+	6.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
1	21	78	3.0–4.3	1	1	10	10	59	19	0

TL 37 SE 27 3831 7112 Albony Farm, Over **Block F**

Surface level +4.7 m
Water struck at +2.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 0.7 m
Mineral 3.8 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Terrace Deposits (Terraces 1–2)	Clay, very silty, sandy, grey-brown, with pebbles	0.5	0.7
	Sandy gravel Gravel: fine with some coarse, angular to subrounded flint with sandstone, quartzite, limestone and chalk Sand: medium and coarse, quartz with flint Fines: upper part silty, thin, dark grey silt bands in lower part	3.8	4.5
Ampthill Clay	Clay, silty, dark blue-grey, some siltstone, fossiliferous	1.5+	6.0

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
8	49	43	0.7–1.7	12	9	22	10	40	7	0
			1.7–2.4	9	8	27	12	38	6	0
			2.4–3.2	6	1	16	31	42	4	0
			3.2–4.5	7	5	35	17	33	3	0
			Mean	8	6	26	17	38	5	0

TL 37 SE 28 3960 7098 Lord's Ground Drove, Willingham **Block F**

Surface level +3.7 m
Water struck at +1.3 m
Dando Shell, 152 mm diameter
July 1976

Overburden 1.5 m
Mineral 2.7 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Alluvium	Clay, silty, grey-brown, few flint pebbles	0.6	1.0
Terrace Deposits (Terraces 1–2)	Silt, very sandy, yellow mottled grey and orange, some fine flint gravel	0.5	1.5
	'Clayey' gravel Gravel: fine and coarse, some cobbles, angular to subangular flint, with quartzite, sandstone, limestone, some siltstone and chalk Sand: coarse and medium, upper part fine, yellow-buff Fines: upper part very silty, yellow-brown	2.7	4.2
Ampthill Clay	Clay, silty, grey-blue, some siltstone nodules, fossiliferous	1.5+	5.7

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
10	41	49	1.5–2.4	20	27	21	13	16	2	0
			2.4–3.4	4	3	7	10	36	40	0
			3.4–4.2	6	7	15	21	38	13	0
			Mean	10	12	14	15	30	19	0

TL 37 SE 29 3528 7060 Middle Fen, Swavesey **Block E**

Surface level +4.8 m
Water struck at +2.0 m
Dando Shell, 152 mm diameter
August 1976

Overburden 1.1 m
Mineral 3.6 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.3	0.3
Alluvium	Clay, silty, grey-brown mottled orange, shell debris and flint pebbles in lower part	0.8	1.1
Terrace Deposits	Sandy gravel Gravel: fine with coarse, angular to subangular flint with quartzite, limestone, sandstone, some ironstone and chalk Sand: medium, yellow-brown Fines: upper part more silty	3.6	4.7
Oxford Clay (?)	Clay, silty, green-blue, fossiliferous	1.5+	6.2

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
7	53	40	1.1–2.1	11	17	29	7	32	5	0
			2.1–2.6	11	12	29	10	32	7	0
			2.6–3.6	5	6	27	14	37	12	0
			3.6–4.7	4	11	41	11	23	10	0
			Mean	7	11	32	10	31	9	0

TL 37 SE 30 3634 7053 Middle Fen, Swavesey **Block E**

Surface level +1.6 m
Water struck at −0.3 m
Dando Shell, 152 mm diameter
June 1976

Overburden 1.9 m
Mineral 3.7 m
Bedrock 1.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, brown mottled orange and grey, shell debris	0.5	0.7
Peat	Peat, very silty, dark brown at top, lower part buff-grey, shelly	1.2	1.9
Terrace Deposits	Gravel Gravel: fine with coarse, some cobbles, angular to subangular flint with limestone, sandstone, quartzite, some chalk and ironstone Sand: medium and coarse, buff	3.7	5.6
Oxford Clay (?)	Clay, very silty, blue-grey, fossiliferous	1.5+	7.1

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
4	34	62	1.9–2.9	3	1	11	10	62	13	0
			2.9–3.9	4	2	23	16	42	12	0
			3.9–4.9	4	2	20	16	43	15	0
			4.9–5.6	3	2	25	11	37	22	0
			Mean	4	2	19	13	47	15	0

TL 37 SE 31 3705 7020 New Road, Over **Block H**

Surface level +13.0 m
Water struck at +10.3 m
Dando Shell, 152 mm diameter
June 1976

Overburden 0.9 m
Mineral 1.9 m
Waste 7.4 m
Bedrock 1.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.4	0.4
Glacial Sand and Gravel	Clay, sandy, grey-brown mottled orange, with pebbles, shells in lower part	0.5	0.9
	'Very clayey' sandy gravel Gravel: fine and coarse, angular flint with some quartzite and sandstone, very little chalk Sand: medium with fine, orange-brown Fines: silt, 'clayey', yellow, many thin bands	1.9	2.8
	Clay, silty, orange mottled grey	1.9	4.7
Boulder Clay	Clay, gritty, blue-grey with pebbles and cobbles of flint, siltstone, chalk and limestone, many grey silty sand layers	5.5	10.2
Ampthill Clay	Clay, silty, grey-black, fossiliferous	1.6+	11.8

GRADING

Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				$-\frac{1}{16}$	$+\frac{1}{16}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	$+4-16$	$+16-64$	$+64$
22	50	28	0.9–1.4	16	9	29	6	21	19	0
			1.4–2.1	34	15	30	8	9	4	0
			2.1–2.8	15	8	38	6	22	11	0
			Mean	22	11	32	7	17	11	0

APPENDIX G

LIST OF WORKINGS

In 1977 the sand and gravel pits listed below were known to be operational. All the pits worked river terrace deposits.

