

The sand and gravel resources of the country between Dorchester and Wareham, Dorset

Description of parts of 1:25 000 sheets SY 68, 69, 78, 79, 88, 89, 98 and 99

S. J. Mathers

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 sand and gravel resources of the country between Dorchester and Wareham, Dorset, shown on the accompanying 1:25 000 resource maps. The survey was conducted in 1978 by S. J. Mathers, assisted in the drilling and sampling programme by D. P. Piper. Mr Mathers compiled the report.

The work is based on the six-inch scale geological survey made in 1894-8 by C. Reid, A. Strahan and A. J. Jukes-Browne with amendments by W. J. Arkell and J. G. O. Smart published in 1958.

Mr C. L. Reeves, ARICS (Land Agent) was responsible for negotiating access to land for drilling. The ready cooperation of landowners and tenants in this work is gratefully acknowledged.

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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 No. 13 and subsequent reports appear as Mineral Assessment Reports of the Institute.

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

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The sand and gravel resources of the country between Dorchester and Wareham, Dorset.
Two composite sheets **in pocket**

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The sand and gravel resources of the country between Dorchester and Wareham

Description of parts of 1:25 000 sheets SY 68, 69, 78, 79, 88, 89, 98, 99

S. J. MATHERS

SUMMARY

The assessment of the sand and gravel resources of the Dorchester and Wareham area of Dorset is based on the geological maps and borehole records of the Institute of Geological Sciences, records made available by the sand and gravel industry, field work and 114 boreholes drilled for the Industrial Minerals Assessment Unit.

All known deposits in the area that might be potentially workable for sand and gravel have been investigated geologically 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 area has been divided into 6 resource blocks containing between 8.5 and 15.6 km² of sand and gravel. For each block the geology of the deposits is described and mean gradings are stated. Detailed borehole data are also given. The geology, the position of the boreholes and the outlines of the resource blocks are shown on the accompanying maps.

Notes

Each borehole registered with the Institute is identified by a four-element code (e.g. SY 68 NE 37). The first two elements define the 10-km square (of the National Grid) in which the borehole is situated; the third element defines a quadrant of that square, and the fourth is the accession number of the borehole. In the text of the report the borehole is normally referred to by the last three elements alone (e.g. 68 NE 37).

All National Grid references in this publication lie within the 100-km square SY. 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 extensive locations, for example for farms).

Bibliographical reference

MATHERS, S. J. 1982. The sand and gravel resources of the country between Dorchester and Wareham, Dorset: description of parts of 1:25 000 sheets SY 68, 69, 78, 79, 88, 89, 98 and 99. *Miner. Assess. Rep. Inst. Geol. Sci.*, No. 103.

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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, neither the economic nor the social factors used to decide whether a deposit may be workable in the future can 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, 1981; 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 geologic 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 this 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 B.S. sieve, about 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.

Pre-Pleistocene rocks, which are usually consolidated and devoid of potentially workable sand and gravel, are referred to as 'bedrock'; 'waste' is any material other than bedrock or mineral; 'overburden' is waste that occurs between the surface and an underlying body of mineral.

For the particular needs of assessing sand and gravel resources, a grain-size classification based on the geometric scale 1/16 mm, 1/4 mm, 1 mm, 4 mm, 16 mm, 64 mm has been adopted. The boundaries between fines (that is, the clay and silt fractions) and sand, and between sand and gravel material, are placed at 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

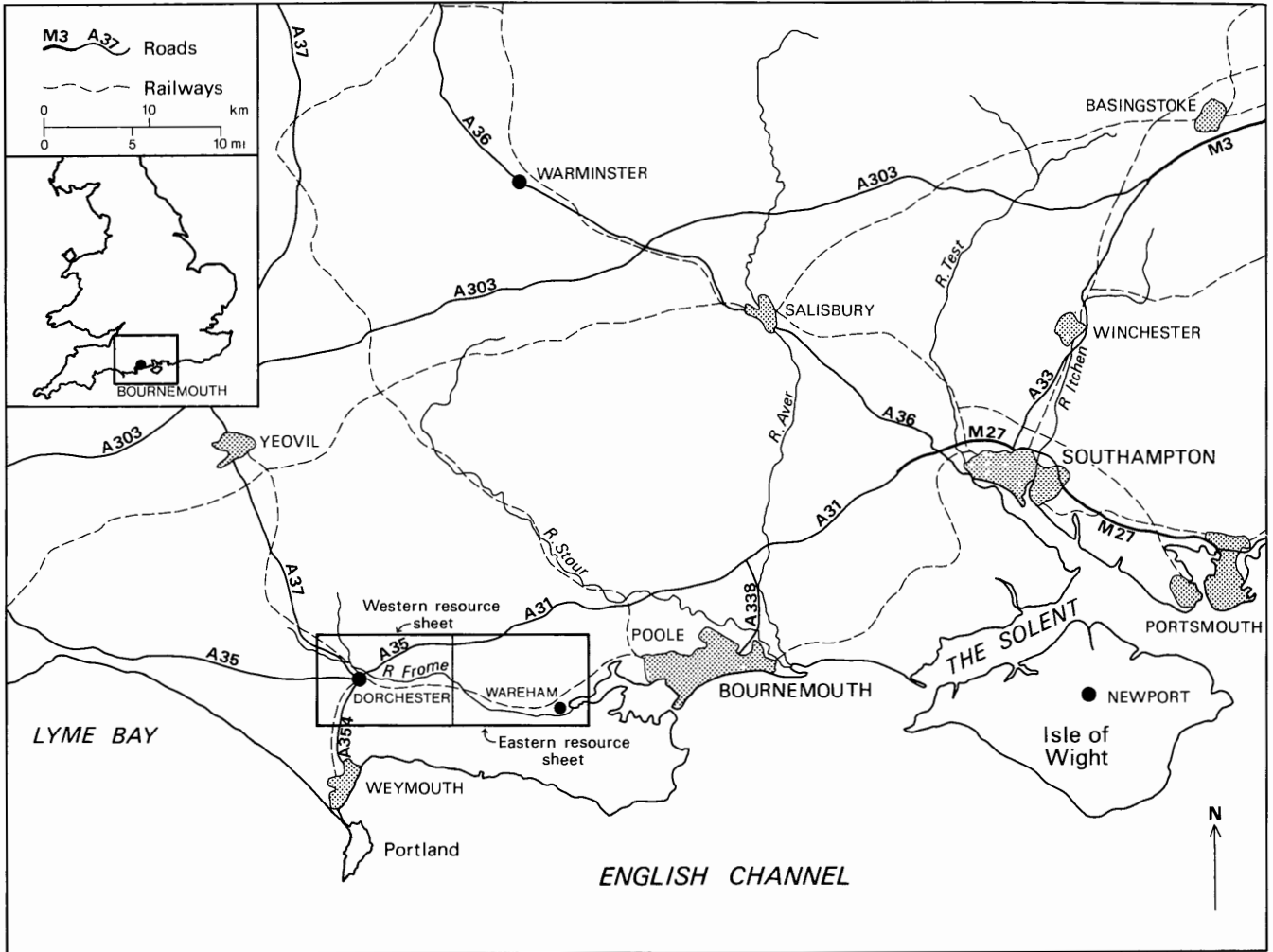


Figure 1 Map showing the location of the district.

approximately 10 km² of sand and gravel. No account is taken of any factors, for example roads, villages or land of 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 mineral in parts of a block, except in the immediate vicinity of the actual sample points.

DESCRIPTION OF THE DISTRICT

The survey area (Figure 1) is situated in the heart of rural Dorset and is noted for its scenic beauty as well as for its economically useful mineral resources, particularly sand and gravel, ball clay and brick clay, all of which have been extensively worked within the area. Localities mentioned in the text are shown on the locality maps (Figures 2 and 3). The two composite resource sheets represent an area of 300 km² of which 75.5 km² is mineral-bearing.

In the west of the district the Chalk gives rise to typical 'downland' topography supporting mixed agriculture, but farther east extensive heathland is developed on the often sandy Tertiary bedrock. The heaths are of little agricultural value and support large forested areas. A military training area is located in the vicinity of Bovington Camp [820 890] while there is an Atomic Energy Establishment at Winfrith [820 870].

The largest towns in the district are Dorchester [693 908] and Wareham [923 874], which together cover about 4.4 km² and are not included in this assessment. The nearest major conurbation is Bournemouth and Poole about 20 km east of the composite sheet boundary.

The rivers Frome and Piddle (or Trent) flow eastwards to enter Poole Harbour east of Wareham. The deposits of their associated fertile flood-plains include the major unworked sand and gravel resources.

TOPOGRAPHY

A close relationship between geology and topography is readily apparent in the district. In its eastern part, sandy Tertiary strata are folded into a shallow syncline (the Wareham Basin). Heathlands at altitudes of 40-80 m above OD characterise the area but isolated hills in excess of 120 m are found, e.g. Beacon Hill [740 936]. Plateau Gravel forms a resistant capping to many of the hills and ridges.

The Wareham Basin is bordered on three sides by chalk downland rising generally above 100 m and including Bincombe Down [678 857] at 168 m, the highest point in the district. For much of its length the River Frome follows the axis of the basin.

GEOLOGY

A brief description of the beds cropping out within the district is given below; further details may be found in the relevant Geological Survey memoirs (Reid, 1899; Arkell, 1947).

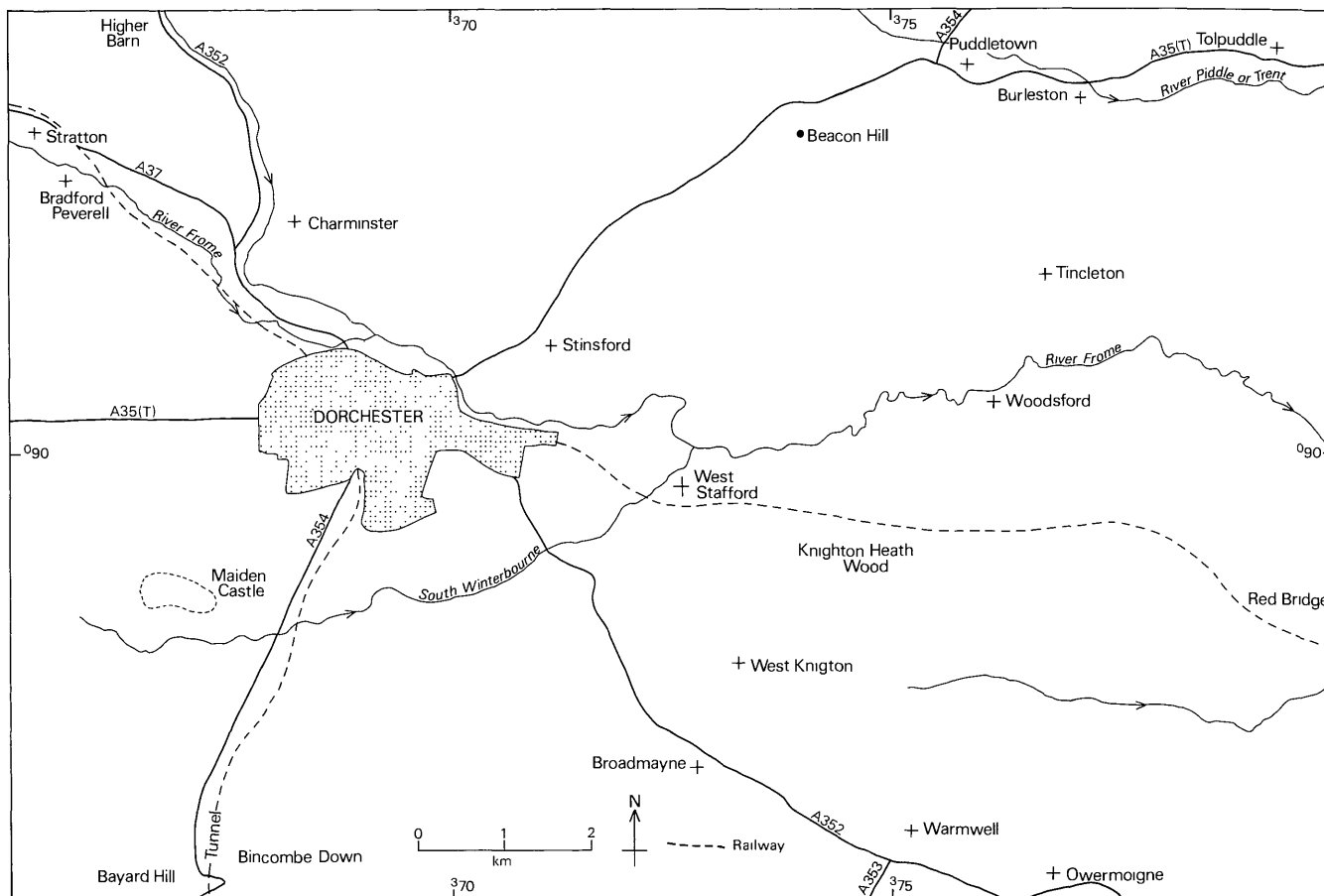


Figure 2 Locality map (western sheet).

Table 1 Geological classification of strata cropping out in the district.

	Deposit	Major lithologies
DRIFT		
Recent and Pleistocene	Peat	Peat
	Estuarine deposits	Mud
	Alluvium	Silt, Clay
	Valley Gravel	Gravel
	Plateau Gravel	Gravel
	Clay-with-flints (age uncertain)	Brown Clay with flint pebbles
SOLID		
Palaeogene	Bagshot Beds	Sands, silts, clays
	London Clay	Sandy clays and sands
	Reading Beds	Mottled clays and sands
Cretaceous	Upper Chalk	White micritic limestone with nodular flints
	Upper Greensand	Sandstone
	Wealden Beds	Sands, clays
Jurassic	Purbeck Beds	Limestones, mudstones and shales
	Portland Stone	Cherty limestones
	Portland Sand	Sandstone
	Kimmeridge Clay	Clay
	Oxford Clay	Clay

The bedrock strata (Table 1) of the district have been folded into a shallow easterly-plunging syncline. The Chalk crops out around the western rim of the syncline and the younger Tertiary beds crop out successively towards the centre of the basin.

Solid

Jurassic strata Strongly folded Upper Jurassic sandstones, limestones, clays and shales (Table 1) are faulted against the Upper Chalk in the extreme south-west of the district around Bayard Hill [666 853], where they crop out.

Wealden Beds Wealden Beds occur in a small outcrop south of Bincombe Down [678 857]. Consisting of a series of sands and clays, these beds were folded in harmony with the underlying Jurassic strata with which they are conformable.

Upper Greensand The Upper Greensand, which is typically quartz grit, forms a small outcrop south of Bincombe Down faulted against the Upper Chalk and Oxford Clay.

The above strata were not encountered in the IMAU boreholes and are not considered further in this report.

Upper Chalk The Upper Chalk is about 250 m thick. It is a white, fine-grained micritic limestone, composed largely of calcareous microfossils in a calcareous matrix with subordinate marls and numerous layers of flint nodules. Chalk was recorded in 30 of the IMAU boreholes and its upper surface was found to be weathered, commonly to a depth of about one metre. In the weathered zone, chalk and flint fragments are embedded in a brown silty matrix.

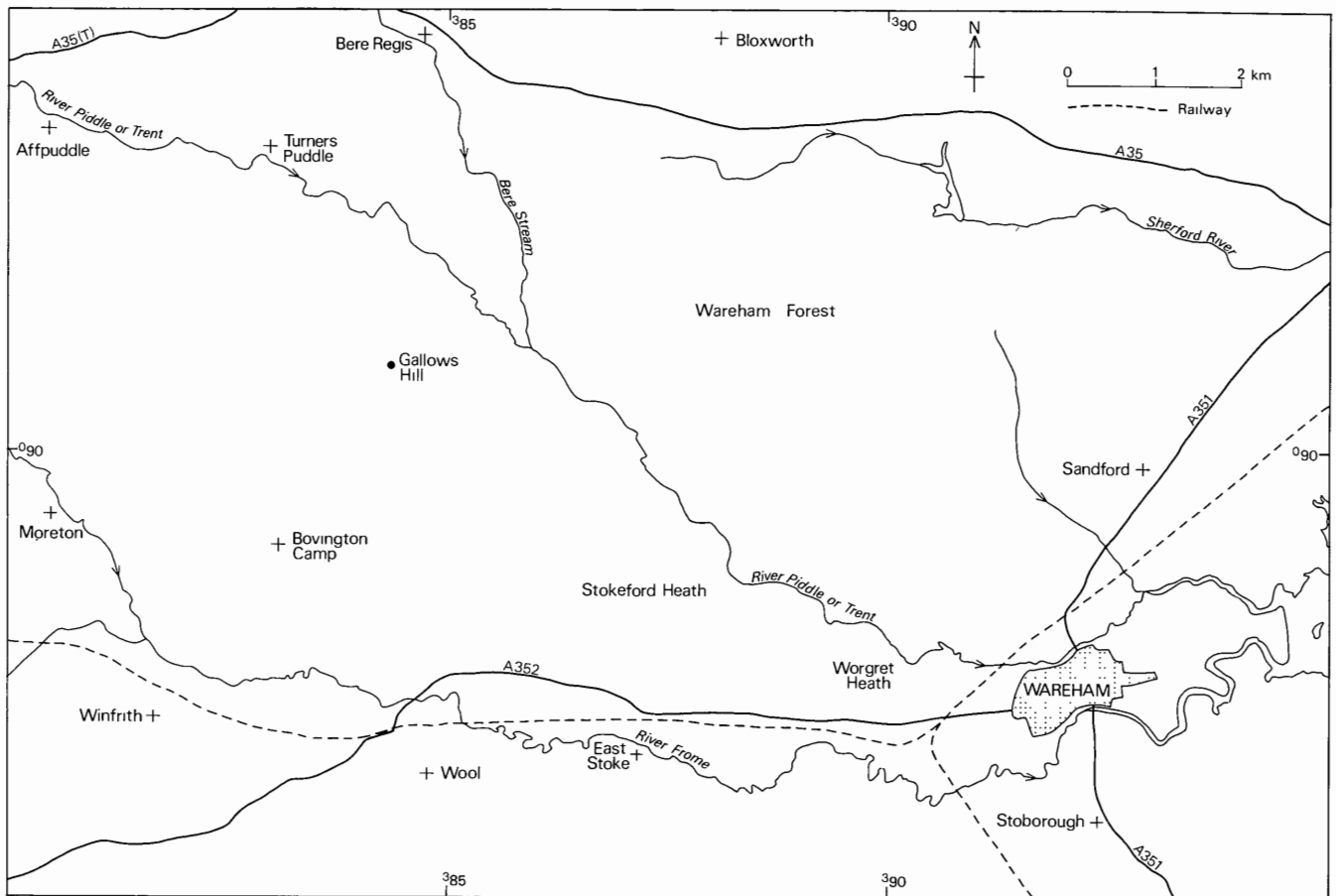


Figure 3 Locality map (eastern sheet).

Reading Beds The Reading Beds lie unconformably on the Upper Chalk and attain a maximum proved thickness of 27 m within the district. The outcrop borders that of the Chalk and is of variable width due to the effects of topography and structure. The succession is predominantly medium-grained sand with thin layers of flint gravel towards the base. Lenses of mottled red and white clay occur in the sands; these clays have been extensively worked for brick making at many sites along the outcrop, notably at Broadmayne [728 867], the home of the characteristic 'speckled bricks'. Reading Beds were proved in 14 of the IMAU boreholes.

London Clay The London Clay forms a narrow outcrop bordering that of the Reading Beds in the east of the Wareham Basin but it is largely obscured by drift and the overlapping Bagshot Beds in the west. In the district the London Clay as a whole is much thinner and sandier than it is farther east in the Hampshire Basin. At its base the London Clay is usually a sandy flint conglomerate overlain by up to 30 m of sand with thin iron-cemented sandstone layers. Clays are usually absent. The London Clay was encountered in four of the IMAU boreholes.

Bagshot Beds The Bagshot Beds are up to 140 m thick. Typically they are yellow, brown and grey sands and silts with grey and white clays. The sands are coarse-grained and contain thin gravel seams in the west of the district; in the east they are usually medium-grained. In the east of the district, also, the Bagshot Beds rest with apparent conformity on the London Clay, but farther west they are transgressive and overstep the London Clay and Reading Beds to rest directly on the Upper Chalk, as at Bincombe Down [678 857].

Although many of the sands within the Bagshot Beds fall within the broad classification of 'mineral' and have been worked in association with overlying Drift deposits, they have not been included in this assessment survey which is confined to the Drift deposits.