Location	*Grid reference*
Little Paxton	195 645
Little Paxton	205 650
Brampton	215 715
Brampton	210 695
Godmanchester	265 715
Fen Drayton	340 700
St Ives	320 715
Hemingford Grey	295 695

APPENDIX H

CONVERSION TABLE, METRES TO FEET (to nearest 0.5 ft)

m	ft	m	ft	m	ft	m	ft	m	ft
0.1	0.5	6.1	20	12.1	39.5	18.1	59.5	24.1	79
0.2	0.5	6.2	20.5	12.2	40	18.2	59.5	24.2	79.5
0.3	1	6.3	20.5	12.3	40.5	18.3	60	24.3	79.5
0.4	1.5	6.4	21	12.4	40.5	18.4	60.5	24.4	80
0.5	1.5	6.5	21.5	12.5	41	18.5	60.5	24.5	80.5
0.6	2	6.6	21.5	12.6	41.5	18.6	61	24.6	80.5
0.7	2.5	6.7	22	12.7	41.5	18.7	61.5	24.7	81
0.8	2.5	6.8	22.5	12.8	42	18.8	61.5	24.8	81.5
0.9	3	6.9	22.5	12.9	42.5	18.9	62	24.9	81.5
1.0	3.5	7.0	23	13.0	42.5	19.0	62.5	25.0	82
1.1	3.5	7.1	23.5	13.1	43	19.1	62.5	25.1	82.5
1.2	4	7.2	23.5	13.2	43.5	19.2	63	25.2	82.5
1.3	4.5	7.3	24	13.3	43.5	19.3	63.5	25.3	83
1.4	4.5	7.4	24.5	13.4	44	19.4	63.5	25.4	83.5
1.5	5	7.5	24.5	13.5	44.5	19.5	64	25.5	83.5
1.6	5	7.6	25	13.6	44.5	19.6	64.5	25.6	84
1.7	5.5	7.7	25.5	13.7	45	19.7	64.5	25.7	84.5
1.8	6	7.8	25.5	13.8	45.5	19.8	65	25.8	84.5
1.9	6	7.9	26	13.9	45.5	19.9	65.5	25.9	85
2.0	6.5	8.0	26	14.0	46	20.0	65.5	26.0	85.5
2.1	7	8.1	26.5	14.1	46.5	20.1	66	26.1	85.5
2.2	7	8.2	27	14.2	46.5	20.2	66.5	26.2	86
2.3	7.5	8.3	27	14.3	47	20.3	66.5	26.3	86.5
2.4	8	8.4	27.5	14.4	47	20.4	67	26.4	86.5
2.5	8	8.5	28	14.5	47.5	20.5	67.5	26.5	87
2.6	8.5	8.6	28	14.6	48	20.6	67.5	26.6	87.5
2.7	9	8.7	28.5	14.7	48	20.7	68	26.7	87.5
2.8	9	8.8	29	14.8	48.5	20.8	68	26.8	88
2.9	9.5	8.9	29	14.9	49	20.9	68.5	26.9	88.5
3.0	10	9.0	29.5	15.0	49	21.0	69	27.0	88.5
3.1	10	9.1	30	15.1	49.5	21.1	69	27.1	89
3.2	10.5	9.2	30	15.2	50	21.2	69.5	27.2	89
3.3	11	9.3	30.5	15.3	50	21.3	70	27.3	89.5
3.4	11	9.4	31	15.4	50.5	21.4	70	27.4	90
3.5	11.5	9.5	31	15.5	51	21.5	70.5	27.5	90
3.6	12	9.6	31.5	15.6	51	21.6	71	27.6	90.5
3.7	12	9.7	32	15.7	51.5	21.7	71	27.7	91
3.8	12.5	9.8	32	15.8	52	21.8	71.5	27.8	91
3.9	13	9.9	32.5	15.9	52	21.9	72	27.9	91.5
4.0	13	10.0	33	16.0	52.5	22.0	72	28.0	92
4.1	13.5	10.1	33	16.1	53	22.1	72.5	28.1	92
4.2	14	10.2	33.5	16.2	53	22.2	73	28.2	92.5
4.3	14	10.3	34	16.3	53.5	22.3	73	28.3	93
4.4	14.5	10.4	34	16.4	54	22.4	73.5	28.4	93
4.5	15	10.5	34.5	16.5	54	22.5	74	28.5	93.5
4.6	15	10.6	35	16.6	54.5	22.6	74	28.6	94
4.7	15.5	10.7	35	16.7	55	22.7	74.5	28.7	94
4.8	15.5	10.8	35.5	16.8	55	22.8	75	28.8	94.5
4.9	16	10.9	36	16.9	55.5	22.9	75	28.9	95
5.0	16.5	11.0	36	17.0	56	23.0	75.5	29.0	95
5.1	17	11.1	36.5	17.1	56	23.1	76	29.1	95.5
5.2	17	11.2	36.5	17.2	56.5	23.2	76	29.2	96
5.3	17.5	11.3	37	17.3	57	23.3	76.5	29.3	96
5.4	17.5	11.4	37.5	17.4	57	23.4	77	29.4	96.5
5.5	18	11.5	37.5	17.5	57.5	23.5	77	29.5	97
5.6	18.5	11.6	38	17.6	57.5	23.6	77.5	29.6	97
5.7	18.5	11.7	38.5	17.7	58	23.7	78	29.7	97.5
5.8	19	11.8	38.5	17.8	58.5	23.8	78	29.8	98
5.9	19.5	11.9	39	17.9	58.5	23.9	78.5	29.9	98
6.0	19.5	12.0	39.5	18.0	59	24.0	78.5	30.0	98.5

REFERENCES

ALLEN, V. T. 1936. Terminology of medium grained sediments. *Rep. Natl Res. Counc. Washington, 1935–1936, App. 1. Rep. Comm. Sedimentation*, pp. 18–47.

ARCHER, A. A. 1969. Background and problems of an assessment of sand and gravel resources in the United Kingdom. *Proc. 9th Commonw. Min. Metall. Congr. 1969*, Vol. 2, Mining and Petroleum Geology, pp. 495–508 (London: The Institution of Mining and Metallurgy).

— 1970a. Standardisation of the size classification of naturally occurring particles. *Géotechnique*, Vol. 20, pp. 103–107.

— 1970b. Making the most of metrication. *Quarry Managers' J.*, Vol. 54, No. 6, pp. 223–227.

ATTERBERG, A. 1905. Die rationelle Klassifikation der Sande und Kiese. *Chem. Z.*, Vol. 29, pp. 195–198.

BRITISH STANDARD 1377. 1967. *Methods of testing soils for civil engineering purposes.* (London: British Standards Institution) 233 pp.

BUREAU OF MINES AND GEOLOGICAL SURVEY. 1948. *Mineral Resources of the United States* (Washington DC: Public Affairs Press), pp. 14–17.

EDMONDS, E. A. and DINHAM, C. H. 1965. Geology of the country around Huntingdon and Biggleswade. *Mem. Geol. Surv. G.B.*

HARRIS, P. M., THURRELL, R. G., HEALING, R. A. and ARCHER, A. A. 1974. Aggregates in Britain. *Proc. R. Soc.*, Ser. A, Vol. 339, pp. 329–353.

HORTON, A. 1970. The drift sequence and sub-glacial topography in parts of the Ouse and Nene basin. *Rep. Inst. Geol. Sci.* 70/9, 30 pp.

LANE, E. W. and others. 1947. Report of the sub-committee on sediment terminology. *Trans. Am. Geophys. Union.*, Vol. 28, pp. 936–938.

PETTIJOHN, F. J. 1957. Sedimentary rocks (2nd edition) (London: Harper and Row.)

THURRELL, R. G. 1971. The assessment of mineral resources with particular reference to sand and gravel. *Quarry Managers' J.*, Vol. 55, pp. 19–25.

TWENHOFEL, W. H. 1937. Terminology of the fine-grained mechanical sediments. *Rep. Natl Res. Counc. Washington, 1936–1937, App. 1, Rep. Comm. sedimentation*, pp. 81–104.

UDDEN, J. A. 1914. Mechanical composition of clastic sediments. *Bull. Geol. Soc. Am.*, Vol. 25, pp. 655–744.

WENTWORTH, C. K. 1922. A scale of grade and class terms for clastic sediments. *J. Geol.*, Vol. 30, pp. 377–392.

— 1935. The terminology of coarse sediments. *Bull. Natl Res. Counc. Washington*, No. 98, pp. 225–246.

WILLMAN, H. B. 1942. Geology and mineral resources of Marseilles, Ottawa and Streator quadrangles. *Bull. Illinois State Geol. Surv*, No. 66, pp. 343–344.

The following reports of the Institute relate particularly to bulk mineral resources

Reports of the Institute of Geological Sciences

Assessment of British Sand and Gravel Resources

1 The sand and gravel resources of the country south-east of Norwich, Norfolk: Resource sheet TG 20. E. F. P. Nickless.
Report 71/20 ISBN 0 11 880216 £1.15

2 The sand and gravel resources of the country around Witham, Essex: Resource sheet TL 81. H. J. E. Haggard.
Report 72/6 ISBN 0 11 880588 6 £1.20

3 The sand and gravel resources of the area south and west of Woodbridge, Suffolk: Resource sheet TM 24. R. Allender and S. E. Hollyer.
Report 72/9 ISBN 0 11 880596 7 £1.70

4 The sand and gravel resources of the country around Maldon, Essex: Resource sheet TL 80. J. D. Ambrose.
Report 73/1 ISBN 0 11 880600 9 £1.20

5 The sand and gravel resources of the country around Hethersett, Norfolk: Resource sheet TG 10. E. F. P. Nickless.
Report 73/4 ISBN 0 11 880606 8 £1.60

6 The sand and gravel resources of the country around Terling, Essex: Resource sheet TL 71. C. H. Eaton.
Report 73/5 ISBN 0 11 880608 4 £1.20

7 The sand and gravel resources of the country around Layer Breton and Tolleshunt D'Arcy, Essex: Resource sheet TL 91 and part of TL 90. J. D. Ambrose.
Report 73/8 ISBN 0 11 990614 9 £1.30

8 The sand and gravel resources of the country around Shotley and Felixtowe, Suffolk: Resource sheet TM 23. R. Allender and S. E. Hollyer.
Report 73/13 ISBN 0 11 880625 4 £1.60

9 The sand and gravel resources of the country around Attlebridge, Norfolk: Resource sheet TG 11. E. F. P. Nickless.
Report 73/15 ISBN 0 11 880658 0 £1.85

10 The sand and gravel resources of the country west of Colchester, Essex: Resource sheet TL 92. J. D. Ambrose.
Report 74/6 ISBN 0 11 880671 8 £1.45