Ball clays from the Bagshot Beds are worked around Wareham. The fine-grained highly plastic nature of the clays, coupled with their excellent firing characteristics, have made them ideal for the manufacture of pottery and refractories. Extraction is by mining and open-cast methods. Bagshot Beds were recorded in 69 IMAU boreholes.

Drift

Clay-with-flints Clay-with-flints has been mapped only in the north-west corner of the district, at Higher Barn [661 949], where a small patch rests on Upper Chalk. The deposit consists of brown sandy clay with scattered flint pebbles and is of uncertain age and origin.

Plateau Gravel The Plateau Gravel occurs as resistant cappings on many of the hills and ridges of the district. The deposits are commonly 2 to 3 m thick, comprising an open framework of coarse and fine gravel with an infiltrated sand matrix. Thin impersistent cross-bedded sand lenses up to 0.5 m thick occur within the gravels and large-scale foreset beds up to 1 m high are also present. The upper part of the deposit is commonly cryoturbated; frost-induced involutions have commonly destroyed all trace of sedimentary structures, and fines from the overlying loams and Head deposits have been incorporated into the top of the gravel. The weathering of flint pebbles near the surface has left many with a porous white crust (patina).

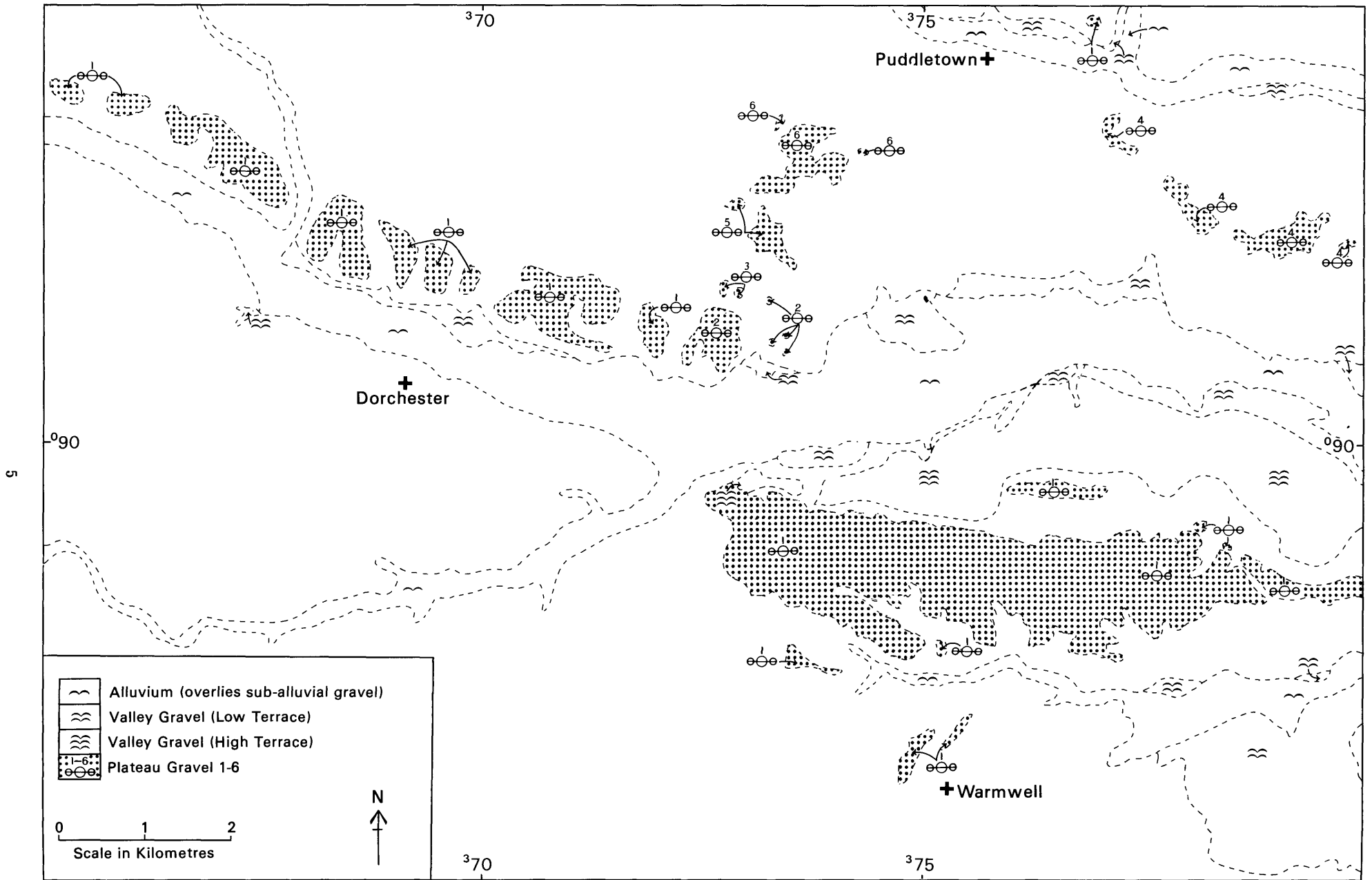


Figure 4 Principal Drift deposits of the Dorchester area (western sheet).

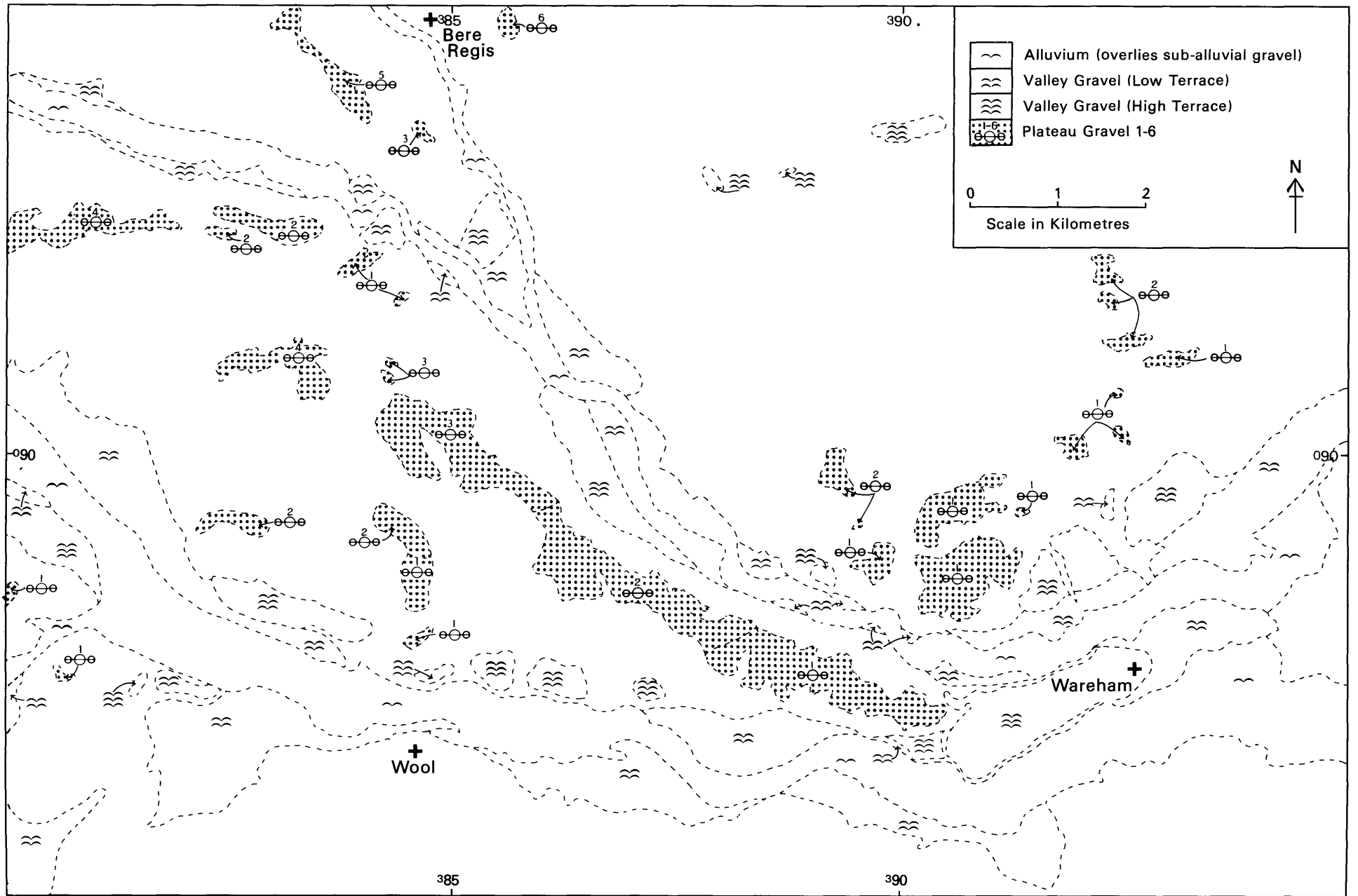


Figure 5 Principal Drift deposits of the Wareham area (eastern sheet).

The Plateau Gravel is thought to be mainly of fluvial origin. It was proved at a range of heights within the district. Assuming past river gradients were comparable to those of the present, and that the deposits represent successive flood plains, then six major levels of decreasing altitude can be recognised. These are shown in Figures 4 and 5. The lowest spread of sand and gravel deposits demonstrates an accordance of level of about 35 m above the present-day floodplain and the highest level, exposed on Beacon Hill [740 936], lies some 80 m above the present floodplain of the Frome.

The Plateau Gravel may be the product of aggradation in a braided stream environment. Most of the clasts are locally derived, probably by fluvial reworking of Head deposits. The unabraded nature of many of the flint pebbles indicated that transport was limited.

The age of the Plateau Gravel is uncertain. Pits near Moreton [805 893], in Level 1 of the Plateau Gravel (the lowest of the six levels, see Figure 5), have yielded Palaeolithic flint implements thus giving a maximum age for this deposit.

The deposits have been extensively worked for aggregate particularly where they overlie bedrock sands; in such areas the pits are better-drained and the bedrock sands can be worked in conjunction with the Plateau Gravel. Plateau Gravel was proved in 22 of the IMAU boreholes.

Valley Gravel The Valley Gravel deposits of the district are located mainly along the Frome and Piddle rivers. They are separated on the basis of morphological mapping into three levels: sub-alluvial gravels (which lie beneath floodplain deposits), and lower and upper terrace gravels (Figures 4 and 5). The lower terrace gravels form a feature 1 to 3 m above the present floodplain; the upper terrace lies 5 to 10 m above the floodplain and is commonly separated from lower deposits by a narrow bedrock bluff. Both terraces have a gradient similar to that of the existing floodplain. The Valley Gravel deposits were deposited by the rivers in aggradational phases, and much of the material may have been reworked from higher-level gravels (Plateau Gravel).

The Valley Gravel is mostly unworked commercially, although extraction has recently commenced in the vicinity of Buddens Farm [872 894] in the Piddle valley. The Valley Gravel deposits were proved in 83 IMAU boreholes as part of this assessment programme.

Alluvium The Alluvium consists of silt and clay in varying proportions and occurs on the floodplains of the Frome and Piddle rivers. Alluvium is commonly interbedded with peat and has a maximum proven thickness of 2.0 m in borehole SY 88 NW 42.

Estuarine deposits Estuarine deposits comprising muds occur below the Mean High Water Mark at the head of Poole harbour in the extreme east of the district. The deposits were not investigated as part of this assessment.

Peat Peat occurs mainly in the lower reaches of the Frome and Piddle valleys near Wareham [923 874] and in poorly drained depressions on the Bagshot Beds, for example at Decoy Heath [915 910]. It attains a maximum recorded thickness of 4.2 m in borehole SY 98 NW 16, where it is interbedded with Alluvium. Peat constitutes the major overburden in resource block F, where the Valley Gravel is concealed beneath an average of 2.0 m of overburden deposits.

COMPOSITION OF THE SAND AND GRAVEL DEPOSITS
The aggregate resources assessed in this report consist of Valley Gravel and Plateau Gravel deposits (Figures 4 and 5). Although some parts of the bedrock, for example the Tertiary sand, satisfy the criteria for mineral (see

page 1) no quantitative assessment of these deposits has been attempted. Nevertheless, brief descriptions and mean gradings of the bedrock sands proved in IMAU boreholes are given below. Further details of these sands may be found in the borehole logs (Appendix E).

Reading Beds Of the total thickness of Reading Beds proved by assessment boreholes, 45 per cent is classified as 'clayey' sand or 'clayey' pebbly sand (see Appendix C) with an overall mean grading of 16 per cent fines, 82 per cent sand and 2 per cent gravel (see Figure 6). The maximum thickness of mineral encountered was 7.3 m+ of 'clayey' sand in borehole SY 79 SE 3. The gravel content of the Reading Beds sands occurs as thin seams of well rounded coarse and fine flint pebbles. The sand fraction is dominantly medium-grained with small amounts of coarse and fine material; it is composed mostly of subrounded quartz with some angular to subangular coarse flint.

London Clay The London Clay encountered in assessment boreholes grades exclusively as mineral with a mean grading of fines 9 per cent, sand 86 per cent and gravel 5 per cent (Figure 6). The gravel fraction occurs as thin seams of well rounded and subangular coarse and fine flint pebbles. The sand content is mostly medium and fine subrounded quartz, with some coarse angular to subangular flint.

Bagshot Beds About half of the samples of Bagshot Beds from assessment boreholes grade as 'clayey' sand, sand or pebbly sand, with an overall mean grading of fines 9 per cent, sand 90 per cent and gravel 1 per cent (Figure 6). The gravel fraction is mostly composed of well rounded flint and rounded quartz of fine-gravel size (+4-16 mm) occurring as thin pebble beds which become more numerous in the west of the district. The sand fraction is dominantly medium-grained with small amounts of coarse and fine quartz, and with some subangular coarse flint. The sands of the Bagshot Beds in this area commonly contain lignitic debris and locally become indurated with interstitial iron to form 'hard pans'. The maximum thickness of sand encountered was 18.2 m+ in borehole SY 89 SE 4.

Plateau Gravel Plateau Gravel was proved in 22 IMAU boreholes and was examined in numerous pit sections; in many areas these deposits have been almost completely worked out. The mean grading of samples from this deposit is fines 10 per cent, sand 33 per cent and gravel 57 per cent (Figure 6). The fines content of the gravel is extremely variable and in some boreholes the deposits pass into non-mineral clay with pebbles, for example in borehole SY 98 NW 8, where 1.6 m of 'very clayey' sandy gravel overlies 1.0 m of clay with scattered flint pebbles.

The mean composition of the gravel fraction is given in Figure 7 which shows that grey, brown and black angular to subangular flint comprises 90 per cent of the pebbles; rounded quartz, well rounded flint, subangular to rounded ironstone and traces of chalk and sandstone account for the remainder. In several boreholes these lesser components may account for between 15 and 20 per cent of the gravel. The sand fraction is mostly medium grained with some coarse and fine quartz, and some subangular coarse flint. The average thickness of these deposits proved in IMAU boreholes is 2.1 m with a maximum recorded thickness of 3.7 m in borehole SY 79 SW 33.

Valley Gravel Valley Gravel was proved in 83 boreholes; it has a mean grading of fines 7 per cent, sand 39 per cent and gravel 54 per cent. Most of the bulk samples graded as gravel. Significant thicknesses of alluvial sand were found overlying the Valley Gravel in a few boreholes, for example borehole SY 79 SE 2, where 2.2 m of 'very clayey' sand is present. Commonly lenses of sand and more locally thin silt and peat layers occur within

Table 2 Variation with depth in the percentage by weight of chalk in the fine gravel fraction of the Valley Gravel in some IMAU boreholes.

Depth below surface (m)	Percentage by weight of chalk
78 NW 12	
0.6-1.6	0
1.6-2.6	trace
2.6-3.6	18
3.6-5.0	14
5.0-6.5	11
79 SE 10	
0.5-1.5	1
1.5-2.5	5
2.5-3.5	13
3.5-4.5	9
4.5-5.5	8
5.5-6.2	14
79 SE 7	
1.1-2.1	5
2.1-3.1	19
3.1-4.1	9
4.1-5.1	14
5.1-6.1	16
6.1-6.7	
79 SW 28	
0.3-1.3	0
1.3-2.3	0
2.3-3.3	trace
3.3-4.3	2
4.3-5.3	7
5.3-6.3	10
69 SE 18	
0.1-1.1	0
1.1-2.1	0
2.1-3.1	2
3.1-4.1	1
4.1-5.1	7
69 SE 15	
0.7-1.7	0
1.7-2.7	1
2.7-3.7	18

the mineral, which has a mean thickness in assessment boreholes of 2.7 m, with a maximum of 7.1 m recorded in borehole SY 79 SW 35. The mean composition of the gravel fraction is shown in Figure 7. The major component is angular to subangular grey, brown and black flint with some subrounded to rounded quartz, rounded to well rounded flint, rounded chalk and subrounded ironstone with traces of sandstone.

The sand fraction is generally medium-grained with some coarse and fine material. Quartz, usually subrounded to rounded, is dominant with some subangular coarse flint.

Regional variation in the composition of the gravel fraction of the Valley Gravel and Plateau Gravel deposits

The distribution of the minor components of the flint-dominated deposits is closely related to the local bedrock. No significant variation of gravel composition with elevation was noticed.

Chalk is present in appreciable amounts only in Valley Gravel deposits lying directly upon Upper Chalk. The chalk content decreases near the surface of the deposits, probably owing to decalcification by solution (Table 2). Well rounded flint (probably the result of

several cycles of erosion) and vein-quartz pebbles derived from thin pebble beds of the Tertiary deposits are almost completely absent from gravels lying on Chalk. The vein quartz content increases towards the east, reflecting the progressively larger area of Tertiary bedrock contributing clasts to the deposits. The ironstone is generally sparse but locally it becomes more abundant in gravels resting on sands of the Bagshot Beds which contain thin iron-indurated layers. Small amounts of friable sandstone from the Upper Greensand are present in the Valley Gravel deposits of the River Frome near Dorchester [693 908]; they are derived from farther upstream beyond the Chalk outcrop.

The close correlation between bedrock lithology and variation in proportions of the minor components in the gravel fraction reflects derivation from local outcrops. Flint, the dominant component, is derived from nodules in the Middle and Upper Chalk and the sporadic clasts of chert are derived from the Upper Greensand.

THE MAPS

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

Geological data The geological boundaries show the best interpretation of the information available at the time of survey. Borehole data, which include the stratigraphic relations and mean particle size distribution of the sand and gravel samples collected during the assessment survey, are also shown.

Mineral resource information The mineral-bearing ground is divided into resource blocks (see Appendix A). Within a resource block the mineral is subdivided into areas where it is exposed, that is where overburden averages less than 1 m in thickness, and areas where it is present in continuous or almost continuous spreads beneath overburden. The 'discontinuous' mineral category has not been recognised in this area.

Areas where bedrock crops out, where boreholes indicate absence of sand and gravel beneath cover and where sand and gravel beneath cover is interpreted as being not potentially workable, are uncoloured on the map; where appropriate the relevant criterion is noted. In such cases 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. Expanses of unassessed sand and gravel, for example in built-up areas, are indicated by a red stipple.

The area of the sand and gravel has been measured, where possible, 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. Inferred boundaries have been inserted where the mean overburden thickness exceeds 1 m, or sand and gravel is interpreted to be not potentially workable or absent. Such boundaries (for which a distinctive symbol is used) are drawn primarily for the purpose of volume estimation. The 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.

Worked areas

The approximate extent of known sand and gravel workings to the end of 1978 is shown on the map; active and disused workings are indicated; they include areas which have been returned to agricultural use and areas partly backfilled with refuse and waste material.

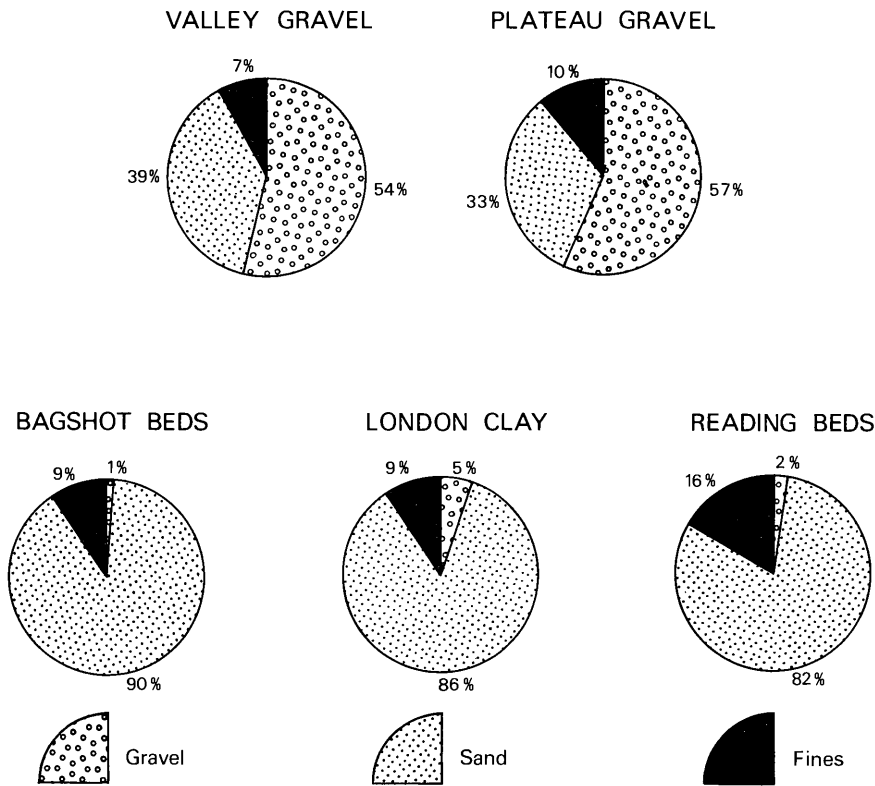


Figure 6 Mean grading of the deposits containing mineral in IMAU boreholes.

RESULTS

The statistical results of this assessment are summarised in Table 3. There are six resource blocks, lettered A to F, which are assessed separately, using the data from IMAU boreholes shown in Tables 4-9 respectively and other information. For each block the mean percentage weight passing in each particle size category is illustrated graphically in Figure 8. For the whole area, the mean grading of the Valley Gravel and the Plateau Gravel is shown in Figure 6.

Supplementary information has been obtained from the IGS records and records provided by the sand and gravel industry, many of which are held in confidence.

The resource survey has been carried out using 166 sample points. For methods of resource assessment, see Appendix A.

Accuracy of results For the six resource blocks which include Valley Gravel and Plateau Gravel deposits, the limits of error of the results at the symmetrical 95 per cent probability level vary between 14 per cent and 28 per cent (that is, it is probable that nineteen times out of twenty the true volume present lies within these limits). However, the true values are more likely to be nearer the figures estimated than the limits. Moreover, it is probable that in each block roughly the same percentage limits would apply for the estimate of volume of a very 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 part of a block, it can be expected that data from more than 10 sample points will be required, even if the area is quite small. This point can be illustrated by considering the whole of the potentially workable sand and gravel on this sheet. The volume (201 million m³) can be estimated to limits of ± 8 per cent at the 95 per cent probability level, by a calculation based on the data from 166 sample points spread across the six resource blocks.

However, it must be emphasised that the quoted volume of sand and gravel has no simple relationship with 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 the land for mineral working.

NOTES ON THE RESOURCE BLOCKS

Within the survey area an assessment has been made of the main sand and gravel-bearing Drift (Quaternary) deposits. Exposed Tertiary bedrock sands and those present beneath sand and gravel Drift deposits have not been assessed, though details of thicknesses and grading of Tertiary bedrock sands encountered in IMAU boreholes have been recorded and are included in the borehole logs (see Appendix E). Block boundaries have been chosen which encompass areas of sand and gravel of similar characteristics. The Plateau Gravel deposits are described in block A and the Valley Gravel deposits in blocks B-F.

Block A

Block A occupies an area of 229.4 km², of which 13.6 km² is mineral-bearing and some 4.4 km² is worked-out ground. The mineral of this block consists entirely of Plateau Gravel deposits. The block occupies the higher ground of the district and excludes Valley Gravel deposits which are described in blocks B-F.

The assessment of resources is based primarily on information from 31 IMAU boreholes (Table 4) with supplementary data from one Hydrogeology Unit borehole record, 3 commercial boreholes and 13 measured pit sections. Of the 31 IMAU boreholes, 21 proved potentially workable sand and gravel.

The mean proved thickness of mineral in the block is 2.2 m with a range from 0.7 m in borehole 88 NE 11 to 3.7 m in borehole 79 SE 33. The mean grading is fines 12 per cent, sand 38 per cent and gravel 50 per cent. Only 5 of the 21 IMAU boreholes proved mineral with a mean fines content of less than 10 per cent. Many of the

Table 3 Statistical assessment of the sand and gravel resources of the country between Dorchester and Wareham, Dorset: summary of statistical results.

Block	Area			Mean thickness		Volume of sand and gravel			Mean grading percentage		
	Block	Mineral	Worked out ground	Mineral	Waste	Limits at the 95% probability level			Fines	Sand	Gravel
	km ²	km ²	m	m	m	m ³ × 10 ⁶	± %	± m ³ × 10 ⁶	-½ mm	+½ -4 mm	+4 mm
A	229.4	13.6	4.4	0.5	2.2	30	14	4	12	62	26
B	11.6	10.7	0	0.5	3.6	39	28	11	8	54	38
C	15.9	15.6	0.1	0.9	2.9	45	19	9	6	66	28
D	8.8	8.5	0.2	0.6	2.8	23	26	6	4	63	33
E	16.2	15.1	0	0.7	2.2	33	16	5	7	73	20
F	12.5	12.0	0	2.0	2.6	31	21	6	5	68	27
Built up	4.4										
Estuary	1.2										
Total	300.0	75.5	4.7	0	2.7	201	8	16			

Table 4 Block A: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
	Mineral	Overburden/	Fines	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel
			-½ mm	+½ -¼ mm	+¼ -1 mm	+1 -4 mm	+4 -16 mm	+16 -64 mm
68 NE 38	absent							
69 SE 11	0.9	1.5	14	20	11	4	19	32
69 SE 14	2.8	0.3	11	6	13	8	24	38
69 SE 17	1.2	1.5	15	6	13	5	20	41
78 NW 11	absent							
78 NW 13	1.7	0.1	16	11	23	8	21	21
78 NW 14	3.5	1.1	12	5	21	13	29	20
78 NW 16	2.9	1.2	7	7	27	11	28	20
78 NW 17	1.2	0.8	11	6	31	9	17	26
78 NE 7	1.6	0.3	6	3	22	16	25	28
78 NE 8	absent							
79 SW 27	3.4	0.6	9	6	12	7	27	39
79 SW 30	absent							
79 SW 31	2.7	0.3	17	14	20	8	19	22
79 SW 32	3.0	0.3	10	3	18	14	24	31
79 SW 33	3.7	0.3	14	4	17	15	23	27
79 SE 3	absent							
79 SE 11	1.5	0.0	14	6	18	12	26	24
88 NW 41 ^a	1.2	0.3	22	11	54	9	1	3
88 NW 41 ^b	2.3	0.0	3	3	29	20	24	21
88 NE 11	0.7	0.7	15	14	12	11	21	27
89 SW 5	1.5	0.3	20	11	23	10	20	16
89 SW 7	absent							
89 SW 10	1.9	0.4	23	3	17	10	20	27
89 SW 12	absent							
89 SW 14	absent							
98 NW 8	1.6	0.3	32	4	18	14	19	13
98 NW 19	1.7	0.2	7	5	20	15	26	27
99 SW 2	1.1	0.3	19	4	19	17	23	18
99 SW 4	absent							
89 SW 11	3.4	0.5	10	5	17	12	29	27
Overall mean grading			12	6	20	12	24	26

a Upper bed of mineral.

b Lower bed of mineral.

Table 5 Block B: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
			Fines		Fine sand	Medium sand	Coarse sand	Fine gravel
	Mineral	Overburden	- $\frac{1}{16}$ mm	+ $\frac{1}{16}$ - $\frac{1}{4}$ mm	+ $\frac{1}{4}$ - 1 mm	+1 - 4 mm	+4 - 16 mm	+16 mm
68 NE 37	absent							
68 NE 39	1.7	0.1	18	3	7	5	17	50
69 SE 12	2.0	0.8	4	9	15	8	27	37
69 SE 13	1.0	1.3	19	11	15	9	21	25
69 SE 15	3.0	0.7	5	4	9	10	32	40
69 SE 16	3.0	0.5	3	4	10	9	30	44
69 SE 18	5.0	0.1	12	4	13	9	26	36
78 NW 10	3.5	0.2	12	3	11	12	24	38
78 NW 12	5.9	0.6	8	1	9	16	27	39
79 SW 28	6.0	0.3	5	3	10	10	28	44
79 SW 29	2.8	0.0	17	5	12	6	26	34
79 SW 34	2.3	1.7	2	2	10	12	24	50
79 SW 35	1.3	0.3	11	19	63	7	0	0
79 SW 35	5.8	0.7	1	1	19	16	26	37
79 SW 36	3.0	1.0	9	4	11	10	33	33
Overall mean grading			8	4	13	11	26	38

Table 6 Block C: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
			Fines		Fine sand	Medium sand	Coarse sand	Fine gravel
	Mineral	Overburden	- $\frac{1}{16}$ mm	+ $\frac{1}{16}$ - $\frac{1}{4}$ mm	+ $\frac{1}{4}$ - 1 mm	+1 - 4 mm	+4 - 16 mm	+16 mm
78 NW 15	1.7	0.7	8	7	18	12	25	30
78 NE 6	1.7	0.3	9	3	25	16	25	22
78 NE 12	2.1	1.4	2	3	34	18	14	29
79 SE 2 ^a	2.2	0.4	36	8	46	6	3	1
79 SE 2 ^b	2.8	0.0	4	4	20	16	22	34
79 SE 5	3.3	1.3	3	1	13	15	29	39
79 SE 6	2.9	1.4	6	4	33	17	21	19
79 SE 8	1.0	1.3	16	8	50	12	9	5
79 SE 9	3.0	0.9	4	3	26	22	22	23
79 SE 12	3.9	0.3	3	3	25	16	24	29
79 SE 14	2.3	1.5	2	2	9	7	25	55
79 SE 15	2.9	0.0	4	4	18	13	25	36
79 SE 16	1.8	0.3	3	5	24	13	21	34
88 NW 31	1.2	1.6	2	1	21	11	32	33
88 NW 32	3.2	0.9	1	1	15	13	33	37
88 NW 34	2.8	0.2	3	2	38	25	15	17
88 NW 39	2.0	0.4	4	2	53	14	12	15
89 SW 6 ^a	1.0	0.6	10	14	73	3	0	0
89 SW 6 ^a	1.0	0	2	2	19	13	24	40
Overall mean grading			6	3	27	15	21	28

a Upper bed of mineral.

b Lower bed of mineral.

Table 7 Block D: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
			Fines	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel
	Mineral	Overburden	$-\frac{1}{8}$ mm	$+\frac{1}{8} - \frac{1}{4}$ mm	$+\frac{1}{4} - 1$ mm	$+1 - 4$ mm	$+4 - 16$ mm	$+16$ mm
79 SE 1	5.2	0.3	4	1	12	13	35	35
79 SE 4	2.9	0.1	22	3	11	7	23	34
79 SE 7	5.6	1.1	6	1	12	10	30	41
79 SE 10	5.7	0.5	2	1	13	12	31	41
79 SE 13	6.0	0.0	6	3	13	9	30	39
88 NE 12	3.0	0.8	9	12	42	11	12	14
89 SW 3	1.0	2.6	6	1	11	12	28	42
89 SW 4	2.0	0.8	3	2	17	13	34	31
89 SW 8	6.0	0.5	2	2	19	12	33	32
89 SW 9	5.8	0.2	5	2	17	10	31	35
89 SW 13	1.2	0.3	12	10	19	12	19	28
89 SE 1	1.8	0.5	9	3	12	9	29	38
89 SE 2	1.6	1.3	10	4	19	10	23	34
89 SE 4	0.6	0.2	5	13	38	9	14	21
89 SE 5	2.0	0.6	6	4	47	10	13	20
89 SE 6	2.0	0.2	1	1	25	16	27	30
89 SE 7	2.6	0.4	6	5	22	18	28	21
99 SW 1	1.7	0.6	21	11	38	9	11	10
Overall mean grading			4	4	22	11	26	33

Table 8 Block E: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
			Fines	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel
	Mineral	Overburden	$-\frac{1}{8}$ mm	$+\frac{1}{8} - \frac{1}{4}$ mm	$+\frac{1}{4} - 1$ mm	$+1 - 4$ mm	$+4 - 16$ mm	$+16$ mm
78 NE 9	1.0	0.3	14	5	25	6	14	36
78 NE 10	0.5	0.5	18	5	37	29	7	4
78 NE 11	1.3	0.7	17	15	48	6	7	7
78 NE 13	1.4	0.4	6	5	34	10	18	27
78 NE 14	1.0	0.3	3	3	22	9	19	44
78 NE 15	0.7	0.3	16	13	53	5	7	6
88 NW 33	2.5	0.1	14	8	24	4	16	34
88 NW 36	3.0	0.5	2	2	23	14	22	37
88 NW 37	2.0	2.3	5	9	34	7	14	31
88 NW 38	2.2	0.2	17	15	48	8	4	8
88 NW 40	2.3	0.4	5	1	20	17	26	31
88 NW 42	1.7	2.5	1	3	25	11	28	32
88 NE 2	3.0	0.7	6	7	22	10	22	33
88 NE 3	2.6	0.7	4	3	33	24	19	17
88 NE 4	2.0	0.8	6	6	31	14	25	18
88 NE 5	2.0	2.0	5	3	21	12	20	39
88 NE 7	2.3	0.6	7	2	18	15	24	34
88 NE 8	2.0	0.9	6	1	18	20	24	31
88 NE 10	4.0	0.2	4	4	20	18	28	26
98 NW 11	6.2	0.2	5	13	31	12	12	27
Overall mean grading			7	7	27	13	26	20

Table 9 Block F: data from IMAU boreholes.

Borehole number	Recorded thickness (m)		Mean grading percentage					
			Fines	Fine sand	Medium sand	Coarse sand	Fine gravel	Coarse gravel
	Mineral	Overburden	- $\frac{1}{8}$ mm	+ $\frac{1}{8}$ - $\frac{1}{4}$ mm	+ $\frac{1}{4}$ - 1 mm	+1 - 4 mm	+4 - 16 mm	+16 mm
88 NE 6	2.6	1.1	4	3	38	15	24	16
88 NE 9	2.1	1.9	1	3	28	19	17	32
98 NW 6	2.3	1.7	1	5	21	17	22	34
98 NW 7	1.7	1.2	2	5	23	17	25	28
98 NW 9	2.5	0.8	5	8	22	14	24	27
98 NW 10	2.4	1.8	6	3	26	11	24	30
98 NW 12	0.9	4.8	8	2	13	19	22	36
98 NW 13	1.4	4.5	9	7	33	16	18	17
98 NW 14	3.2	0.2	12	7	24	14	19	24
98 NW 15	2.5	0.7	6	8	32	15	15	24
98 NW 16 ^a	1.0	5.0	4	27	67	1	0	1
98 NW 16 ^b	4.0	0	4	6	19	11	23	37
98 NW 17	2.2	1.1	1	3	34	12	20	30
98 NW 18	2.8	1.1	7	3	24	14	24	28
99 SW 3	2.1	2.7	4	7	32	18	19	20
Overall mean grading			5	5	28	14	21	27

- a Upper bed of mineral.
- b Lower bed of mineral.

PLATEAU GRAVEL

VALLEY GRAVEL

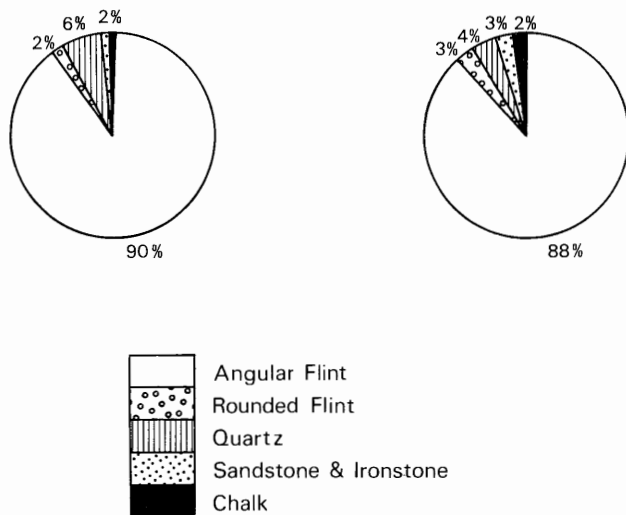


Figure 7 Mean composition of the gravel fraction (+4 mm) of the mineral deposits, based on pebble counts of IMAU borehole samples.

samples were recovered by 'dry' drilling yielding realistic grading results for the deposits with no significant fines loss. Overburden consists mainly of soil and pebbly clay with a mean thickness of 0.5 m. The pebbly clays commonly developed on the gravel are believed to be Head deposits. The thin and discontinuous nature of these deposits results in their inclusion in the Plateau Gravel category rather than as a separately mapped geological unit.

The Plateau Gravel outcrops north of Dorchester are presumed to be the remnants of a gently inclined sheet of gravel. The presence of >2.5 m of potentially workable material in some boreholes (for example, 69 SE 11 and 79 SE 27) and of pebbly clay overburden >1.0 m thick in others (for example, 69 SE 11 and 17)

suggests that the outcrop consists of a gravel sheet modified by mass movement. Similar mass movement on Beacon Hill [740 936] has reduced the area of potentially workable mineral.

The two elongate outcrops of Plateau Gravel between West Stafford [725 894] and Moreton Heath [802 884] and Bere Heath [843 910] and Worgret [905 871] have been extensively exploited. The former outcrop forms a single sheet with a gradient comparable to that of the present floodplain, whereas the gravel of the latter outcrop forms three distinct levels. The gravels forming these two outcrops are commonly over 2.5 m thick. The small Plateau Gravel outcrops north of Wareham are formed by thinner gravels (less than 2.0 m) and have been practically worked out on Carey Heath [907 885].

Ten of the IMAU boreholes in the block did not encounter Plateau Gravel deposits. Descriptions and gradings of any bedrock sands proved during this survey are included in the borehole logs (Appendix E).

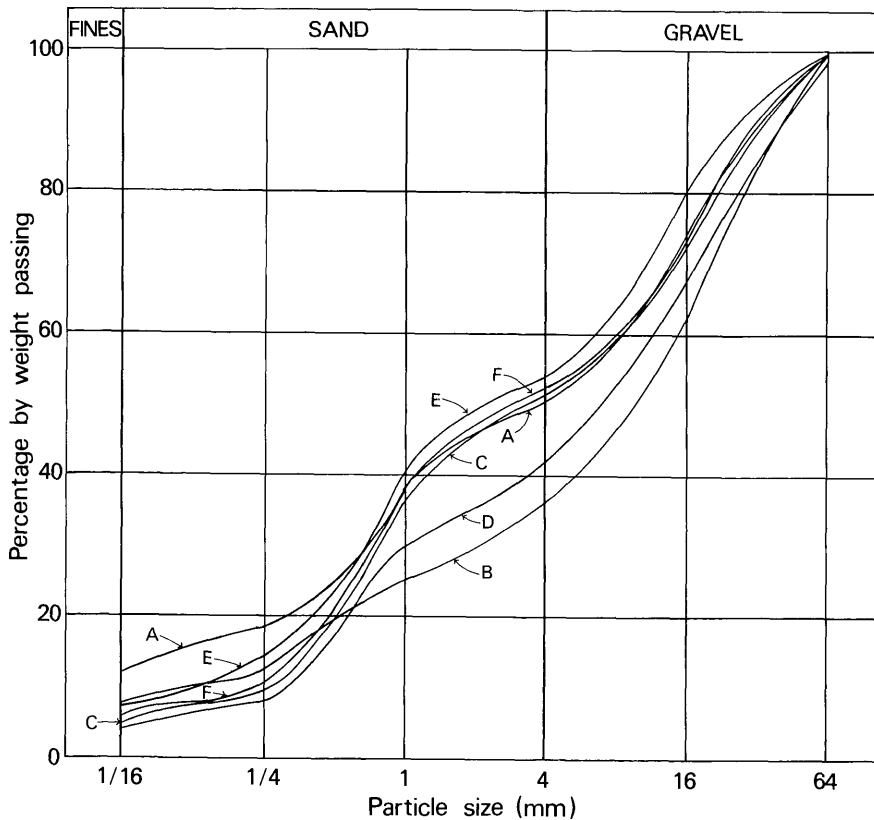
The estimated volume of mineral in this block is 30 million m³ ± 14 per cent (4 million m³).