11 The sand and gravel resources of the country around Tattingstone, Suffolk: Resource sheet TM 13. S. E. Hollyer.
Report 74/9 ISBN 0 11 880675 0 £1.95

12 The sand and gravel resources of the country around Gerrards Cross, Buckinghamshire: Resource sheets SU 99, TQ 08 and TQ 09. H. C. Squirrell.
Report 74/14 ISBN 0 11 880710 2 £2.20

Mineral Assessment Reports

13 The sand and gravel resources of the country east of Chelmsford, Essex: Resource sheet TL 70. M. R. Clarke.
ISBN 0 11 880744 7 £3.50

14 The sand and gravel resources of the country east of Colchester, Essex: Resource sheet TM 02. J. D. Ambrose.
ISBN 0 11 880745 5 £3.25

15 The sand and gravel resources of the country around Newton on Trent, Lincolnshire: Resource sheet SK 87. D. Price.
ISBN 0 11 880746 3 £3.00

16 The sand and gravel resources of the country around Braintree, Essex: Resource sheet TL 72. M. R. Clarke.
ISBN 0 11 880747 1 £3.50

17 The sand and gravel resources of the country around Besthorpe, Nottinghamshire: Resource sheet SK 86 and part of SK 76. J. R. Gozzard.
ISBN 0 11 880748 X £3.00

18 The sand and gravel resources of the Thames Valley, the country around Cricklade, Wiltshire: Resource sheets SU 09/19 and parts of SP 00/10. P. R. Robson.
ISBN 0 11 880749 8 £3.00

19 The sand and gravel resources of the country south of Gainsborough, Lincolnshire: Resource sheet SK 88 and part of SK 78. J. H. Lovell.
ISBN 0 11 880750 1 £2.50

20 The sand and gravel resources of the country east of Newark upon Trent, Nottinghamshire: Resource sheet SK 85. J. R. Gozzard.
ISBN 0 11 880751 X £2.75

21 The sand and gravel resources of the Thames and Kennet Valleys, the country around Pangbourne, Berkshire: Resource sheet SU 67. H. C. Squirrell.
ISBN 0 11 880752 8 £3.25

22 The sand and gravel resources of the country north-west of Scunthorpe, Humberside: Resource sheet SE 81. J. W. C. James.
ISBN 0 11 880753 6 £3.00

23 The sand and gravel resources of the Thames Valley, the country between Lechlade and Standlake: Resource sheet SP 30 and parts of SP 20, SU 29 and SU 39. P. Robson.
ISBN 0 11 881252 1 £7.25

24 The sand and gravel resources of the country around Aldermaston, Berkshire: Parts of resource sheets SU 56 and SU 66. H. C. Squirrell.
ISBN 0 11 881253 X £5.00

25 The celestite resources of the area north-east of Bristol: Resource sheet ST 68 and parts of ST 59, 69, 79, 58, 78, 68 and 77. E. F. P. Nickless, S. J. Booth and P. N. Mosley.
ISBN 0 11 881262 9 £5.00

26 The limestone and dolomite resources of the country around Monyash, Derbyshire: Resource sheet SK 16. F. C. Cox and D. McC. Bridge.
ISBN 0 11 881263 7 £7.00

27 The sand and gravel resources of the country west and south of Lincoln, Lincolnshire: Resource sheets SK 95, SK 96 and SK 97. I. Jackson.
ISBN 0 11 884003 7 £6.00

28 The sand and gravel resources of the country around Eynsham, Oxfordshire: Resource sheet SP 40 and part of SP 41. W. J. R. Harries.
ISBN 0 11 884012 6 £3.00

29 The sand and gravel resources of the country south-west of Scunthorpe, Humberside: Resource sheet SE 80. J. H. Lovell.
ISBN 0 11 884013 4 £3.50.

30 Procedure for the assessment of limestone resources. F. C. Cox, D. McC. Bridge and J. H. Hull.
ISBN 0 11 884030 4 £1.25

31 The sand and gravel resources of the country west of Newark upon Trent, Nottinghamshire: Resource sheet SK 75. D. Price and P. J. Rogers.
ISBN 0 11 884031 2 £3.50

32 The sand and gravel resources of the country around Sonning and Henley: Resource sheets SU 77 and SU 78. H. C. Squirrell.
ISBN 0 11 884032 0 £5.25

33 The sand and gravel resources of the country north of Gainsborough: Resource sheet SK 89. J. Gozzard and D. Price.
ISBN 0 11 884033 9 £4.50

34 The sand and gravel resources of the Dengie Peninsula, Essex: Resource sheet TL 90, etc. M. B. Simmons.
ISBN 0 11 884081 9 £5.00

35 The sand and gravel resources of the country around Darvel: Resource sheet NS 53, 63, etc. E. F. P. Nickless, A. M. Aitken and A. A. McMillan.
ISBN 0 11 884082 7 £7.00

36 The sand and gravel resources of the country around Southend-on-Sea, Essex: Resource sheets TQ 78/79 etc. S. E. Hollyer and M. B. Simmons.
ISBN 0 11 884083 5 £7.50

37 The sand and gravel resources of the country around Bawtry, South Yorkshire: Resource sheet SK 69. A. R. Clayton.
ISBN 0 11 884053 3 £5.75

38 The sand and gravel resources of the country around Abingdon, Oxfordshire: Resource sheet SU 49, 59, SP 40, 50. C. E. Corser.
ISBN 0 11 884084 5 £5.50