Block B

This block has an area of 11.6 km², of which 10.7 km² is mineral-bearing. The mineral consists entirely of Valley Gravel deposits of the Frome and its tributaries the South Winterborne and Cerne.

Inferred boundaries have been drawn across these tributary valleys where the deposits are considered to become too thin or 'clayey' to be classified as mineral. Much of the infill of these valleys is of Head deposits which have undergone only limited fluvial reworking; even where reworking is evident, it is, in many cases, insufficient to have removed significant amounts of fines.

The assessment of resources is based on information from 14 IMAU boreholes (Table 5), of which 13 encountered mineral deposits, and 1 Hydrogeology Unit borehole record. Eleven of the IMAU boreholes proved Upper Chalk as bedrock. The mean proved thickness of mineral in the block is 3.6 m, with individual thicknesses ranging from 1.0 m in borehole 69 SE 13 to 7.1 m in borehole 79 SW 35. The weighted mean grading of the mineral is fines 8 per cent, sand 28 per cent and gravel 64 per cent.



Resource block	Percentage by weight passing					
	1/16 mm	1/4 mm	1 mm	4 mm	16 mm	64 mm
A	12	18	38	50	74	99
B	8	12	25	36	62	99
C	6	9	36	51	72	99
D	4	8	30	41	67	98
E	7	14	41	54	80	99
F	5	10	38	52	73	99

Figure 8 Particle-size distribution for the assessed thickness of mineral in resource blocks A to F.

Most of the mineral grades as gravel, but the thinner deposits of the South Winterbourne and Cerne valleys commonly grade as 'clayey' gravel. The overburden is generally thin and has a mean thickness of 0.5 m. Exceptionally, 1.7 m of alluvial silt was proved overlying gravel in borehole 79 SW 34.

The estimated volume of mineral for the block is 39 million m³ ± 28 per cent (11 million m³).

Block C

This block occupies 15.9 km², of which 15.6 km² is mineral-bearing; 0.1 km² of mineral has been worked out near Pallington [784 912]. The mineral comprises terrace and sub-alluvial Valley Gravel deposits.

The assessment of resources is based on 17 IMAU boreholes (Table 6), 1 Hydrogeology Unit borehole record and 2 commercial boreholes. The mean proved thickness of mineral in the block is 2.9 m and the range from 1.0 m in borehole 79 SE 8 to 5.0 m in borehole 79 SE 2. The mean grading of the mineral is fines 6 per cent, sand 45 per cent and gravel 49 per cent.

The overburden comprises soil and Alluvium and, although several boreholes proved >1.0 m of overburden, the mineral in the block is nevertheless classified as 'exposed' since the mean overburden thickness is 0.9 m.

The estimated volume of mineral for the block is 45 million m³ ± 19 per cent (9 million m³).

Block D

The block occupies 8.8 km² of ground, of which 8.5 km² is mineral-bearing and 0.2 km² is worked out.

The mineral deposits of this block comprise Valley Gravel deposits of the Piddle valley and its tributary Bere Stream. The gravels occur as sub-alluvial and terrace gravels. The latter become more extensively developed downstream.

The assessment of resources is based on information from 18 IMAU boreholes (Table 7) all of which proved mineral, and 6 commercial boreholes.

The mean proved thickness of mineral in the block is 2.8 m with a range from 0.6 m in borehole 89 SE 4 to 6.0 m in boreholes 79 SE 13 and 89 SW 8.

Six boreholes in the Piddle valley between Puddletown [757 943] and Cecily Bridge [839 928] proved mineral thicknesses in excess of 5.0 m, reflecting the incision of the valley into the chalk bedrock followed by substantial aggradation. The mean grading for the mineral is fines 4 per cent, sand 37 per cent and gravel 59 per cent. The low fines content may be due to fines loss during 'wet' drilling below the water table.

The overburden of soil and Alluvium has a mean thickness of 0.6 m. Exceptionally 2.6 m of pebbly clay overlies 1.0 m of gravel in borehole 89 SW 3. This borehole was drilled near the back of a terrace whose deposits are overlain by Head deposits.

The estimated volume of mineral in the block is 23 million m³ ± 26 per cent (6 million m³).

Block E

This block occupies an area of 16.2 km², of which 15.1 km² is mineral-bearing. The mineral deposits of this block are exclusively Valley Gravel of the Frome and its tributary which flows east from Empool Bottom [742 877] to enter the Frome near Broomhill Bridge [810 882]. An inferred boundary has been drawn across the tributary valley where mineral deposits are calculated to be less than 1.0 m thick. A large area of thin gravel (average thickness 1.2 m) is located on a broad depression adjacent to this tributary south of Galton Heath [786 869]. The position and shape of this deposit does not suggest a typical fluvial origin and its frequently 'clayey' nature suggests that it may have formed by a combination of mass movement from the Chalk together with fluvial reworking by ephemeral, spring-fed streams flowing north from the Chalk out-crop.

The rest of the block contains sub-alluvial and terrace gravels of the main Frome Valley. Downstream towards Wareham [923 874] the Alluvium thickens to over 1.0 m and an inferred boundary has been drawn between the exposed mineral (this block) and concealed mineral deposits (Block F).

The assessment of resources is based on 20 IMAU boreholes (Table 8), 4 Hydrogeology Unit borehole records and 16 commercial boreholes. The mean proved thickness of mineral in this block is 2.2 m; the thicknesses range from 0.5 m in borehole 78 NE 10 to 6.2 m in 98 NW 11. The mean grading is fines 7 per cent, sand 47 per cent and gravel 46 per cent.

The overburden, with a mean thickness of 0.7 m, comprises Peat, soil and Alluvium.

The estimated volume of mineral for the block is 33 million m³ ± 16 per cent (5 million m³).

Block F

This block occupies 12.5 km², of which 12.0 km² is mineral-bearing. The mineral is exclusively Valley Gravel deposits occurring as sub-alluvial and terrace gravel. The built-up area of Wareham [923 874] covers 0.7 km² and is excluded from this block; the deposits sterilised beneath the town have not been assessed.

The exposed mineral to the east and west of Wareham [923 874] lies on an interfluvial ridge; the remainder of the mineral is concealed beneath overburden (Peat and Alluvium) with a mean thickness of 2.3 m and a maximum proven thickness of 5.0 m in borehole 98 NW 16.

The assessment of resources is based on information from 14 IMAU boreholes (Table 9), all of which proved mineral, and 6 commercial borehole records. The mean grading of the mineral is fines 5 per cent, sand 47 per cent and gravel 48 per cent.

The estimated volume of mineral for this block is 31 million m³ ± 21 per cent (6 million m³).

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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 are 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 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.

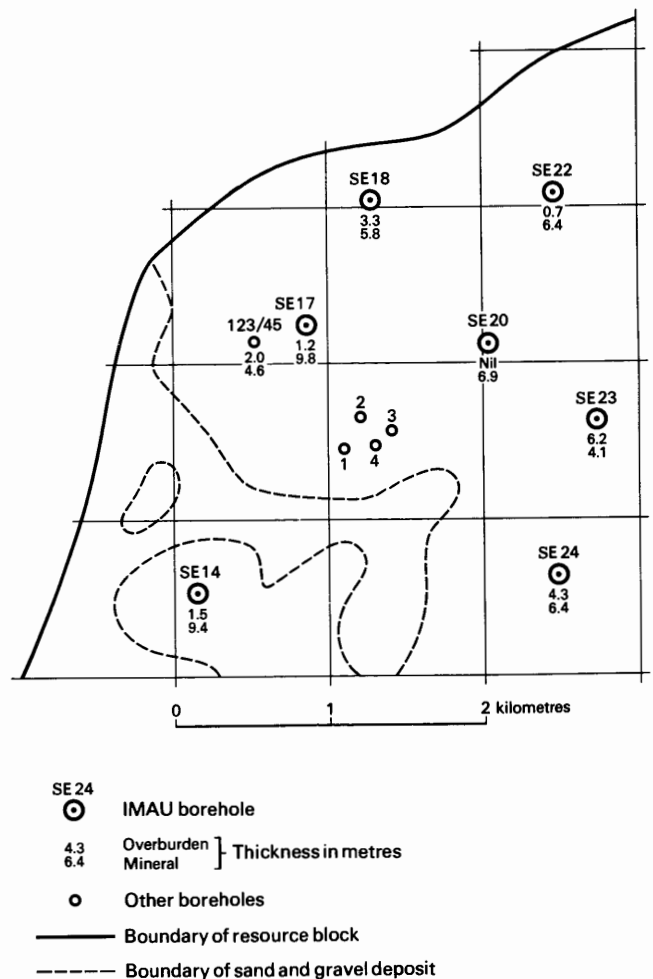
The drilling machine employed should be capable of providing a continuous sample representative of all unconsolidated deposits, so that the in-situ grading can be determined, if necessary, to a depth of 30 m (100 ft) at a diameter of about 200 mm (8 in), beneath different types of overburden. It should 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 (3.3 ft) depth. The samples, each weighing between 25 and 45 kg (55 and 100 lb), are despatched in heavy-duty polythene bags to a laboratory for grading. The grading procedure is based on B.S. 1337 (British Standards Institution, 1967). Random checks of 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 E.

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



Example of resource block assessment: map of a fictitious block

APPENDIX B

STATISTICAL PROCEDURE

Statistical assessment

1 A statistical assessment is made of an area of mineral greater than 2 km², if there are at least 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 (Hull, 1981). Conventional symmetrical confidence limits are calculated for the 95 per cent probability level, that is, on average nineteen out of every twenty sets of limits constructed in this way contain the true value for the volume of mineral.

3 The volume estimate (V) for the mineral in a given block is the product of 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

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

4 The above relationship may be transposed such that

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

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 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 $l_{m1}, l_{m2}, \dots, l_{mn}$, then the best estimate of mean thickness, \bar{l}_m , is given by

$$\Sigma (l_{m1} + l_{m2} \dots l_{mn}) / n.$$

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 $S_{\bar{l}_m}$, expressed as a proportion of the mean thickness, is given by

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

where l_m is any value in the series l_{m1} to l_{mn} .

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 a 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 $S_A / S_{\bar{l}_m} \leq 0.3$ is assumed in all cases. It follows from Equation [2] that

$$S_{\bar{l}_m} \leq S_V \leq 1.05 S_{\bar{l}_m} \quad [3]$$

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).

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 in *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 the accompanying Figure and example of a block calculation.

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 on the basis of 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 needs to 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 with the zone as the weighting factor.

Block calculation

Scale: 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

Thickness estimate (measurements in metres)

l_o = overburden thickness l_m = mineral thickness

Sample point	Weighting w	Overburden		Mineral		Remarks
		l_o	wl_o	l_m	wl_m	
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	$\frac{1}{2}$	1.2	-1.6	9.8	-7.2	Hydrogeology Unit record
123/45	$\frac{1}{2}$	2.0		4.6		
1	$\frac{1}{4}$	2.7	-2.6	7.3	-5.8	Close group of four boreholes (commercial)
2	$\frac{1}{4}$	4.5		3.2		
3	$\frac{1}{4}$	0.4		6.8		
4	$\frac{1}{4}$	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	$ (wl_m - \overline{wl_m}) $	$(wl_m - \overline{wl_m})^2$
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

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

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

$$= 20.3$$

$$\approx 20 \text{ per cent.}$$

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 ($< \frac{1}{16}$ mm) and coarser than pebbles (> 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 considered to be not 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 the accompanying Figure). The procedure is as follows:

- 1 Classify according to the ratio of sand to gravel.
- 2 Describe the 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 Appendix D)

Many differing proposals have been made 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 (see the accompanying table), which is used in the 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 at 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 Standards Institution, 1967). In this report the grading is tabulated on the borehole record sheets (Appendix E), the intercepts corresponding with the simple geometric scale $\frac{1}{8}$ 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 roughly 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 principal 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: not 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.

Classification of gravel, sand and fines

Size limits	Grain-size description	Qualification	Primary classification
64 mm	Cobble		
16 mm	Pebble	Coarse	Gravel
4 mm		Fine	
1 mm		Coarse	
$\frac{1}{4}$ mm	Sand	Medium	Sand
$\frac{1}{8}$ mm		Fine	
	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

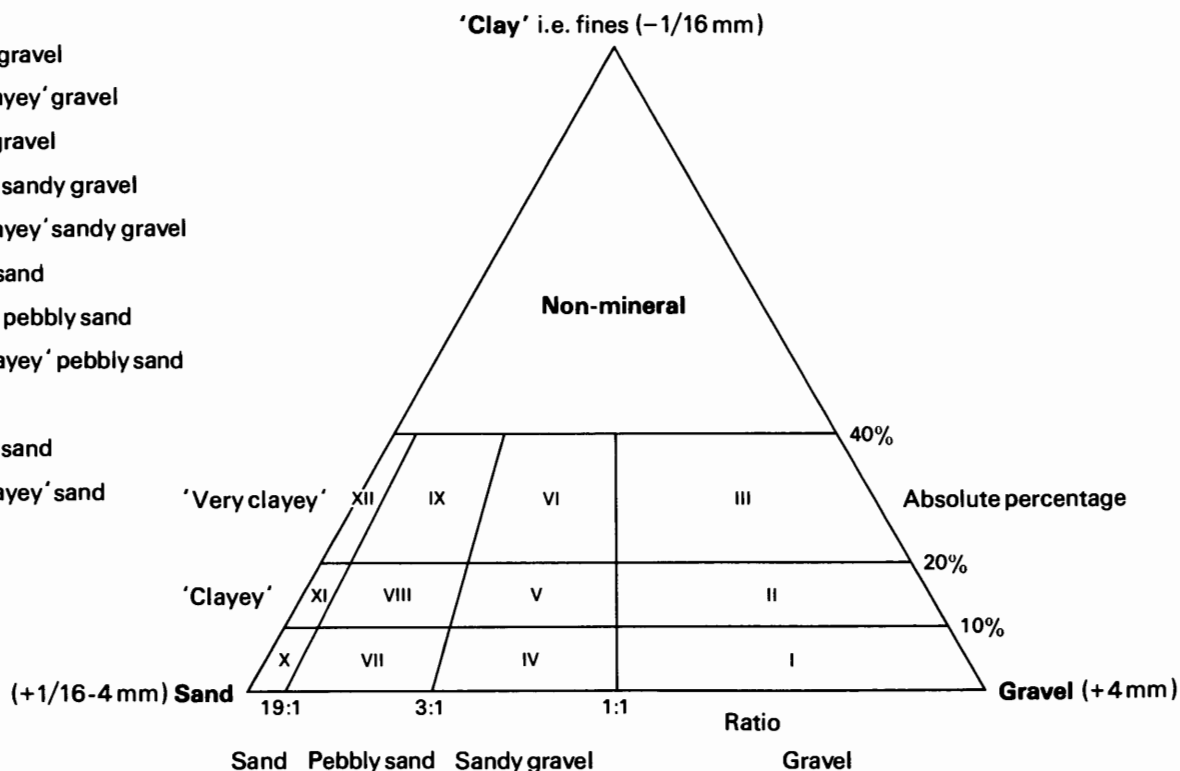


Diagram showing the descriptive categories used in the classification of sand and gravel

**APPENDIX D
EXPLANATION OF BOREHOLE RECORDS**

Annotated example

SY 88 NW 40¹ 8363 8776² Great Perry Coppice, Wool³

Block E

Surface level +16.6 m⁴
Water struck at +15.4 m⁵
Shell (modified) 152 mm diameter⁶
August 1978

Overburden⁷ 0.4 m
Mineral 2.3 m
Bedrock 4.3 m⁸

LOG

Geological classification ¹⁰	Lithology ¹¹	Thickness m	Depth ⁹ m
	Soil, sandy, dark brown	0.4	0.4
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey and black flint with some well rounded black flint and rounded quartz Sand: medium and coarse subrounded quartz	2.3	2.7
Bagshot Beds	b Sand: medium with some fine, subrounded to rounded quartz with some subangular flint	4.3+	7.0

GRADING¹²

	Mean for deposit ¹³ percentages			Depth below ¹⁴ 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
a	5	38	57	0.4-1.4* ¹⁵ 1.4-2.7* Mean	9 2 5	2 1 1	20 21 20	16 17 17	24 27 26	29 32 31	0 0 0
b	4	96	0	2.7-3.7* 3.7-5.7* Mean	3 5 4	9 4 6	86 85 86	1 6 4	0 0 0	1 0 0	0 0 0

COMPOSITION¹⁶

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.4-2.7	93	3	4	0	0	trace

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.

- a) The number of the 1:25 000 sheet on which the borehole lies, for example SY 88.
- b) The quarter of the 1:25 000 sheet on which the borehole lies and its number in a series for that quarter, for example NW 40.

Thus the full Registration Number is SY 88 NW 40. Usually this is abbreviated to 88 NW 40 in the text.

2. The National Grid Reference

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

3. Location

The position of the borehole is generally referred to the nearest named locality, and its parish, on the 1:25 000 base map. The resource block in which it lies is also stated.

4. Surface Level

The surface level at the borehole site is given in metres (rounded to the nearest 0.1 m) above Ordnance Datum.

5. Groundwater Conditions

If groundwater 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 the drilling of the borehole are stated.

7. Overburden, Mineral, Waste and Bedrock

Mineral is sand and gravel which, as part of the 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. The plus sign (+) indicates that the base of the deposit was not reached during drilling.

9. Thickness and Depth

All measurements were made in metres rounded to the nearest 0.1 m because quotation to two places of decimals would imply a higher order of accuracy than could be justified by the original figures.

10. Geological Classification

The geological classification (see Table 1) is given wherever possible. When mineral occurs beneath Alluvium it is assumed to be a Valley Gravel deposit.

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. Grading Results

The limits are as follows: gravel, +4 mm; sand, +4- $\frac{1}{16}$ mm; fines, - $\frac{1}{16}$ mm.

13. Mean Grading

The grading of the full thickness of the mineral horizons identified in the log are the means of the individual sample gradings weighted by the thickness represented, if these vary.

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

14 Sampling

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

15. Bailed Samples

Samples obtained by the bailing technique (that is from deposits below the water table) are indicated by an asterisk (*).

16. Composition

The composition, on a percentage by weight basis of each of the constituents in the +4-16 mm (fine gravel) fraction, is given for selected samples or grouped samples.

APPENDIX E

INDUSTRIAL MINERALS ASSESSMENT UNIT BOREHOLE RECORDS

SY 68 NE 37 6719 8796 Winterborne Monkton Farm, Winterborne Monkton

Surface level +68.3 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block B

Waste 1.6 m
Bedrock 1.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.2	0.2
Valley Gravel	Clay, sandy with flint pebbles	1.4	1.6
Upper Chalk	Chalk, sandy, disturbed at the top	1.4+	3.0

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 mm
49	13	38	0.2-1.6	49	2	6	5	5	22	11

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.2-1.6	94	0	2	trace	3	1

SY 68 NE 38 6783 8577 Bincombe Barn, Bincombe

Surface level +166.0 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block A

Waste 1.0 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	1.0	1.0
Bagshot Beds	'Very clayey' pebbly sand Gravel: coarse and fine angular to subangular brown and grey flint Sand: medium with coarse and fine subrounded quartz, orange-brown	1.0	2.0
	Clay silty, with some flint pebbles and lignitic fragments	2.3+	4.3

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 mm
32	53	15	1.0-2.0	32	9	34	10	8	7	0

SY 68 NE 39 6925 8827 Winterborne Herrington, Winterborne Herrington

Surface level +57.2 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block B

Overburden 0.1 m
Mineral 1.7 m
Bedrock 1.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.1	0.1
Valley Gravel	'Clayey' gravel Gravel: coarse with fine, subangular to subrounded grey and black flint with some rounded quartz Sand: medium and coarse with fine subrounded quartz	1.7	1.8
Upper Chalk	Chalk, with flint pebbles near the top	1.2+	3.0

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 mm
18	15	67	0.1-1.8	18	3	7	5	17	47	3

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.1-1.8	92	0	8	trace	trace	trace

SY 69 SE 11 6599 9373 Higher Wrackelford, Stratton

Surface level +83.1 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block A

Overburden 1.5 m
Mineral 0.9 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Plateau Gravel	Soil, sandy, with flint pebbles, brown	0.2	0.2
	Clay, with flint pebbles, brown	1.3	1.5
	'Clayey' gravel Gravel: coarse and fine subangular to subrounded grey and brown flint with a trace of rounded quartz Sand: fine and medium subrounded quartz, brown	0.9	2.4
Upper Chalk	Chalk	1.0+	3.4

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
14	35	41	1.5-2.4	14	20	11	4	19	32	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.5-2.4	99	0	1	trace	trace	trace

SY 69 SE 12 6583 9319 Bradford Peverell, Bradford, Peverell

Surface level +66.2 m
Water struck at +64.8 m
Shell (modified) 152 mm diameter
October 1978

Block B

Overburden 0.8 m
Mineral 2.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	Soil, clayey, silty, brown	0.8	0.8
	Gravel Gravel: coarse and fine, subangular to subrounded black flint with some rounded quartz Sand: medium with fine and coarse, subrounded quartz with subangular flint	2.0	2.8
Upper Chalk	Chalk	1.0+	3.8

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
4	32	64	0.8-1.8*	4	10	19	8	25	34	0
			1.8-2.8*	5	7	11	8	29	40	0
			Mean	4	9	15	8	27	37	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.8-2.8	95	trace	5	trace	0	trace

SY 69 SE 13 6782 9378 Wood Hill, Charminster

Surface level +68.5 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block B

Overburden 1.3 m
Mineral 1.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Head	Soil, sandy, silty, with flint pebbles	0.5	0.5
	Clay, chalky with flint pebbles	0.8	1.3
Valley Gravel	'Clayey' gravel Gravel: coarse and fine subangular to subrounded grey and black flint with rounded chalk Sand: medium, fine and coarse subrounded quartz, pale brown	1.0	2.3
Upper Chalk	Chalk, weathered at the top	1.0+	3.3

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
19	35	46	1.3-2.3	19	11	15	9	21	25	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.3-2.3	83	0	0	0	16	1

SY 69 SE 14 6721 9328 Sodern, Charminster

Block A

Surface level +85.4 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Overburden 0.3 m
Mineral 2.8 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, dark brown	0.3	0.3
Plateau Gravel	'Clayey' gravel Gravel: coarse and fine, subrounded black flint with some rounded quartz Sand: medium coarse and fine, subrounded quartz	2.8	3.1
Upper Chalk	Chalk	1.0+	4.1

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand			Gravel	
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
11	27	62	0.3-1.3	15	4	10	7	23	37	4
			1.3-2.3	10	8	13	7	22	40	0
			2.3-3.1	8	8	15	9	27	33	0
			Mean	11	6	13	8	24	37	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-3.1	95	0	3	1	0	1

SY 69 SE 15 6747 9256 Wolfeton House, Charminster

Block B

Surface level +61.3 m
Water struck at + 60.0 m
Shell (modified) 152 mm diameter
October 1978

Overburden 0.7 m
Mineral 3.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Peat	0.3	0.3
Alluvium	Clay, silty, grey	0.4	0.7
Valley Gravel	Gravel Gravel: coarse and fine with some cobbles, subangular to subrounded brown and grey flint with some rounded chalk and ironstone, and a trace of rounded quartz Sand: coarse and medium with fine, subangular flint and subrounded to rounded quartz, brown	3.0	3.7
Upper Chalk	Chalk	1.0+	4.7

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand			Gravel	
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
5	23	72	0.7-1.7*	7	5	8	9	36	35	0
			1.7-2.7*	2	3	8	10	31	40	6
			2.7-3.7*	5	4	12	12	30	37	0
			Mean	5	4	9	10	32	38	2

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.7-3.7	87	trace	1	5	7	trace

SY 69 SE 16 6883 9140 Burton, Charminster

Block B

Surface level +55.5 m
Water struck at + 54.5 m
Shell (modified) 152 mm diameter
October 1978

Overburden 0.5 m
Mineral 3.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, silty brown	0.5	0.5
Valley Gravel	Gravel Gravel: coarse and fine, subangular brown, grey and black flint with some subrounded ironstone and rounded quartz with a trace of rounded chalk Sand: medium and coarse with fine subangular flint and subrounded to rounded quartz, grey-brown	3.0	3.5
Upper Chalk	Chalk	1.0+	4.5

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand			Gravel	
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
3	23	74	0.5-1.5*	6	7	11	7	21	46	2
			1.5-2.5*	1	3	9	8	35	44	0
			2.5-3.5*	1	2	21	12	35	39	0
			Mean	3	4	10	9	30	43	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.5-3.5	93	0	2	3	1	1

SY 69 SE 17 6906 9230 Burton Cottages, Charminster

Surface level +78.3 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block A

Overburden 1.5 m
Mineral 1.2 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Plateau Gravel	Soil, sandy, brown	0.3	0.3
	Clay, pebbly, brown	1.2	1.5
	'Clayey' gravel Gravel: coarse and fine with some cobbles, subangular to subrounded brown and grey flint with a trace of rounded quartz Sand: medium with fine and coarse, subangular flint and subrounded quartz, brown	1.2	2.7
Upper Chalk	Chalk	1.0+	3.7

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand			Gravel	
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
15	24	61	1.5-2.7	15	6	13	5	20	37	4

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
1.5-2.7	97	0	2	1	0	trace

SY 69 SE 18 6984 9130 Coker's Farm, Stinsford

Surface level +55.3 m
Water struck at +52.5 m
Shell (modified) 152 m diameter
October 1978

Block B

Overburden 0.1 m
Mineral 5.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	Soil, sandy with flint pebbles, brown	0.1	0.1
	'Clayey' gravel, 'very clayey' at the top Gravel: coarse and fine, subangular brown and grey flint with some rounded ironstone, quartz and chalk Sand: medium and coarse with fine subangular flint and subrounded to rounded quartz, brown	5.0	5.1
Upper Chalk	Chalk	1.0+	6.1

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
12	26	62	0.1-1.1	24	7	13	7	25	24	0
			1.1-2.1	18	5	17	10	26	24	0
			2.1-3.1*	11	2	13	11	32	31	0
			3.1-4.1*	1	2	11	6	27	53	0
			4.1-5.1*	5	4	12	11	20	48	0
			Mean	12	4	13	9	26	36	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.1-5.1	86	1	3	7	2	1

SY 78 NW 10 7136 8922 Came Home Farm, Winterborne Came

Surface level +49.5 m
Water struck at +47.2 m
Shell (modified) 152 mm diameter
September 1978

Block B

Overburden 0.2 m
Mineral 3.5 m
Bedrock 1.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	Soil, sandy with pebbles, brown	0.2	0.2
	'Clayey' gravel; very coarse at the top Gravel: coarse and fine with some cobbles subangular to subrounded brown and grey flint with rounded quartz, rounded to well rounded quartz, rounded to well rounded chalk, subangular ironstone and a trace of well rounded black flint Sand: coarse and medium with fine, rounded quartz with subangular flint and rounded chalk, brown	3.5	3.7
Upper Chalk	Chalk weathered at the top	1.9+	5.6

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
12	26	62	0.2-1.2	11	4	14	7	18	32	14
			1.2-2.2	7	3	9	9	24	48	0
			2.2-3.2*	16	3	9	14	33	25	0
			3.2-3.7*	12	2	12	25	22	27	0
			Mean	12	3	11	12	24	34	4

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.2-3.7	69	2	11	8	10	trace

SY 78 NW 11 7171 8712 Sunnymead, Whitecombe

Surface level +79.5 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Block B

Waste 0.7 m
Bedrock 4.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Soil, clayey, sandy, with pebbles, pale brown		0.7	0.7
Bagshot Beds	'Very clayey' sandy gravel Gravel: fine and coarse, subrounded ironstone and subangular brown flint Sand: fine with coarse and medium rounded quartz, brown	0.6	1.3
	Clay sandy, grey	2.7	4.0
Upper Chalk	Chalk	1.0+	5.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
21	44	35	0.7-1.3	21	25	8	11	19	16	0

SY 78 NW 12 7288 8997 Stafford Dairy, West Stafford

Surface level +44.8 m
Water struck at +43.6 m
Shell (modified) 152 mm diameter
September 1978

Block B

Overburden 0.6 m
Mineral 5.9 m
Bedrock 0.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, silty, grey	0.2	0.2
Alluvium	Clay, silty, grey	0.4	0.6
Valley Gravel	Gravel, 'clayey' at the top and base Gravel: coarse and fine, subangular to subrounded flint with some rounded chalk and quartz Sand: coarse with medium rounded quartz with subangular flint, brown	5.9	6.5
Upper Chalk	Chalk	0.5+	7.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
8	26	66	0.6-1.6*	10	1	12	15	29	33	0
			1.6-2.6*	1	1	13	32	14	39	0
			2.6-3.6*	2	1	10	16	31	38	2
			3.6-5.0*	4	2	8	12	33	40	1
			5.0-6.5*	20	1	3	10	26	40	0
			Mean	8	1	9	16	27	38	1

SY 78 NW 13 7344 8771 Glebe Farm, West Knighton

Surface level +66.2 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Block A

Overburden 0.1 m
Mineral 1.7 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.1	0.1
Plateau Gravel	'Clayey' gravel Gravel: coarse and fine, subangular to rounded grey and brown flint with some rounded to well rounded quartz and a trace of subrounded ironstone Sand: medium with fine and coarse subrounded to rounded quartz and subangular flint, brown	1.7	1.8
Reading Beds	Clay, with thin silty layers, mottled grey yellow and red	3.3+	5.1

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
16	42	42	0.1-1.1	22	13	24	7	15	19	0
			1.1-1.8	8	7	23	8	29	25	0
			Mean	16	11	23	8	21	21	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.1-1.8	90	trace	9	1	0	trace

SY 78 NW 14 7315 8905 Sandy Barrow, West Stafford

Block A

Surface level +70.4 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Overburden 1.1 m
Mineral 3.5 m
Bedrock 5.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pale brown	0.3	0.3
Plateau Gravel	Clay, silty, brown a 'Clayey' gravel, 'very clayey' at the top with cobbles at the base Gravel: fine and coarse with some cobbles subangular to subrounded brown flint with rounded quartz and a trace of subangular ironstone and well rounded black flint Sand: medium and coarse with fine subangular flint and rounded quartz	0.8 3.5	1.1 4.6
Bagshot Beds	Clay with silty, layers, pale grey b Sand; with clay laminae, medium with fine subrounded to rounded quartz grey Clay, silty, with some flint pebbles grey	0.6 4.0 0.8+	5.2 9.2 10.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					Fines	Sand			Gravel		
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	12	39	49	1.1-2.0	24	6	17	9	29	15	0
				2.0-3.0	9	3	19	15	31	23	0
				3.0-4.0	10	6	13	28	17	0	0
				4.0-4.6	7	5	22	17	25	20	4
				Mean	13	5	21	13	29	19	1
b	9	91	0	5.2-6.2	8	11	78	32	0	0	0
				6.2-7.2	8	9	83	0	0	0	0
				7.2-8.2	11	10	76	2	12	0	0
				8.2-9.2	9	20	70	1	0	0	0
				Mean	9	12	77	2	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	1.1-4.6	88	1	9	2	0	0

SY 78 NW 15 7434 8955 Lower Lewell Farm, West Knighton

Block C

Surface level +48.9 m
Water struck at +46.4 m
Shell (modified) 152 mm diameter
September 1978

Overburden 0.7 m
Mineral 1.7 m
Bedrock 2.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, clayey, brown	0.7	0.7
Valley Gravel	a Gravel, 'clayey' at the top Gravel: coarse and fine, subangular grey and brown flint with some rounded quartz and ironstone Sand: medium and coarse with fine subrounded to rounded quartz with subangular flint, brown	1.7	2.4
Bagshot Beds	b Sand, medium with some coarse and fine, rounded quartz with some subrounded flint, brown Clay, carbonaceous, blue-grey	0.6 2.2+	3.0 5.2

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					Fines	Sand			Gravel		
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	8	37	55	0.7-1.7	12	6	17	11	25	29	0
				1.7-2.4	1	7	20	14	26	32	0
				Mean	8	7	18	12	25	30	0
b	4	96	0	2.4-3.0*	4	4	85	7	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.7-2.4	92	0	4	4	0	trace

SY 78 NW 16 7403 8822 Bottom Heath Barn, West Knighton

Block A

Surface level +65.8 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Overburden 1.2 m
Mineral 2.9 m
Bedrock 2.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pale brown	0.3	0.3
Plateau Gravel	Clay, sandy, with pebbles and lignitic fragments brown	0.9	1.2
	Gravel; Gravel: fine and coarse, subangular to subrounded grey and brown flint with some well rounded quartz and subrounded ironstone Sand: medium with coarse and fine subrounded to rounded quartz and angular to subangular flint brown	2.9	4.1
Bagshot Beds	Clay, with thin sandy and silty layers and flint pebbles grey	2.4+	6.5

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{4}$	+ $\frac{1}{4}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm
7	45	48	1.2-2.2	10	9	27	12	28	14	0
			2.2-3.2	6	6	28	10	27	23	0
			3.2-4.1	5	6	26	10	30	23	0
			Mean	7	7	27	11	28	20	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.2-4.1	91	0	7	2	0	trace

SY 78 NW 17 7487 8634 Beech Plantation, Warmwell

Block A

Surface level +67.7 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Overburden 0.8 m
Mineral 1.2 m
Bedrock 2.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy brown	0.3	0.3
Plateau Gravel	Clay, sandy with flint pebbles, brown	0.5	0.8
	a 'Clayey' sandy gravel; Gravel: coarse and fine subangular to subrounded grey flint with some well rounded quartz and subangular ironstone Sand: medium with coarse and fine rounded quartz brown	1.2	2.0
Bagshot Beds	b 'Clayey' pebbly sand; with thin silt layers Gravel: coarse and fine subangular to subrounded grey and brown flint with some rounded quartz and subrounded ironstone Sand: coarse and medium subrounded quartz brown	2.8+	4.8

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines	Sand			Gravel			
				- $\frac{1}{4}$	+ $\frac{1}{4}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	11	46	43	0.8-2.0	11	6	31	9	17	26	0
				2.0-2.8	9	6	32	29	12	12	0
				2.8-3.8	10	4	36	49	1	0	0
				Mean	10	5	34	39	6	6	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction						
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others	
a	0.8-02.0	92	trace	5	3	0	trace

SY 78 NE 6 7567 8932 Woodsford Signals, Woodsford

Block C

Surface level +50.3 m
Water not struck
Shell (modified) 152 mm diameter
August 1978

Overburden 0.3 m
Mineral 1.7 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy silty, dark brown	0.3	0.3
Valley Gravel	a Gravel; 'clayey' at top Gravel: fine and coarse, subangular to subrounded brown and black flint with a trace of rounded quartz and well rounded black flint Sand: medium and coarse, rounded quartz with some subangular to subrounded flint brown	1.7	2.0
Bagshot Beds	b Sand; medium and coarse with fine, rounded quartz with some subangular flint grey and yellow-brown	1.0+	3.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	9	44	47	0.3-1.3	12	2	19	13	25	29	0
				1.3-2.0	5	4	34	18	26	13	0
				Mean	9	3	25	16	25	22	0
b	6	93	1	2.0-3.0	6	11	45	37	1	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-2.0	97	1	2	0	0	0

SY 78 NE 7 7668 8956 Higher Woodsford, Woodsford

Block A

Surface level +50.2 m
Water not struck
Shell (mineral) 152 mm diameter
August 1978

Overburden 0.3 m
Mineral 1.6 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, sandy, with flint pebbles, dark brown	0.3	0.3
Plateau Gravel	a Gravel; sandy at the base Gravel: coarse and fine, subangular to rounded grey flint with rounded quartz	1.6	1.9

Sand: medium and coarse, subrounded quartz with some subangular flint, brown

Bagshot Beds

b Sand; medium with fine, subrounded quartz yellow-brown

2.1+ 4.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	6	41	53	0.3-1.3	6	2	17	15	24	36	0
				1.3-1.9	6	5	30	17	27	15	0
				Mean	6	3	22	16	25	28	0
b	97	93	0	1.9-2.9	7	14	78	1	0	0	0
				2.9-4.0	7	17	76	0	0	0	0
				Mean	7	16	77	0	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-1.9	90	0	9	0	0	1

SY 78 NE 8 7671 8627 Ham Coppice, Owermoigne

Block A

Surface level +37.5 m
Water struck at +35.5 m
Shell (modified) 152 mm diameter
September 1978

Waste 0.5 m
Bedrock 5.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.5	0.5
Reading Beds	Clay, silty, sandy, grey	2.4	2.9
	Clay, silty with thin sand laminae, grey	3.1+	6.0

SY 78 NE 9 7735 8712 Mill House, Owermoigne

Block E

Surface level +31.2 m
Water struck at +28.4 m
Shell (modified) 152 mm diameter
September 1978

Overburden 0.3 m
Mineral 1.0 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with flint pebbles, brown	0.3	0.3
Valley Gravel	'Clayey' gravel Gravel: coarse with fine, subrounded brown flint with subangular ironstone, rounded quartz and some well rounded black flint Sand: medium with coarse and fine, brown	1.0	1.3
Bagshot Beds	Clay, silty, with brown sandy laminae, flint pebbles and some lignitic fragments, pale grey	2.2+	3.5

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand	Gravel				
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
14	36	50	0.3-1.3	14	5	25	6	14	36	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-1.3	79	3	8	10	0	trace

SY 78 NE 10 7839 8639 Galtonhealth Cottages, Owermoigne

Block E

Surface level +34.7 m
Water struck at +33.4 m
Shell (modified) 152 mm diameter
September 1978

Overburden 0.5 m
Mineral 0.5 m
Bedrock 7.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with flint pebbles, brown	0.2	0.2
Valley Gravel	Clay with flint pebbles, brown	0.3	0.5
	a 'Clayey' pebbly sand Gravel: fine with coarse, subangular brown flint with some subangular ironstone well rounded black flint and subrounded ironstone Sand: medium and coarse with fine, rounded quartz, brown	0.5	1.0

Bagshot Beds

Clay, with sandy layers, grey	3.0	4.0
Clay, pale grey	1.7	5.7
b 'Clayey' sand: silty with lignitic fragments medium with coarse and fine subrounded quartz, grey	0.5	6.2
Clay silty, grey	1.8+	8.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines	Sand	Gravel				
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	18	71	11	0.5-1.0	18	5	37	29	7	4	0
b	12	88	0	5.7-6.2*	12	13	60	15	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.5-1.0	85	3	1	9	0	2

SY 78 NE 11 7856 8529 Fir Plantation, Owermoigne

Block A

Surface level +43.4 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Overburden 0.7 m
Mineral 1.3 m
Bedrock 6.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, with flint pebbles, black	0.3	0.3
Valley Gravel	Clay, sandy with flint pebbles, orange-brown	0.4	0.7
	'Clayey' pebbly sand Gravel: coarse and fine, subangular grey flint with subangular ironstone and a trace of well rounded black flint Sand: medium with fine and coarse rounded quartz and subangular flint, orange-brown	1.3	2.0
Reading Beds	Clay, mottled, with siderite pellets near the base red, grey and brown	4.5	6.5
	Clay, sandy, grey	1.5+	8.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines				Gravel			
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
17	69	14	0.7-2.0	17	15	48	6	7	7	0	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction						
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others	
0.7-2.0	82	3	trace	15	0	trace	

SY 78 NE 12 7962 8930 Hedera Cottages, Moreton

Block C

Surface level +30.1 m
Water struck at +28.7 m
Shell (modified) 152 mm diameter
August 1978

Overburden 1.4 m
Mineral 2.1 m
Bedrock 0.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.3	0.3
Valley Gravel	Clay, sandy with flint pebbles, grey	1.1	1.4
	Sandy gravel cobbles near the top Gravel: coarse and fine, subangular grey flint with rounded quartz and a trace of well rounded black flint and subangular ironstone Sand: medium and coarse, subrounded quartz pale brown	2.1	3.5
Bagshot Beds	Clay, sandy, pale grey	0.5+	4.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines				Gravel			
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
2	55	43	1.4-2.4*	3	3	33	19	15	24	3	
			2.4-3.5*	2	4	34	18	13	29	0	
			Mean	2	3	34	18	14	28	1	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
1.4-2.5	82	2	15	1	0	0