39 The sand and gravel resources of the Blackwater Valley (Aldershot) area: Resource sheet SU 85, 86, parts SU 84, 94, 95, 96. M. R. Clarke, A. J. Dixon.
ISBN 0 11 884085 1 £7.00

40 The sand and gravel resources of the country west of Darlington, County Durham: Resource sheet NZ 11, 21. A. Smith.
ISBN 0 11 884086 X £5.00

41 The sand and gravel resources of the country around Garmouth, Grampian Region: Resource sheet NJ 36. A. M. Aitken, J. W. Merritt and A. J. Shaw.
ISBN 0 11 884090 8 £8.75

42 The sand and gravel resources of the country around Maidenhead and Marlow: Resource sheet SU 88, parts SU 87, 97, 98. P. N. Dunkley.
ISBN 0 11 884091 6 £5.00

43 The sand and gravel resources of the country around Misterton, Nottinghamshire: Resource sheet SK 79. D. Thomas and D. Price.
ISBN 0 11 884092 4 £5.25

44 The sand and gravel resources of the country around Sedgefield, Durham: Resource sheet NZ 32. M. D. A. Samuel.
ISBN 0 11 884093 2 £5.75

45 The sand and gravel resources of the country around Brampton, Cumbria: Resource sheet NY 55, part 56. I. Jackson.
ISBN 0 11 884094 0 £6.75

46 The sand and gravel resources of the country around Harlow, Essex: Resource sheet TL 41. P. M. Hopson.
ISBN 0 11 884107 6 £9.50

47 The limestone and dolomite resources of the country around Wirksworth, Derbyshire: Resource sheet SK 25, part 35. F. C. Cox and D. J. Harrison.
ISBN 0 11 884108 4 £15.00

48 The sand and gravel resources of the Loddon Valley area: Resource sheets SU 75, 76 and parts of SU 64, 65, 66 and 74. M. R. Clarke, E. J. Raynor and R. A. Sobey.
ISBN 0 11 884109 2 £8.75

49 The sand and gravel resources of the country around Lanark, Strathclyde Region: Resource sheet NS 94 and part of NS 84. J. L. Laxton, E. F. P. Nickless.
ISBN 0 11 884112 2 £11.00

50 The sand and gravel resources of the country around Fordingbridge, Hampshire: Resource sheet: SU 11 and parts of SU 00, SU 01, SU 10, SU 20 and SU 21, M. Kubala.
ISBN 0 11 884111 4 £7.75

51 The sand and gravel resources of the country north of Bournemouth, Dorset: Resource sheets SU 00, 10, 20, SZ 09, 19, 29. M. R. Clarke.
ISBN 0 11 884110 6 £9.75

52 The sand and gravel resources of the country between Hatfield Heath and Great Waltham, Essex: Resource sheet TL 51/61. R. J. Marks.
ISBN 0 11 884113 0 £8.00

53 The sand and gravel resources of the country around Cottenham, Cambridgeshire: Resource sheet TL 46/47. A. J. Dixon.
ISBN 0 11 884114 9 £9.25

54 The sand and gravel resources of the country around Huntingdon and St Ives, Cambridgeshire: Resource sheets TL 16, 17, 26, 27, 36, 37. R. W. Gatliff.
ISBN 0 11 884115 7 £8.75

Reports of the Institute of Geological Sciences

Other Reports

69/9 Sand and gravel resources of the inner Moray Firth. A. L. Harris and J. D. Peacock.
ISBN 0 11 880106 6 35p

70/4 Sands and gravels of the southern counties of Scotland. G. A. Goodlet.
ISBN 0 11 880105 8 90p

72/8 The use and resources of moulding sand in Northern Ireland. R. A. Old.
ISBN 0 11 881594 0 30p

73/9 The superficial deposits of the Firth of Clyde and its sea lochs. C. E. Deegan, R. Kirby, I. Rae and R. Floyd.
ISBN 0 11 880617 3 95p

77/1 Sources of aggregate in Northern Ireland (2nd edition). I. B. Cameron.
ISBN 0 11 881279 3 70p

77/2 Sand and gravel resources of the Grampian Region. J. D. Peacock and others.
ISBN 0 11 881282 3 80p

77/5 Sand and gravel resources of the Fife Region. M. A. E. Browne.
ISBN 0 11 884004 5 60p

77/6 Sand and gravel resources of the Tayside Region. I. B. Paterson.
ISBN 0 11 884008 8 £1.40

77/8 Sand and gravel resources of the Strathclyde Region. I. B. Cameron and others.
ISBN 0 11 884028 2 £2.50

77/9 Sand and gravel resources of the Central Region, Scotland. M. A. E. Browne.
ISBN 0 11 884016 9 £1.35

77/19 Sand and gravel resources of the Borders Region, Scotland. A. D. McAdam.
ISBN 0 11 884025 8 £1.00

77/22 Sand and gravel resources of the Dumfries and Galloway Region of Scotland. I. B. Cameron.
ISBN 0 11 884025 8 £1.20

78/1 Sand and gravel resources of the Lothian Region of Scotland. A. D. McAdam.
ISBN 0 11 884042 8 £1.00

78/8 Sand and gravel resources of the Highland Region. W. Mykura, D. L. Ross and F. May.
ISBN 0 11 884050 9 £3.00

Dd 696800 K8

Typeset for the Institute of Geological Sciences by Trident Graphics Limited, 83 Bell Street, Reigate, Surrey, England