SY 78 NE 13 7973 8740 Old Knowle, Moreton

Block E

Surface level +25.8 m
Water struck at +25.0 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.4 m
Mineral 1.4 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, with flint pebbles, dark brown	0.3	0.3
Alluvium	Silty, brown	0.1	0.4
Valley Gravel	a Sandy gravel Gravel: coarse and fine, subangular to subrounded black flint with rounded quartz and a trace of subangular ironstone and well rounded black flint Sand: medium with coarse and fine subrounded to rounded quartz with some subangular flint, grey	1.4	1.8
Bagshot Beds	b Sand; medium with some fine, rounded quartz, grey	2.2+	4.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand		Gravel		
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	6	49	45	0.4-1.8*	6	5	34	10	18	27	0
b	3	97	0	1.8-4.0*	3	7	88	2	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.4-1.8	91	1	7	1	0	0

SY 78 NE 14 7972 8639 Nutley, Winfrith Newburgh

Block E

Surface level +29.7 m
Water struck at +29.1 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.3 m
Mineral 1.0 m
Bedrock 3.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, clayey, with flint pebbles, dark brown	0.3	0.3
Valley Gravel	Gravel Gravel: coarse and fine, with some cobbles, angular to subangular brown flint with a trace of rounded quartz and well rounded black flint Sand: medium and coarse subrounded to rounded quartz with some angular to subangular flint, brown	1.0	1.3
Bagshot Beds	Clay, silty, with sandy layers, lignitic fragments grey	3.7+	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 mm
3	34	63	0.3-1.3*	3	3	22	9	19	41	3

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-1.3	98	0	1	1	0	0

SY 78 NE 15 7873 8599 Ling Cottage, Owermoigne

Surface level +36.2 m
Water struck at +34.9 m
Shell (modified) 152 mm diameter
September 1978

Block E

Overburden 0.3 m
Mineral 0.7 m
Bedrock 4.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.3	0.3
Valley Gravel	'Clayey' pebbly sand Gravel: fine with coarse, subangular to subrounded brown flint with black well rounded flint and a trace of subangular ironstone and rounded quartz Sand: medium with fine, rounded quartz grey	0.7	1.0
Bagshot Beds	Silt, sandy with thin clay layers	1.3	2.3
	Clay, silty with sandy laminae	2.7+	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 mm
16	71	13	0.3-1.0	16	13	53	5	7	6	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16-mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-1.0	76	21	1	2	0	0

SY 79 SW 27 7074 9155 Stinsford, Stinsford

Surface level +73.5 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Block A

Overburden 0.6 m
Mineral 3.4 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.6	0.6
Plateau Gravel	Gravel, 'clayey' at the top Gravel: coarse and fine subangular to subrounded grey flint with some rounded quartz Sand: medium with coarse and fine subrounded quartz and subangular flint, brown	3.4	4.0
Upper Chalk	Chalk	1.0+	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 mm
9	25	66	0.6-1.6	15	4	11	9	29	29	3
			1.6-2.6	7	7	14	8	28	36	0
			2.6-4.0	6	6	11	6	26	45	0
			Mean	9	6	12	7	27	38	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.6-4.0	96	0	3	1	0	trace

SY 79 SW 28 7021 9090 Grey's Bridge, Stinsford

Surface level +52.0 m
Water struck at +50.0 m
Shell (modified) 152 mm diameter
October 1978

Block B

Overburden 0.3 m
Mineral 6.0 m
Bedrock 0.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.3	0.3
Valley Gravel	Gravel Gravel: coarse and fine with some cobbles angular to subrounded grey and brown flint with some rounded chalk, subrounded ironstone and rounded quartz Sand: coarse and medium with fine, subrounded quartz and subangular flint, grey	6.0	6.3
Upper Chalk	Chalk, distorted at the top with pebbles	0.8+	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 mm
5	23	72	0.3-1.3	9	4	6	6	21	49	5
			1.3-2.3*	5	3	10	11	31	40	0
			2.3-3.3*	3	4	15	11	26	39	2
			3.3-4.3*	4	3	12	11	26	42	2
			4.3-5.3*	1	2	10	10	33	40	4
			5.3-6.3*	6	1	8	11	33	41	0
			Mean	5	3	10	10	28	42	2

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-6.3	89	0	2	3	5	1

SY 79 SW 29 7177 9072 Bockhampton Bridge, Stinsford

Block B

Surface level +48.5 m
Water struck at +47.0 m
Shell (modified) 152 mm diameter
October 1978

Mineral 2.8 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	'Clayey' gravel Gravel: coarse and fine with cobbles subangular to subrounded grey flint with some rounded ironstone and rounded quartz Sand: medium with coarse and fine subrounded to rounded quartz with subangular flint, brown	2.8	2.8
Upper Chalk	Chalk	1.0+	3.8

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 mm
17	23	60	0.0-1.0	31	8	13	5	17	22	4
			1.0-2.0*	16	6	10	6	34	25	3
			2.0-2.8*	2	1	11	7	28	47	4
			Mean	17	5	12	6	26	30	4

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.0-2.8	94	trace	2	4	0	trace

SY 79 SW 30 7293 9349 Yellowham Wood, Stinsford

Block A

Surface level +100.5 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Overburden 0.3 m
Bedrock 3.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy brown	0.3	0.3
Reading Beds	'Clayey' gravel Gravel: coarse and fine with some cobbles, subangular to subrounded brown and grey flint with some subrounded ironstone and rounded quartz Sand: medium with fine and coarse subrounded quartz with subangular flint, brown	0.7	1.0
	Clay, sandy with some flint pebbles, orange-brown	2.0	3.0
Upper Chalk	Chalk	1.0+	4.0

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 mm
12	37	51	0.0-1.0	12	11	19	7	20	27	4

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.0-1.0	87	0	5	8	0	trace

SY 79 SW 31 7280 9131 Heedless William's Pond, Stinsford

Block A

Surface level +77.7 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Overburden 0.3 m
Mineral 2.7 m
Bedrock 7.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with pebbles, brown	0.3	0.3
Plateau Gravel	a 'Clayey' sandy gravel Gravel: coarse and fine with some cobbles subangular grey and brown flint with some rounded quartz and subrounded ironstone Sand: medium and fine with coarse subrounded to rounded quartz and subrounded flint, orange-brown	2.7	3.0
Reading Beds	b 'Clayey' sand with thin silt and clay layers: medium with fine and coarse subrounded quartz with subangular flint, yellow-brown	7.0+	10.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					- $\frac{1}{4}$	$+\frac{1}{4}-\frac{1}{2}$	$+\frac{1}{2}-1$	+1-4	+4-16	+16-64	+64 mm
a	17	42	41	0.3-1.7	30	16	20	6	12	13	3
				1.7-3.0	3	13	21	9	26	26	2
				Mean	17	14	20	8	19	19	3
b	14	85	1	3.0-4.0	2	15	69	11	2	1	0
				4.0-5.0	4	10	78	8	0	0	0
				5.0-6.0	6	10	68	14	2	0	0
				6.0-7.0	28	40	27	5	0	0	0
				7.0-8.0	9	5	58	26	2	0	0
				8.0-9.0	28	4	59	9	0	0	0
				9.0-10.0	24	51	23	2	0	0	0
				Mean	14	19	55	11	1	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-3.0	93	1	4	2	0	trace

SY 79 SW 32 7397 9314 Green Hill, Puddletown

Block A

Surface level +125.8 m
 Water struck at +122.3 m
 Shell (modified) 152 mm diameter
 August 1978

Overburden 0.3 m
 Mineral 3.0 m
 Bedrock 4.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, grey	0.3	0.3
Plateau Gravel	'Clayey' gravel Gravel: coarse and fine, subangular to subrounded grey flint with some rounded quartz and subangular ironstone Sand: medium and coarse, rounded quartz with subangular flint	3.0	3.3
Reading Beds	Clay, silty, ironstained with sand laminae, pale grey	4.7+	8.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					- $\frac{1}{4}$	$+\frac{1}{4}-\frac{1}{2}$	$+\frac{1}{2}-1$	+1-4	+4-16	+16-64	+64 mm
10	35	55		0.3-1.3	9	4	24	13	20	27	3
				1.3-2.3	9	3	14	12	25	37	0
				2.3-3.3	12	3	15	16	27	27	0
				Mean	10	3	18	14	24	30	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-3.3	87	0	9	4	trace	trace

SY 79 SW 33 7340 9224 Shompston Heath, Puddletown

Block A

Surface level +117.1 m
 Water not struck
 Shell (modified) 152 mm diameter
 August 1978

Overburden 0.3 m
 Mineral 3.7 m
 Bedrock 5.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, black	0.3	0.3
Plateau Gravel	a 'Clayey' gravel Gravel: coarse and fine, subangular brown and grey flint with some rounded quartz and subangular ironstone Sand: medium and coarse with fine, subrounded quartz with subangular flint, brown	3.7	4.0
Reading Beds	b Sand: medium with coarse subrounded to rounded quartz with some subangular flint, yellow-brown Silt, with thin sandy laminae, ironstained, grey	3.3 2.1+	7.3 9.4

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					- $\frac{1}{4}$	$+\frac{1}{4}-\frac{1}{2}$	$+\frac{1}{2}-1$	+1-4	+4-16	+16-64	+64 mm
a	14	36	50	0.3-1.3	13	3	16	15	23	30	0
				1.3-2.3	11	3	15	14	27	30	0
				2.3-3.3	11	4	16	20	24	25	0
				3.3-4.0	24	5	24	10	16	21	0
				Mean	14	4	17	15	23	27	0
b	9	91	0	4.0-5.0	1	9	72	18	0	0	0
				5.0-6.0	10	6	75	8	1	0	0
				6.0-7.3	12	5	59	24	0	0	0
				Mean	9	7	67	17	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.3-4.0	87	1	8	4	0	0

SY 79 SW 34 7399 9056 Duck Dairy House, Puddletown

Block B

Surface level +42.2 m
Water struck at +40.5 m
Shell (modified) 152 mm diameter
August 1978

Overburden 1.7 m
Mineral 2.3 m
Bedrock 6.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.3	0.3
Alluvium	Silt, clayey, with some flint pebbles, mottled blue and grey	1.4	1.7
Valley Gravel	Gravel Gravel: coarse and fine, subangular black with brown flint with some well rounded black flint and rounded to well rounded quartz Sand: coarse and medium subangular flint and subrounded quartz, brown	2.3	4.0
Reading Beds	Silt, clayey with thin sand layers cemented by pyrite, grey and brown	6.1+	10.1

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
2	24	74	1.7-2.7*	1	1	6	10	29	51	2
			2.7-4.0*	3	2	12	14	20	49	0
			Mean	2	2	10	12	24	49	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.7-4.0	91	4	4	trace	0	1

SY 79 SW 35 7495 9146 Ilsington Heath, Puddletown

Block B

Surface level +42.3 m
Water struck at +41.0 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.3 m
Mineral 1.3 m
Waste 0.7 m
Mineral 5.8 m
Bedrock 0.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, silty, grey	0.3	0.3
Valley Gravel	a 'Clayey' sand: medium with fine and some coarse subrounded to rounded quartz with some subangular flint	1.3	1.6
Peat	Peat	0.1	1.7
Alluvium	Silt, with sandy layers, grey	0.6	2.3
Valley Gravel	b Gravel, very coarse at the top Gravel: coarse and fine, subangular to subrounded grey with black and brown flint, subangular ironstone and well rounded quartz Sand: medium and coarse, subrounded to rounded quartz with some subangular flint	5.8	8.1
Reading Beds	Clay with some flint pebbles, dark grey and blue	0.8+	8.9

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines		Sand		Gravel			
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	11	89	0	0.3-1.6*	11	19	63	7	0	0	0
b	1	36	63	2.3-3.3*	2	3	26	14	22	23	0
				3.3-4.3*	1	2	24	10	21	41	0
				4.3-5.3*	0	1	13	16	30	40	0
				5.3-6.3*	0	1	18	17	30	34	0
				6.3-7.3*	1	0	13	18	27	39	2
				7.3-8.1*	2	1	20	19	23	35	0
				Mean	1	1	19	16	26	37	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
b 2.3-8.1	81	trace	7	12	0	trace

SX 79 SW 36 7477 9019 Brake Cottage, West Knighton

Block B

Surface level +41.0 m
Water struck at +39.5 m
Shell (modified) 152 mm diameter
September 1978

Overburden 1.0 m
Mineral 3.0 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Peat	Peat	1.0	1.0
Valley Gravel	Gravel; 'Very clayey' at the top Gravel: fine and coarse with some cobbles, subangular to subrounded grey flint with some rounded to well rounded quartz and a trace of rounded to well rounded black flint Sand: medium and coarse with fine subrounded quartz and subangular flint, grey	3.0	4.0
Bagshot Beds	Clay, silty, grey	2.0+	6.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
			- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm	
9	25	66								
			1.0-2.0*	23	8	14	7	33	35	0
			2.0-3.0*	2	1	10	12	33	36	6
			3.0-4.0*	1	2	10	10	43	34	0
			Mean	9	4	11	10	33	31	2

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.0-4.0	93	1	6	trace	0	trace

SX 79 SE 1 7583 9462 Puddletown, Puddletown

Block D

Surface level +55.4 m
Water struck at +54.6 m
Shell (modified) 152 mm diameter
September 1978

Overburden 0.3 m
Mineral 5.2 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, black	0.3	0.3
Valley Gravel	Gravel, 'clayey' at the top Gravel: fine and coarse with cobbles angular to subangular grey and brown flint with rounded to well rounded chalk and some subangular ironstone Sand: coarse and medium, subrounded quartz and angular to subangular flint, brown	5.2	5.5
Upper Chalk	Chalk	1.0+	6.5

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
			- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm	
4	26	70								
			0.3-1.3*	10	2	16	8	28	32	4
			1.3-2.3*	1	1	8	12	33	38	7
			2.3-3.3*	4	1	14	18	39	24	0
			3.3-4.3*	2	1	7	12	41	29	8
			4.3-5.3*	4	2	14	17	32	31	0
			Mean	4	1	12	13	35	31	4

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-5.3	76	0	trace	6	18	0

SY 79 SE 2 7596 9185 Ilington, Puddletown Block C

Surface level +40.6 m
 Water struck at +38.6 m
 Shell (modified) 152 mm diameter
 August 1978

Overburden 0.4 m
 Mineral 5.0 m
 Bedrock 2.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with pebbles, brown	0.4	0.4
Valley Gravel	a 'Very clayey' sand with some flint pebbles: medium with fine and coarse, subrounded to rounded quartz with some subangular flint	2.2	2.6
	b Gravel, sandy at the base Gravel: coarse and fine, subangular brown flint with well rounded quartz and a trace of subangular ironstone Sand: medium and fine, subrounded quartz with subangular flint, yellow-brown	2.8	5.4
Upper Chalk	Chalk, sandy and disturbed at the top	2.9+	8.3

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	36	60	4	0.4-2.6*	36	8	46	6	3	1	0
b	4	40	56	2.6-3.6*	6	1	13	17	21	42	0
				3.6-4.6*	2	4	16	17	25	35	1
				4.6-5.4*	4	8	31	14	20	23	0
				Mean	4	4	20	16	22	34	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
2.6-5.4	88	1	9	2	0	0

SY 79 SE 3 7559 9239 Ilington Wood, Puddletown Block A

Surface level +60.6 m
 Water not struck
 Shell (modified) 152 mm diameter
 August 1978

Waste 0.2 m
 Bedrock 8.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, grey	0.2	0.2
Reading Beds	'Clayey' sand; with thin silty and pebbly layers, medium with fine, rounded quartz with some subangular to subrounded flint, grey and yellow-brown	7.3	7.5
Upper Chalk	Chalk, with marl layers	1.0+	8.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
	18	79	3	0.2-1.2	13	10	51	15	4	7	0
				1.2-2.2	21	5	45	20	6	3	0
				2.2-3.2	28	14	51	4	3	0	0
				3.2-4.2	18	27	55	0	0	0	0
				4.2-6.2	11	37	52	0	0	0	0
				6.2-7.5	15	19	64	1	1	0	0
				Mean	18	21	53	5	2	1	0

SY 79 SE 4 7634 9470 Bardolfeston, Puddletown Block D

Surface level +55.4 m
 Water not struck
 Shell (modified) 152 mm diameter
 August 1978

Overburden 0.1 m
 Mineral 2.9 m
 Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.1	0.1
Valley Gravel	'Very clayey' gravel, chalky fines at the base Gravel: coarse and fine, angular to subangular ironstone Sand: medium and coarse with fine subrounded quartz and subangular flint	2.9	3.0
Upper Chalk	Chalk	1.0+	4.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
	22	21	57	0.1-1.1	13	5	15	8	24	32	3
				1.1-2.1	26	2	5	4	21	42	0
				2.1-3.0	26	3	14	10	24	23	0
				Mean	22	3	11	7	23	33	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.1-3.0	88	1	1	5	5	0

SY 79 SE 5 7628 9137 Hastings Farm, Tincleton Block C

Surface level +38.0 m Overburden 1.3 m
 Water struck at +36.7 m Mineral 3.3 m
 Shell (modified) 152 mm diameter Bedrock 0.5 m+
 August 1978

LOG

Geological classification	Lithology	Thickness m	Depth m
	Peat	1.3	1.3
Valley Gravel	Gravel, sandy at the base Gravel: coarse and fine with cobbles, subrounded brown and black flint with some well rounded quartz and subangular ironstone Sand: coarse and medium rounded quartz and subangular flint, pale grey	3.3	4.6
Reading Beds	Clay, with some flint pebbles, grey	0.5+	5.1

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand	Gravel				
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
3	29	68	1.3-2.3*	4	1	10	13	34	38	0
			2.3-3.3*	3	1	13	12	27	42	2
			3.3-4.6*	2	0	16	21	27	32	2
			Mean	3	1	13	15	29	37	2

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.3-4.6	92	0	6	2	trace	trace

SY 79 SE 6 7632 9012 East Woodsford, Woodsford Block C

Surface level +42.6 m Overburden 1.4 m
 Water struck at +39.5 m Mineral 2.9 m
 Shell (modified) 152 mm diameter Bedrock 2.1 m+
 August 1978

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, sandy dark brown	0.2	0.2
Alluvium	Silt, sandy, orange-brown	1.2	1.4
Valley Gravel	a Sandy gravel, becoming sandier with depth Gravel: fine and coarse, subangular to subrounded grey and black flint with some well rounded black flint Sand: medium and coarse, rounded quartz with subangular flint, orange-brown	2.9	4.3
Bagshot Beds	b 'Clayey' sand: medium with some fine, rounded quartz, pale brown	2.1+	6.4

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines	Sand	Gravel				
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	6	54	40	1.4-2.4	8	14	18	16	26	27	1
				2.4-3.4*	6	3	39	19	17	16	0
				3.4-4.3*	4	6	42	16	20	12	0
				Mean	6	4	33	17	21	19	0
b	14	86	0	4.3-6.4*	14	6	79	1	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	1.4-4.3	93	2	4	1	0 trace

SY 79 SE 7 7681 9436 Athelhampton, Athelhampton Block D

Surface level +52.2 m Overburden 1.1 m
 Water struck at +50.7 m Mineral 5.6 m
 Shell (modified) 152 mm diameter Bedrock 1.0 m+
 September 1978

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.5	0.5
Alluvium	Clay, silty with some flint pebbles	0.6	1.1

Valley Gravel	Gravel	5.6	6.7
	Gravel: coarse and fine with some cobbles, subangular black flint with well rounded chalk and a trace of rounded quartz and well rounded black flint Sand: medium and coarse subrounded to rounded quartz with some subangular flint, chalky fines at the base, brown		
Upper Chalk	Chalk	1.0+	7.7

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{4}$	+ $\frac{1}{4}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm
6	23	71	1.1-2.1*	6	2	13	13	30	36	0
			2.1-3.1*	5	1	14	8	34	36	2
			3.1-4.1*	3	3	15	11	29	37	2
			4.1-5.1*	4	1	14	13	31	35	2
			5.1-6.1*	2	0	4	12	36	42	4
			6.1-6.7*	24	0	0	2	15	59	0
			Mean	6	1	12	10	30	39	2

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.1-6.7	80	1	1	1	17	trace

SY 79 SE 8	7730 9195	Eweleaze Farm, Tincleton	Block C
Surface level +38.1 m			Overburden 1.3 m
Water not struck			Mineral 1.0 m
Shell (modified) 152 mm diameter			Bedrock 2.5 m+
August 1978			

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with flint pebbles, dark brown	0.3	0.3
Alluvium	Silt, clayey, brown	1.0	1.3
Valley Gravel	'Very clayey' sandy gravel Gravel: fine and coarse, subangular ironstone and angular to subangular black and brown flint with some rounded quartz and well rounded black and brown flint Sand: medium with coarse and fine rounded quartz and subangular flint, brown	1.0	2.3
Upper Chalk	Chalk, with silty layers, disturbed	2.5+	4.8

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines	Sand			Gravel		
				- $\frac{1}{4}$	+ $\frac{1}{4}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm
16	70	14	1.3-2.3	16	8	50	12	9	5	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.3-21.3	43	6	8	43	trace	trace

SY 79 SE 9	7708 9016	Woodsford Dairy, Woodsford	Block C
Surface level +42.4 m			Overburden 0.9 m
Water struck at +39.2 m			Mineral 3.0 m
Shell (modified) 152 mm diameter			Bedrock 1.1 m+
August 1978			

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, sandy, black	0.4	0.4
Alluvium	Clay, silty with flint pebbles, orange-brown	0.5	0.9
Valley Gravel	a Sandy gravel Gravel: coarse and fine, subangular black flint with a trace of rounded quartz and subangular ironstone Sand: medium and coarse, subrounded to rounded quartz with subangular flint, orange-brown	3.0	3.9
Bagshot Beds	b Sand: medium with some coarse and fine rounded quartz and subangular flint	1.1+	5.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines	Sand			Gravel			
				- $\frac{1}{4}$	+ $\frac{1}{4}$ - $\frac{1}{2}$	+ $\frac{1}{2}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	4	51	45	0.9-1.9	5	4	29	15	23	24	0
				1.9-2.9	3	2	22	25	24	24	0
				2.9-3.9*	3	2	28	26	19	22	0
				Mean	4	3	26	22	22	23	0
b	2	95	3	3.9-5.0*	2	4	82	9	0	3	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.9-3.9	94	1	3	2	0	0

SY 79 SE 10 7907 9434 Manor House, Tolpuddle Block D

Surface level +44.4 m
 Water struck at +43.2 m
 Shell (modified) 152 mm diameter
 September 1978

Overburden 0.5 m
 Mineral 5.7 m
 Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.2	0.2
Alluvium	Clay, silty, with flint pebbles, brown	0.3	0.5
Valley Gravel	Gravel Gravel: coarse and fine, subangular to rounded grey flint with some rounded chalk and subangular ironstone with a trace of well rounded quartz Sand: medium and coarse, subrounded to rounded quartz and angular to subangular flint, grey and brown	5.7	6.2
Upper Chalk	Chalk	1.0+	7.2

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
			- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm	
2	26	72	0.5-1.5*	2	3	15	9	30	38	3
			1.5-2.5*	2	1	10	9	35	43	0
			2.5-3.5*	2	1	11	10	32	39	5
			3.5-4.5*	3	1	19	18	29	30	0
			4.5-5.5*	0	1	6	7	32	54	0
			5.5-6.2*	2	2	11	15	38	32	0
			Mean	2	1	13	12	31	40	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.5-6.2	83	2	trace	6	9	trace

SY 79 SE 11 7894 9224 Pallington Clump, Affpuddle Block A

Surface level +94.4 m
 Water not struck
 Shell (modified) 152 mm diameter
 September 1978

Mineral 1.5 m
 Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Plateau Gravel	a 'Clayey' gravel Gravel: fine and coarse, subangular to subrounded brown and grey flint with a trace of well rounded black flint, rounded quartz and subangular ironstone Sand: medium and coarse with fine subrounded to rounded quartz and subangular flint, brown	1.5	1.5
Reading Beds	b 'Clayey' sand: medium with fine rounded quartz, yellow-brown and red-brown	3.0+	4.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand		Gravel		
				- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	14	36	50	0.0-1.0	16	6	16	10	24	28	0
	14	36	50	1.0-1.5	12	5	21	16	31	15	0
				Mean	14	6	18	12	26	24	0
b	14	86	0	1.5-2.5	14	13	67	6	0	0	0
				2.5-3.5	12	25	62	1	0	0	0
				3.5-4.5	16	4	78	2	0	0	0
				Mean	14	14	69	3	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.0-1.5	97	1	1	1	0	0

SY 79 SE 12 7810 9091 Pallington, Woodsford Block C

Surface level +31.3 m
 Water struck at +30.3 m
 Shell (modified) 152 mm diameter
 August 1978

Overburden 0.3 m
 Mineral 3.9 m
 Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy silty, with flint pebbles, dark brown	0.3	0.3
Valley Gravel	a Gravel Gravel: coarse and fine with some cobbles, subangular to subrounded grey and black flint with some rounded quartz and a trace of well rounded black flint Sand: medium and coarse, rounded quartz and subangular flint, grey	3.9	4.2
Bagshot Beds	b 'Clayey' sand: medium with fine, subrounded to rounded quartz with some subangular flint, pale brown	2.2+	6.4

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand			Gravel	
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	3	44	53	0.3-1.3*	3	3	12	12	33	37	0
				1.3-2.3*	2	4	22	17	24	28	3
				2.3-3.3*	3	3	21	14	21	35	3
				3.3-4.3*	3	4	34	20	20	19	0
				Mean	3	3	25	16	24	27	2
b	10	90	0	4.3-6.4*	10	18	71	1	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-4.3	92	2	5	1	0	trace

SY 79 SE 13 7989 9397 Southover House, Affpuddle

Surface level +41.2 m
Water struck at +38.9 m
Shell (modified) 152 mm diameter
September 1978

Block D

Mineral 6.0 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	Gravel, 'clayey' at the top, with cobbles at the base Gravel: coarse and fine, subangular to subrounded grey and brown flint with some rounded chalk subangular ironstone, well-rounded black flint and rounded quartz Sand: medium and coarse, subangular flint and subrounded quartz, brown	6.0	6.0
Upper Chalk	Chalk	1.0+	7.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand			Gravel	
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
	6	25	69	0.0-1.0	10	5	12	5	33	45	0
				1.0-2.0	7	3	17	13	26	34	0
				2.0-3.0*	9	3	15	11	30	32	0
				3.0-4.0*	3	1	11	9	38	38	0
				4.0-5.0*	3	3	17	11	31	29	6
				5.0-6.0*	6	1	7	5	25	53	3
				Mean	6	3	13	9	30	38	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.0-6.0	86	3	2	4	5	0

SY 79 SE 14 7948 9090 Waddock Farm, Affpuddle

Surface level +26.5 m
Water struck at +24.5 m
Shell (modified) 152 mm diameter
September 1978

Block C

Overburden 1.5 m
Mineral 2.3 m
Bedrock 1.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Alluvium	Soil, sandy with flint pebbles, brown	0.5	0.5
Peat	Silt, clayey, grey	0.7	1.2
Peat	Peat	0.3	1.5
Valley Gravel	Gravel Gravel: coarse and fine, subangular to subrounded black flint with some rounded to well rounded black flint Sand: medium and coarse, subangular flint and subrounded to rounded quartz with a trace of rounded chalk, grey	2.3	3.8
Bagshot Beds	Clay, with silty layers, dark grey	1.7+	5.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand			Gravel	
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
	2	18	80	1.5-2.5*	1	1	11	11	27	49	0
				2.5-3.8*	2	2	8	4	24	58	2
				Mean	2	2	9	7	25	54	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
1.5-3.8	92	4	4	trace	0	trace

SY 79 SE 15 7912 9050 Hurst, Moreton

Block C

Surface level +29.3 m
Water struck at +28.1 m
Shell (modified) 152 mm diameter
August 1978

Mineral 2.9 m
Bedrock 2.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded brown flint with some rounded quartz and well rounded black flint Sand: medium and coarse with fine subangular to subrounded quartz with subangular flint, brown	2.9	2.9
Bagshot Beds	b 'Clayey' sand: medium with fine subrounded quartz micaceous, with pyrite cemented layers and lignitic fragments, pale grey Clay, silty, carbonaceous, dark-grey	1.1 1.5+	4.0 5.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	$+\frac{1}{8}$ - $\frac{1}{4}$	$+\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	4	35	61	0.0-1.0	3	2	13	12	30	40	0
				1.0-2.0*	1	2	18	16	28	35	0
				2.0-2.9*	8	8	24	12	19	52	0
				Mean	4	4	18	13	25	36	0
b	11	87	2	2.9-4.0*	11	10	74	3	2	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.0-2.9	95	2	3	trace	0	trace

SY 79 SE 16 7855 9010 Hurst Heath, Moreton

Block C

Surface level +31.9 m
Water struck at +28.8 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.3 m
Mineral 1.8 m
Bedrock 3.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.3	0.3
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded brown and black flint with some rounded quartz and rounded to well rounded black flint Sand: medium and coarse with fine, subrounded quartz	1.8	2.1
Bagshot Beds	b 'Very clayey' sand: with silty layers medium with fine subrounded quartz, grey	3.9+	6.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	$+\frac{1}{8}$ - $\frac{1}{4}$	$+\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	3	42	55	0.3-1.3	3	6	23	12	19	37	0
				1.3-2.1	4	5	25	13	23	30	0
				Mean	3	5	24	13	21	34	0
b	34	66	0	2.1-3.1	33	16	50	1	0	0	0
				3.1-6.0*	35	10	54	1	0	0	0
				Mean	34	12	53	1	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-2.1	90	2	6	1	0	1

SY 88 NW 31 8056 8960 Moreton House, Moreton

Block C

Surface level +23.4 m
Water struck at +21.8 m
Shell (modified) 152 mm diameter
July 1978

Overburden 1.6 m
Mineral 1.2 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.2	0.2
Alluvium	Clay, silty, plastic with some flint pebbles, dark grey	1.4	1.6
Valley Gravel	a Gravel Gravel: coarse and fine, angular to subangular grey and black flint with some well rounded black flint, rounded quartz and a trace of subrounded ironstone Sand: medium and coarse, subangular to subrounded quartz with subangular flint, grey	1.2	2.8
Bagshot Beds	Clay, pale grey b 'Clayey' sand: medium with fine subrounded quartz sand with thin clay layers	1.8 0.4+	4.6 5.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{2}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	2	33	65	1.6-2.8*	2	1	21	11	32	33	0
b	10	90	0	4.6-5.0*	10	16	73	1	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	1.6-2.8	86	5	8	1	0	0

SY 88 NW 32 8137 8964 Snelling Farm, Turners Puddle

Block C

Surface level +25.1 m
Water struck at +23.8 m
Shell (modified) 152 mm diameter
July 1978

Overburden 0.9 m
Mineral 3.2 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, dark brown	0.4	0.4
Valley Gravel	Clay, sandy, ironstained, grey	0.5	0.9
	Gravel Gravel: coarse and fine angular to subangular black grey and brown flint with a trace of well rounded black flint and rounded quartz Sand: medium and coarse subrounded quartz with subangular flint, pale grey	3.2	4.1
Bagshot Beds	b 'Clayey' sand: medium with fine, subangular to subrounded quartz, pale grey	2.2+	6.3

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{2}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	1	29	70	0.9-1.9*	2	2	17	12	33	34	0
				1.9-2.9*	1	1	7	11	33	44	3
				2.9-3.9*	0	1	19	16	33	31	0
				Mean	1	1	15	13	33	36	1
b	18	82	0	4.3-5.3*	32	12	53	3	0	0	0
				5.3-6.3*	5	12	82	1	0	0	0
				Mean	18	12	68	2	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.9-3.9	93	3	2	0	0	2

SY 88 NW 33 8022 8540 Portway Farm, Winfrith Newburgh

Block E

Surface level +35.1 m
Water struck at +32.5 m
Shell (modified) 152 mm diameter
October 1978

Overburden 0.1 m
Mineral 2.5 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.1	0.1
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey and brown flint with some subrounded ironstone, well rounded black flint and rounded quartz Sand: medium with fine subrounded to rounded quartz and subangular flint, orange-brown	2.5	2.6
London Clay	b 'Clayey' sand: medium and fine subrounded to rounded quartz, yellow-brown	1.0+	3.6

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages										
	Fines	Sand	Gravel		percentages										
					Fines	Sand			Gravel						
-16	+16 -1/2	+1/2 -1	+1 -4	+4 -16	+16 -64	+64 mm									
a	14	36	50	0.1-1.1	22	6	17	4	15	33	3				
				1.1-2.1	11	9	24	5	16	35	0				
				2.1-2.6	5	7	36	5	18	29	0				
				Mean	14	8	24	4	16	33	1				
b	11	89	0	2.6-3.6*	11	25	60	4	0	0	0				

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.1-2.6	88	3	2	7	0	0

SY 88 NW 34 8107 8837 Moreton Dairy, Moreton

Block C

Surface level +27.3 m
Water struck at +25.1 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.2 m
Mineral 2.8 m
Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, dark brown	0.2	0.2
Valley Gravel	a Sandy gravel Gravel: coarse and fine, subangular to subrounded brown flint with rounded quartz and some subangular ironstone Sand: medium and coarse, subrounded to rounded quartz with some subangular flint	2.8	3.0
Bagshot Beds	Clay, silty, ironstained, pale grey	0.8	3.8
	b Sand: medium subrounded quartz, with lignitic fragments, yellow-brown and pale grey,	10.2+	14.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages										
	Fines	Sand	Gravel		percentages										
					Fines	Sand			Gravel						
-16	+16 -1/2	+1/2 -1	+1 -4	+4 -16	+16 -64	+64 mm									
a	3	65	32	0.2-1.2	3	2	40	24	11	19	1				
				1.2-2.2	3	3	33	30	17	14	0				
				2.2-3.0*	4	2	40	20	16	18	0				
				Mean	3	2	38	25	15	17	0				
b	3	97	0	3.8-4.8*	7	7	86	0	0	0	0				
				4.8-5.8*	2	1	97	0	0	0	0				
				5.8-6.8*	3	3	94	0	0	0	0				
				6.8-7.8*	3	5	92	0	0	0	0				
				7.8-8.8*	1	1	98	0	0	0	0				
				8.8-9.8*	2	1	97	0	0	0	0				
				9.8-10.8*	3	2	90	5	0	0	0				
				10.8-11.8*	6	4	83	7	0	0	0				
				11.8-12.8*	4	5	82	9	0	0	0				
				12.8-13.8*	0	1	83	16	0	0	0				
				Mean	3	3	90	4	0	0	0				

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.2-3.0	79	1	15	3	0	2

SY 88 NW 36 8260 8815 Bovington Farm, Wool

Block E

Surface level +22.1 m
Water struck at +21.1 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.5 m
Mineral 3.0 m
Bedrock 1.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey flint with some rounded quartz and subangular ironstone Sand: medium and coarse subrounded to rounded quartz with some subangular flint	3.0	3.5
Bagshot Beds	b Pebbly sand; Gravel: subangular grey flint Sand: medium with coarse, subrounded to rounded quartz with some subangular flint	1.6+	1.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	2	39	59	0.5-1.5*	3	3	21	15	25	33	0
				1.5-2.5*	1	2	23	15	21	38	0
				2.5-3.5*	1	2	25	13	20	39	0
				Mean	2	2	23	14	22	37	0
b	5	81	14	3.5-4.4*	5	7	62	12	7	7	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.5-3.5	91	trace	7	2	0	0

SY 88 NW 37 8223 8740 East Burton, Wool

Block E

Surface level +18.7 m
Water struck at +16.7 m
Shell (modified) 152 mm diameter
October 1978

Overburden 2.3 m
Mineral 2.0 m
Bedrock 1.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Peat	Peat	1.3	2.3
Valley Gravel	Sandy gravel, becoming very sandy at the base Gravel: coarse and fine, subangular to subrounded grey and brown flint with some rounded to well rounded quartz Sand: medium with fine and coarse, subrounded to rounded quartz and subangular flint brown	2.0	4.3
Bagshot Beds	Clay, silty, with thin sandy layers, grey	1.4+	5.7

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		percentages						
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
5	50	45	2.3-3.3*	3	8	27	5	17	40	0
			3.3-4.3*	7	9	42	10	11	21	0
			Mean	5	9	34	7	14	31	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
2.3-4.3	83	1	7	9	0	0

SY 88 NW 38 8214 8615 West Burton Dairy, Winfrith Newburgh

Block E

Surface level +25.0 m
Water struck at +23.7 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.2 m
Mineral 2.2 m
Bedrock 5.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	a 'Clayey' pebbly sand Gravel: coarse and fine, angular to subrounded brown and black flint and subangular ironstone with well rounded quartz Sand: medium with fine and coarse subangular to subrounded quartz, pale brown	2.2	2.4
London Clay	b Sand: medium with fine, subangular to subrounded quartz with some subangular flint and lignitic fragments, pale brown	5.0+	7.4

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		percentages							
				-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	17	71	12	0.2-1.2	27	13	46	7	3	4	0
				1.2-2.4*	9	17	48	9	5	12	0
				Mean	17	15	48	8	4	8	0
b	7	93	0	2.4-3.4*	5	19	75	1	0	0	0
				3.4-4.4*	6	20	73	1	0	0	0
				4.4-5.4*	8	17	75	0	0	0	0
				5.4-7.4*	8	23	69	0	0	0	0
				Mean	7	20	73	0	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction						
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others	
a	0.2-2.4	35	17	14	33	1	0

SY 88 NW 39 8353 8812 Bovington Camp, Wool

Block C

Surface level +23.5 m
Water struck at +17.1 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.4 m
Mineral 2.0 m
Bedrock 7.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with some flint pebbles, dark brown	0.4	0.4
Valley Gravel	a Sandy gravel Gravel: coarse and fine, subangular to subrounded brown flint with rounded to well rounded quartz and some subangular ironstone Sand: medium with coarse, subrounded quartz with some subangular flint, pale brown	2.0	2.4
Bagshot Beds	b Sand: medium with some coarse and fine, subrounded to rounded quartz with some subangular flint, pale brown and yellow-brown	7.3+	9.7

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					Fines	Sand			Gravel		
				-½	+½-1	+1-1	+1-4	+4-16	+16-64	+64 mm	
a	4	69	27	0.4-2.4	4	3	46	19	12	16	0
				1.4-2.4	3	2	59	10	11	15	0
				Mean	4	2	53	14	12	15	0
b	3	97	0	2.4-3.4	5	7	81	7	0	0	0
				3.4-4.4	2	6	81	5	0	0	0
				4.4-5.4	4	5	86	5	0	0	0
				5.4-6.4*	4	7	84	5	0	0	0
				6.4-7.4*	2	5	84	9	0	0	0
				7.4-8.4*	2	4	77	17	0	0	0
				Mean	3	5	83	9	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.4-2.4	76	trace	17	6	0	1

SY 88 NW 40 8363 8776 Great Perry Coppice, Wool

Block E

Surface level +16.6 m
Water struck at +15.4 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.4 m
Mineral 2.3 m
Bedrock 4.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, dark brown	0.4	0.4
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey and black flint with some well rounded black flint and rounded quartz Sand: medium and coarse subrounded quartz	2.3	2.7
Bagshot Beds	b Sand: medium with some fine, subrounded to rounded quartz with some subangular flint	4.3+	7.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					Fines	Sand			Gravel		
				-½	+½-1	+1-1	+1-4	+4-16	+16-64	+64 mm	
a	5	38	57	0.4-1.4*	9	2	20	16	24	29	0
				1.4-2.7*	2	1	21	17	27	32	0
				Mean	5	1	20	17	26	31	0
b	4	96	0	2.7-3.7*	3	9	86	1	0	1	0
				3.7-5.7*	5	4	85	6	0	0	0
				Mean	4	6	86	4	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.4-2.7	93	3	4	0	0	trace

SY 88 NW 41 8468 8867 Woolbridge Heath, East Stoke

Surface level +44.8 m
Water struck at +34.8 m
Shell (modified) 152 mm diameter
August 1978