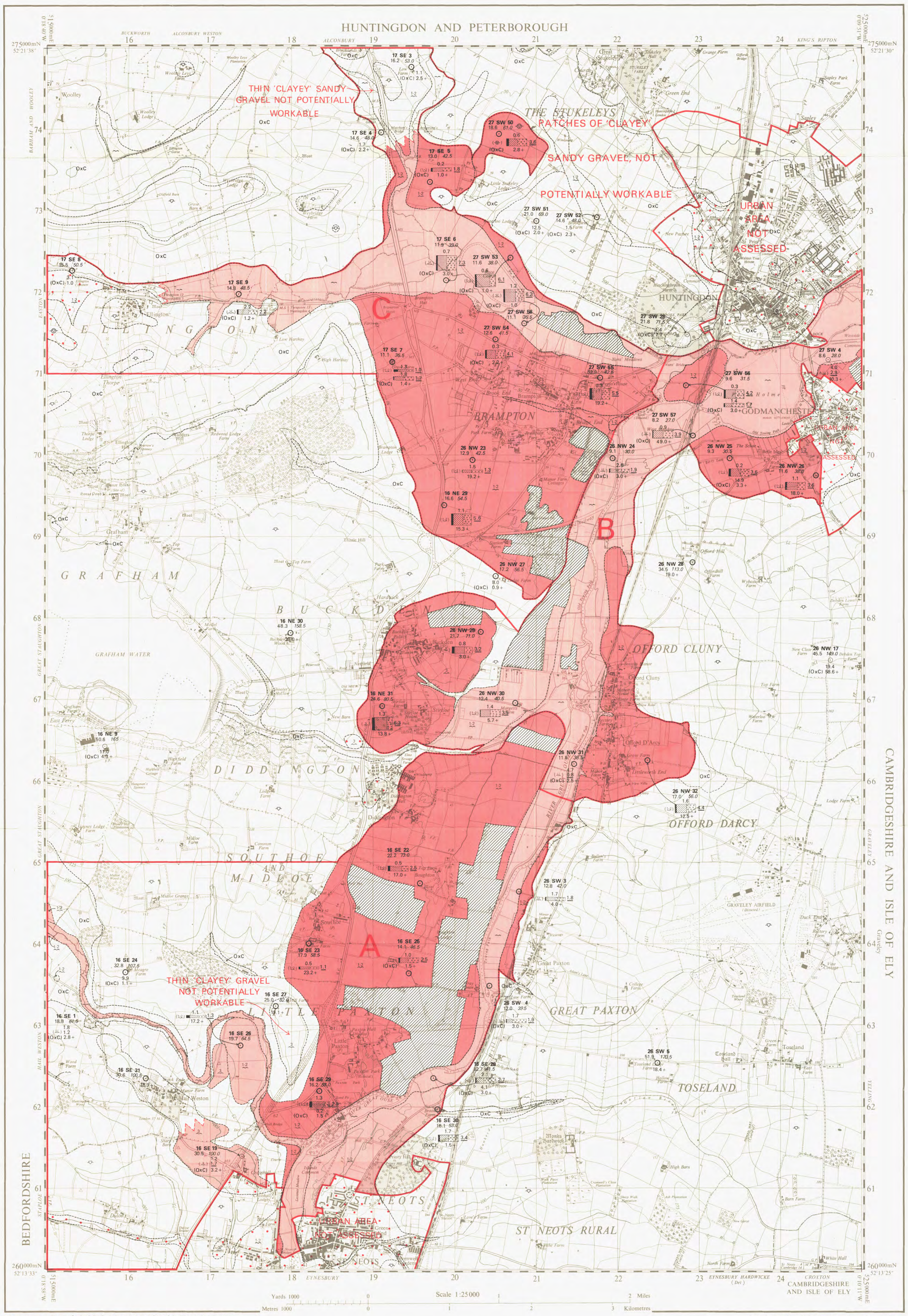
Printed in England for Her Majesty's Stationery Office by Commercial Colour Press, London, E7

INSTITUTE OF GEOLOGICAL SCIENCES
INDUSTRIAL MINERALS ASSESSMENT UNIT

THE SAND & GRAVEL RESOURCES OF THE AREA AROUND HUNTINGDON AND ST IVES, CAMBRIDGESHIRE

Scale 1:25 000 or about 2½ Inches to 1 Mile

ORDNANCE SURVEY
PARTS OF SHEETS TL16,17,26 & 27
PROVISIONAL EDITION



The representation on this map of a Road, Track, or Footpath, is no evidence of the existence of a right of way.

Original Geological Survey on the one-inch scale by H.H.Howell, W.H.Penning and A.J.Jukes-Browne.
Published on Old Series sheets 51 and 52 1864-1882.
The greater part resurveyed on the six-inch scale by A.C.G.Cameron 1893; published with drift 1900.
Revised on the six-inch scale by E.E.L.Dixon, R.L.Sherlock and S.E.Hollingworth 1930-39;
some additions by C.H.Dinham, 1947. C.H.Dinham and F.H.Edmunds, District Geologists.
Revised edition published 1950. W.F.P.McLintock, D.Sc, Director.
Reprinted with revisions from six-inch surveys on the east by S.C.A.Holmes and amendments by A.Horton, 1970

Sand and Gravel survey by J.L.Knight 1976-77
R.G.Thurrell, Head, Industrial Minerals Assessment Unit.

1:25 000 Sand and Gravel Resource Sheet published 1980.
G.M.Brown, D.Sc., F.R.S., *Director, Institute of Geological Sciences*
1100/80

The GRID lines on this sheet are at 1 Kilometre interval.
Heights are in feet above Mean Sea Level at Newlyn.
Contour values are in feet
1 square inch on this map represents 99.639 acres on the ground.

Data quoted for an individual borehole refer strictly to that site; reliable conclusions cannot be drawn about the thickness and grading elsewhere in the deposit, particularly in material as variable as sand and gravel. However, estimates of the volume and mean grading of the mineral as a whole in each Resource Block are given in the Report.

Made and published by the Director General of the Ordnance Survey, Southampton.
S. E. Hurst 1979

Compiled from 6" sheets last fully revised 1894-1938
Other systematic revision 1938-50 has been incorporated
Major roads revised 1965-75
Partial building development revised 1966
Gratham Water revised 1966

THE SAND & GRAVEL RESOURCES OF THE AREA AROUND HUNTINGDON AND ST. IVES, CAMBRIDGESHIRE SHEET 1

54

SHEET 1 (SEE ALSO SHEET 2)

This map should be read in conjunction with the accompanying Report which contains details of the assessment of resources.

EXPLANATION OF SYMBOLS AND ABBREVIATIONS FOR SHEET 1 AND SHEET 2

DRIFT

	Shell Marl	SM-2	RECENT AND PLEISTOCENE
	Peat	P-1	
	Alluvium	A-2	
1	1st Terrace	1T-21	
2	2nd Terrace	2T-15	
1-2	1st and 2nd Terraces (undifferentiated)	1T-22 River Gravels	
3	3rd Terrace	3T-13	
4	4th Terrace	4T-8	
5	Undifferentiated Terrace Gravels beneath Alluvium	UT-6	
	Glacial Sand and Gravel	GS-17	Glacial Deposits
	Boulder Clay	BC-11	

SOLID

KC	Kimmeridge Clay	JURASSIC
AmC	Ampthill Clay	
El	Elsworth Rock	
OxC	Oxford Clay	

Worked out Ground

BOUNDARY LINES

- Geological boundary, Drift.
- Geological boundary, Solid.
- Resource Block boundary.
- Inferred boundary between recognised categories of deposits.

Broken line denotes uncertainty.

BOREHOLE DATA
SITE LOCATIONS

- Industrial Minerals Assessment Unit (I.M.A.U.) Boreholes.
- Other Boreholes.

I.M.A.U. BOREHOLES

Surface level in metres and feet above O.D. (Newlyn) → 27 SW 56 (9.6 / 31.5) ← Borehole Registration Number
Overburden → 0.3 ← Borehole Site
Waste → (1.2) 4.2 / 1.4 1.7 ← Mineral (sand and gravel)
Geological Classification → (OxC) 3.0+ ← Bedrock

Grading Diagram
Thicknesses in metres

Note:
(i) Figures underlined denote thicknesses used in the assessment of resources.
(ii) The + sign indicates that the base of the deposit was not reached.
(iii) The figures in *italics* are conversions to feet of measurements recorded in metres.
(iv) The Geological Classification is given only for mineral and bedrock.

Borehole Registration Number
Each I.M.A.U. borehole is identified by a Registration Number, e.g. **27 SW 56**
The first numbers and letters refer to the quarter sheet and the final figures to the I.G.S. serial numbers for that quarter.

Grading Diagrams
Each grading diagram shows the mean particle size distribution of a distinct deposit of mineral.

Sand (+1/16-4mm)
Fines (-1/16mm) Gravel (+4mm)

The height of the diagram is proportional to the mineral thickness.
The widths of the divisions show the proportions of **Fines**, **Sand** and **Gravel**.

OTHER BOREHOLES
The layout of information is the same as for I.M.A.U. boreholes, although data available may not be as comprehensive. They are registered in the series.

CATEGORIES OF DEPOSITS

- Exposed mineral, assessed. CAT-E2
- Continuous or almost continuous spreads of mineral beneath overburden. CAT-C2
- Sand and gravel not assessed (exposed and beneath cover). CAT-N3
- Sand and gravel either not potentially workable or absent. CAT-A2

RESOURCE BLOCKS
For the purpose of assessment, the mineral is divided into Resource Blocks (see Report). Each is designated by a letter.

Detailed records may be consulted on application to the Head, Industrial Minerals Assessment Unit, Institute of Geological Sciences, Keyworth, Nottingham. NG12 5GG.

Made and printed for the Institute of Geological Sciences, by the Director General of the Ordnance Survey, Southampton.

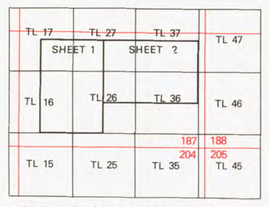


Diagram showing the relation of the National Grid 1:25,000 sheets with the One-Inch Geological Sheets 187, 188, 204 and 205

INSTITUTE OF GEOLOGICAL SCIENCES

INDUSTRIAL MINERALS ASSESSMENT UNIT

THE SAND AND GRAVEL RESOURCES OF THE AREA AROUND HUNTINGDON AND ST. IVES, CAMBRIDGESHIRE

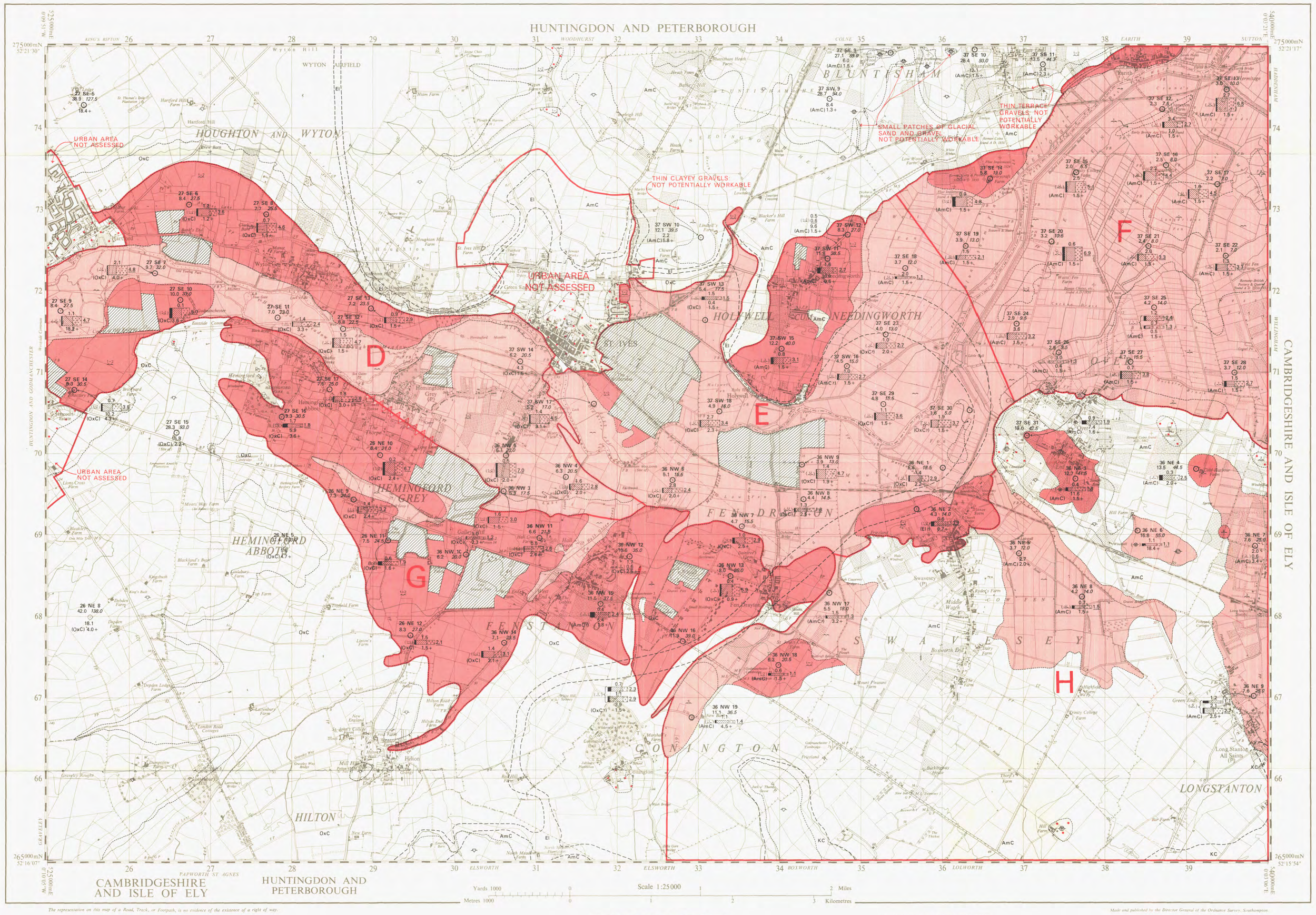
54 (SHEET 2)
(SEE SHEET 1 FOR KEY)

Scale 1:25 000 or about 2½ Inches to 1 Mile

PROVISIONAL EDITION

PARTS OF SHEETS TL26,27,36 & 37

ORDNANCE SURVEY



Yards 1000 0 Scale 1:25000 1 2 Miles

Metres 1000 0 1 2 3 Kilometres

Original geological survey on the one-inch scale by H.H.Howell, W.H.Penning and A.J.Jukes-Browne. Published on the Old Series Sheets 51 and 52, 1864-82. The greater part resurveyed on the six-inch scale by A.C.G.Cameron, 1893; the Corallian by C.B.Wedd, 1900. Published with drift 1900. Revised on the six-inch scale by E.E.L.Dixon, R.L.Sherlock and S.E.Hollingworth, 1930-39, some additions by C.H.Dinham, 1947. C.H.Dinham and F.H.Edmunds, District Geologist. Revised edition published 1950. W.F.P.McLintock D.Sc, Director. Reprinted with revisions from six-inch surveys on the east by S.C.A. Holmes and amendments by A.Horton, 1970.

Sand and Gravel Survey by J.L.Knight in 1976. R.G.Thurrell, Head, Industrial Minerals Assessment Unit 1:25 000 Sand and Gravel Resource Sheet published 1980. G.M. Brown, D.Sc, F.R.S, *Director, Institute of Geological Sciences.* 1100/86

The GRID lines on this sheet are at 1 Kilometre interval.
Heights are in feet above Mean Sea Level at Newlyn.
Contour values are in feet
1 square inch on this map represents 99.639 acres on the ground.

Data quoted for an individual borehole refer strictly to that site, reliable conclusions cannot be drawn about the thickness and grading elsewhere in the deposit, particularly in material as variable as sand and gravel. However, estimates of the volume and mean grading of the mineral as a whole in each Resource Block are given in the Report.

Compiled from 6" sheets last fully revised 1900-38
Other partial systematic revision 1937-50 has been incorporated
Partial building development revised 1966
Some major roads revised 1965-75

Made and published by the Director General of the Ordnance Survey, Southampton.

SHEET 2

FOR EXPLANATION AND KEY, SEE SHEET 1