Block A

Overburden 0.3 m
Mineral 3.5 m
Bedrock 12.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, dark brown	0.3	0.3
Plateau Gravel	a 'Very clayey' pebbly sand Gravel: coarse and fine, subangular to subrounded grey flint Sand: medium with fine and coarse, subrounded quartz with some subangular flint, yellow-brown	1.2	1.5
	b Sandy gravel Gravel: fine and coarse, subangular to subrounded grey and black flint with some rounded quartz and a trace of subrounded sandstone Sand, medium and coarse, subrounded quartz with some angular to subangular flint, pale brown	2.3	3.8
Bagshot Beds	c Sand pebbly at the top: medium with coarse and fine, subrounded quartz, with lignitic fragments	7.0	10.8
	Clay, pale grey	1.5	12.3
	d Sand: medium with coarse and fine, subrounded quartz	2.4	14.7
	Clay with thin sand layers, dark grey	1.3+	16.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines Sand Gravel						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	22	74	4	0.3-1.5	22	11	54	9	1	3	0
b	3	52	45	1.5-2.5	4	3	27	21	22	23	0
				2.5-3.8	3	2	30	20	25	20	0
				Mean	3	3	29	20	24	21	0
c	9	90	1	3.8-4.8	9	3	41	34	10	3	0
				4.8-5.8	15	3	78	4	0	0	0
				5.8-6.8	6	3	78	12	1	0	0
				6.8-7.8	9	8	75	8	0	0	0
				7.8-8.8	4	4	85	7	0	0	0
				8.8-9.8	14	5	75	6	0	0	0
				9.8-10.8*	5	5	81	9	0	0	0
				Mean	9	4	75	11	1	0	0
d	9	91	0	12.3-13.3*	8	21	70	1	0	0	0
				13.3-14.3*	10	12	78	0	0	0	0
				Mean	9	16	74	1	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
b	1.5-3.8	80	2	15	3	0	0

SY 88 NW 42 8454 8717 Woolbridge, Wool

Surface level +13.1 m
Water struck at +10.6 m
Shell (modified) 152 mm diameter
October 1978

Block E

Overburden 2.5 m
Mineral 1.7 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.3	0.3
Alluvium	Sand, medium, subrounded quartz, grey-brown	0.6	0.9
Peat	Peat, clayey	0.2	1.1
Alluvium	Silt, clayey, green-grey	1.4	2.5
Valley Gravel	Gravel Gravel: coarse and fine, subrounded black flint with some well rounded black flint Sand: medium and coarse, subrounded to rounded quartz and subangular flint, brown	1.7	4.2
Bagshot Beds	Clay, mottled pale grey and red-brown	3.0+	7.2

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines Sand Gravel						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
1	39	60	2.5-3.5*	1	3	18	11	31	36	0	
			3.5-4.2*	2	3	35	12	23	25	0	
			Mean	1	3	25	11	28	32	0	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
2.5-4.2	92	2	6	trace	0	trace

SY 88 NE 2 8576 8712 Bindon Abbey, East Stoke

Surface level +10.3 m
Water struck at +4.6 m
Shell (modified) 152 mm diameter
October 1978

Block E

Overburden 0.7 m
Mineral 3.0 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.3	0.3
Peat	Peaty, silty	0.4	0.7

Valley Gravel	a Gravel	3.0	3.7
	Gravel: coarse and fine, subangular to subrounded grey and brown flint with some rounded quartz and traces of rounded to well rounded black flint and rounded ironstone Sand: medium with coarse and fine, subangular flint and subrounded quartz, grey		
Bagshot Beds	b Sand, with pyritised lignitic fragments: medium and coarse with fine, subrounded to rounded quartz and subangular flint, grey	2.0+	5.7

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	6	39	55	0.7-1.7	1	4	20	16	29	30	0
				1.7-2.7	14	1	12	8	23	42	0
				2.7-3.7	3	16	34	7	12	28	0
				Mean	6	7	22	10	22	33	0
b	7	93	0	3.7-5.7	7	18	42	33	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
		a	0.7-3.7	90	2	7	1

SY 88 NE 3	8629 8739	Hethfelton Farm, East Stoke	Block E
Surface level +21.6 m			Overburden 0.7 m
Water struck at +19.3 m			Mineral 2.6 m
Shell (modified) 152 mm diameter			Bedrock 2.7 m+
June 1978			

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, grey-brown	0.7	0.7
Valley Gravel	a Sandy gravel Gravel: fine and coarse, subangular to subrounded brown and grey flint with some rounded quartz, well rounded black flint and subrounded ironstone Sand: medium and coarse, subrounded to rounded quartz, yellow-brown	2.6	3.3
Bagshot Beds	Silt, clayey and sandy, grey-brown	2.7+	6.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines			Gravel			
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
4	60	36	0.7-1.3	5	10	66	13	5	1	0
			1.3-2.3	3	1	19	31	26	18	2
			2.3-3.3*	4	1	27	24	21	23	0
			Mean	4	3	33	24	19	16	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
	0.7-3.3	83	2	13	2	0

SY 88 NE 4	8672 8617	Bindon Farm, East Stoke	Block E
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Surface level +11.9 m		Overburden 0.8 m
Water struck at 9.4 m		Mineral 2.0 m
Shell (modified) 152 mm diameter		Bedrock 4.2 m+
June 1978		

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pale brown	0.8	0.8
Valley Gravel	Sandy gravel Gravel: fine and coarse, subangular to rounded grey flint, with some subrounded ironstone rounded quartz and well rounded grey flint Sand: medium with coarse and fine subangular to subrounded quartz, yellow-brown	2.0	2.8
Bagshot Beds	Silt, sandy, grey-brown	4.2+	7.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines			Gravel			
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
6	51	43	0.8-1.8	10	10	32	10	24	14	0
			1.8-2.8*	3	2	30	18	25	22	0
			Mean	6	6	31	14	25	18	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
	0.8-2.8	82	5	6	7	0

SY 88 NE 5 8720 8687 Stoke Mill, East Stoke Block E

Surface level +14.9 m
Water Struck at +12.9 m
Shell (modified) 152 mm diameter
June 1978

Overburden 2.0 m
Mineral 2.0 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil,	0.3	0.3
Alluvium	Clay, silty, grey-blue and yellow-brown	1.7	2.0
Valley Gravel	a Gravel Gravel: coarse and fine with some cobbles subangular to subrounded grey flint with some well rounded quartz and a trace of subrounded sandstone Sand: medium and coarse, subangular to subrounded flint and quartz, dark grey	2.0	4.0
Bagshot Beds	b 'Clayey' sand, with some lignitic fragments and sporadic flint pebbles: medium and fine, angular to subrounded quartz	3.0+	7.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{16}$	+ $\frac{1}{16}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ - 1	1 - 4	+4 -16	+16 -64	+64 mm
a	5	36	59	2.0-3.0*	8	0	14	17	28	29	4
				3.0-4.0*	1	6	28	7	13	45	0
				Mean	5	3	21	12	20	37	2
b	10	88	2	4.0-5.0*	4	37	57	1	1	0	0
				5.0-6.0*	20	13	65	0	0	2	0
				6.0-7.0*	4	14	76	3	2	1	0
				Mean	10	21	66	1	1	1	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	2.0-4.0	86	3	10	1	0	0

SY 88 NE 6 8831 8894 Trigon Farm, Wareham St. Martin Block F

Surface level +15.6 m
Water not struck
Shell (modified) 152 mm diameter
September 1978

Overburden 1.1 m
Mineral 2.6 m
Bedrock 1.8 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pale brown	0.3	0.3
Head	Sand, clayey with flint pebbles, dark brown	0.8	1.1
Valley Gravel	Sandy gravel Gravel: fine and coarse, subangular to subrounded grey and brown flint with some well rounded grey flint Sand: medium and coarse subrounded quartz with some subangular flint	2.6	3.7
Bagshot Beds	Clay, with thin silty laminae, pale grey	1.8+	5.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{16}$	+ $\frac{1}{16}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ - 1	1 - 4	+4 -16	+16 -64	+64 mm
	4	56	40	1.1-2.1	7	5	41	12	21	14	0
				2.1-3.1	4	4	37	20	24	11	0
				3.1-3.7	5	2	18	14	31	30	0
				Mean	4	3	38	15	24	16	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
	1.1-3.7	92	6	1	1	trace	trace

SY 88 NE 7 8804 8679 Rushton Farm, East Stoke Block E

Surface level +9.6 m
Water struck at +2.3 m
Shell (modified) 152 mm diameter
June 1978

Overburden 0.6 m
Mineral 2.3 m
Bedrock 19.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, dark brown	0.6	0.6
Valley Gravel	a Gravel with thin clayey layers Gravel: coarse and fine, subangular to subrounded grey flint with rounded quartz and well rounded black flint Sand: medium and coarse, subangular to subrounded quartz with flint	2.3	2.9

Bagshot Beds	Clay, mottled, with siderite pellets, yellow-brown and red	2.3	5.2
	Clay, silty, with lignitic fragments, pale grey	1.6	6.8
	Silt, sandy, pale grey	2.2	9.0
	b Sand: medium and fine subangular quartz	0.9	9.9
	Silt, sandy, with lignitic fragments, pale grey	7.1	17.0
	c Sand fine and medium, subangular to rounded quartz, pale grey	0.9	17.9
	Clay, mottled, pale grey and yellow-brown	3.4	21.3
	Silt, clayey, sandy, dark grey	1.1+	22.4

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					-1/16	+1/16 - 1/8	+1/8 - 1/4	+1/4 - 1/2	+1/2 - 3/4	+3/4 - 1	+1 - 1.5
a	7	35	58	0.6-1.6	2	3	18	17	27	33	0
				1.6-2.2	6	1	17	14	23	35	4
				2.5-2.9	19	1	17	14	18	29	2
				Mean	7	2	18	15	24	33	1
b	2	95	3	9.0-9.9*	2	31	63	1	3	0	0
c	8	92	0	17.0-17.9*	8	61	31	0	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.6-2.9	82	6	9	2	0	1

SY 88 NE 8 8839 8627 Luckford Lane, East Stoke

Surface level +6.5 m
Water struck at +5.6 m
Shell (modified) 152 mm diameter
June 1978

Block E

Overburden 0.9 m
Mineral 2.0 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil	0.2	0.2
Alluvium	Clay, silty, yellow-brown	0.7	0.9
Valley Gravel	Gravel 'clayey' at the base Gravel: coarse and fine, subangular to subrounded brown and grey flint with some well rounded grey flint, rounded quartz and subrounded ironstone Sand: coarse and medium, subangular to subrounded quartz and subangular flint, grey	2.0	2.9
Bagshot Beds	Clay, sandy, pale grey	2.1+	5.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		percentages						
				-1/16	+1/16 - 1/8	+1/8 - 1/4	+1/4 - 1/2	+1/2 - 3/4	+3/4 - 1	+1 - 1.5
6	39	55	0.9-1.9	1	0	13	30	29	27	0
			1.9-2.9	11	2	24	10	19	32	2
			Mean	6	1	18	20	24	30	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.9-2.9	92	1	6	1	0	0

SY 88 NE 9 8893 8851 Weirs, Wareham St. Martin

Surface level +9.9 m
Water struck at +7.9 m
Shell (modified) 152 mm diameter
September 1978

Block F

Overburden 1.9 m
Mineral 2.1 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, silty, dark brown	0.5	0.5
Alluvium	Clay, silty, pale grey	1.4	1.9
Valley Gravel	a Sandy gravel Gravel: coarse and fine with some cobbles, subangular to subrounded grey flint with some well rounded black flint and rounded quartz Sand: medium and coarse rounded quartz with subangular flint	2.1	4.0
Bagshot Beds	b Sand with some pebbles and lignitic fragments: medium and coarse, rounded quartz with subangular flint	2.0+	6.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		percentages							
				-1/16	+1/16 - 1/8	+1/8 - 1/4	+1/4 - 1/2	+1/2 - 3/4	+3/4 - 1	+1 - 1.5	+1.5 - 2
a	1	50	49	1.9-2.9*	1	4	19	17	16	38	5
				2.9-4.0*	2	2	35	21	18	22	0
				Mean	6	18	53	20	2	1	0
b	6	91	3	4.0-5.0*	7	19	50	21	1	2	0
				5.0-6.0*	5	16	57	20	2	0	0
				Mean	6	18	53	20	2	1	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 1.9-4.0	87	8	3	2	0	0

SY 88 NE 10 8937 8630 Holme Farm, East Stoke

Block E

Surface level +6.8 m
Water struck at +3.4 m
Shell (modified) 152 mm diameter
June 1978

Overburden 0.2 m
Mineral 4.0 m
Bedrock 4.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Valley Gravel	a Gravel Gravel: fine and coarse, angular to subrounded grey and brown flint with some rounded quartz, subangular ironstone and well rounded black and grey flint Sand: medium and coarse, subangular to rounded quartz, brown	4.0	4.2
Bagshot Beds	Clay, sandy, pale grey	1.0	5.2
	b 'Very clayey' sand: medium and fine with coarse, subangular to subrounded quartz, grey	1.0	6.2
	Clay, sandy, pale grey	2.0+	8.2

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	4	42	54	0.2-1.2	5	4	19	15	26	31	0
				1.2-2.2	5	5	18	18	28	26	0
				2.2-3.2	3	4	18	17	30	28	0
				3.4-4.2*	3	4	25	21	28	19	0
				Mean	4	4	20	18	28	26	0
b	22	78	0	5.2-6.2*	22	31	33	14	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.2-4.2	92	2	4	2	0	0

SY 88 NE 11 8960 8733 Worgret Heath, Arne

Block A

Surface level +32.7 m
Water not struck
Shell (modified) 152 mm diameter
June 1978

Overburden 0.7 m
Mineral 0.7 m
Bedrock 2.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Plateau Gravel	'Clayey' gravel Gravel: coarse and fine, subangular to subrounded grey and brown flint with some subrounded to rounded quartz and traces of subrounded sandstone, rounded ironstone and well rounded grey flint Sand: fine, coarse and medium subangular to rounded quartz, yellow-brown	0.7	1.4
Bagshot Beds	Clay, sandy, pebbly at the top, with lignitic fragments, white and pale grey	2.4+	3.8

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		percentages						
				- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
15	37	48	0.7-1.4	15	14	12	11	21	27	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.7-1.4	79	0	21	0	0	trace

SY 88 NE 12 8807 8918 Roundabout, Wareham St. Martin

Block D

Surface level +11.8 m
Water struck at +11.0 m
Shell (modified) 152 mm diameter
September 1978

Overburden 0.8 m
Mineral 3.0 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Alluvium	Silt, sandy, dark brown	0.5	0.8
Valley Gravel	a Sandy gravel Gravel: coarse and fine, angular to subangular grey flint with some well rounded black flint, rounded quartz and subangular ironstone Sand: medium with fine and coarse, subrounded to rounded quartz with subangular flint, pale grey	3.0	3.8
Bagshot Beds	b 'Very clayey' pebbly sand Gravel: coarse and fine, well rounded grey flint Sand: medium and fine with coarse, subrounded to rounded quartz with lignitic fragments, grey	3.0+	6.8

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	$+\frac{1}{8}$ - $\frac{1}{4}$	$+\frac{1}{4}$ - 1	+1 - 4	+4 - 16	+16 - 64	+64 mm
a	9	65	26	0.8-1.8*	3	5	45	13	14	20	0
				1.8-2.8*	17	11	29	11	16	16	0
				2.8-3.8*	8	20	52	8	7	5	0
				Mean	9	12	42	11	12	14	0
b	22	70	8	3.8-4.8*	32	29	32	5	2	0	0
				4.8-5.8*	27	24	33	5	5	6	0
				5.8-6.8*	7	29	46	8	5	5	0
				Mean	22	27	37	6	4	4	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.8-3.8	91	4	3	2	0	0

SY 89 SW 3 8092 9402 Affpuddle, Affpuddle

Block D

Surface level +40.3 m
Water struck at +37.8 m
Shell (modified) 152 mm diameter
July 1978

Overburden 2.6 m
Mineral 1.0 m
Bedrock 0.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with pebbles, pale brown	0.5	0.5
Head	Clay with flint pebbles, pale brown	2.1	2.6
Valley Gravel	Gravel; Gravel: coarse and fine, subangular to rounded grey and brown flint Sand: coarse and medium, subrounded quartz and angular to subangular flint brown	1.0	3.6
Chalk	Chalk, disturbed silty	0.9+	4.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	$+\frac{1}{8}$ - $\frac{1}{4}$	$+\frac{1}{4}$ - 1	+1 - 4	+4 - 16	+16 - 64	+64 mm
	6	24	70	2.6-3.6*	6	12	121	12	28	42	0

SY 89 SW 4 8188 9364 Briantspuddle Affpuddle

Block D

Surface level +36.0 m
Water struck at +35.0 m
Shell (modified) 152 mm diameter
July 1978

Overburden 0.8 m
Mineral 2.0 m
Bedrock 0.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, peaty, dark brown	0.8	0.8
Valley Gravel	Gravel Gravel: coarse and fine, subangular to subrounded brown and grey flint with some subrounded ironstone and well rounded grey and black flint Sand: medium and coarse subangular to rounded flint and quartz yellow-brown	2.0	2.8
Chalk	Chalk with flint pebbles near the top	0.7+	3.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					- $\frac{1}{8}$	$+\frac{1}{8}$ - $\frac{1}{4}$	$+\frac{1}{4}$ - 1	+1 - 4	+4 - 16	+16 - 64	+64 mm
	3	32	65	0.8-1.8*	4	2	14	12	35	33	0
				1.8-2.8*	3	2	20	14	32	29	0
				Mean	3	2	17	13	34	31	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
	0.8-2.8	85	5	1	9	0	0

SY 89 SW 5 8080 9250 Affpuddle Heath, Affpuddle

Block A

Surface level +88.4 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Overburden 0.3 m
Mineral 1.5 m
Waste 0.8 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, silty, brown	0.3	0.3
Plateau Gravel	a 'Very clayey' sandy gravel Gravel: fine and coarse, subangular to subrounded grey flint and well rounded pale grey flint Sand: medium, fine and coarse, subangular to subrounded quartz with subangular flint	1.5	1.8
	Clay, sandy and silty, with some flint pebbles, brown and grey-green	0.8	2.6
Reading Beds	b 'Very clayey' sand; medium with fine, subangular to rounded quartz, pale grey	2.1+	4.7

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Sand			
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	20	44	36	0.3-1.0	34	12	21	7	15	11	0
				1.0-1.8	7	11	24	13	24	21	0
				Mean	20	11	23	10	20	16	0
b	26	73	1	2.6-3.6	26	5	68	1	0	0	0
				3.6-4.6	27	11	59	2	1	0	0
				Mean	26	8	63	2	1	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-1.8	71	28	1	0	0	trace

SY 89 SW 6 8072 9059 Spyway, Affpuddle

Block C

Surface level +25.7 m
Water struck at +24.6 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.6 m
Mineral 2.0 m
Bedrock 2.4 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Peat, sandy	0.6	0.6
Valley Gravel	a 'Clayey' sand with thin silty layers: medium with fine, subrounded quartz	1.0	1.6
	b Gravel Gravel: coarse and fine, angular to subangular grey and brown flint and well rounded brown flint with some subrounded ironstone Sand: medium with coarse, angular to subangular flint and subrounded quartz, pale brown	1.0	2.6
London Clay	c Pebbly sand Gravel: coarse with fine, well rounded grey and black flint with some rounded quartz Sand: medium with fine, subrounded quartz with subangular flint, yellow-brown	2.4+	5.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Sand			
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	10	90	0	0.6-1.6*	10	14	73	3	0	0	0
b	2	34	64	1.6-2.6*	2	2	19	13	24	40	0
c	9	78	13	2.6-3.5*	12	8	42	6	7	22	3
				3.5-4.8*	7	14	78	1	0	0	0
				Mean	9	11	64	3	3	9	1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
b 1.6-2.6	60	32	1	6	0	1

SY 89 SW 7 8196 9119 Moreton Plantation, Affpuddle

Block A

Surface level +56.5 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Bedrock 6.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Bagshot Beds	Sand with thin clayey layers towards the base: medium with some fine and coarse, subrounded quartz, orange-brown and grey	6.5+	6.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Sand			
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
8	91	1	1	0.0-1.1	7	8	77	3	3	2	0
				1.1-2.1	11	5	82	1	1	0	0
				2.1-3.1	4	6	88	2	0	0	0
				3.1-4.1	4	7	85	4	0	0	0
				4.1-5.1	7	7	77	9	0	0	0
				5.1-6.0	16	10	59	15	0	0	0
				Mean	8	7	79	5	1	0	0

SY 89 SW 8 8273 9320 Throop, Turners Puddle

Block D

Surface level +32.1 m
Water struck at +31.2 m
Shell (modified) 152 mm diameter
July 1978

Overburden 0.5 m
Mineral 6.0 m
Bedrock 0.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, peaty, black	0.5	0.5
Valley Gravel	Gravel Gravel: fine and coarse with some cobbles, subangular grey flint with some rounded chalk, rounded to well rounded quartz and subangular ironstone Sand: medium and coarse, subrounded quartz and subangular flint, pale brown	6.0	6.5
Upper Chalk	Chalk	0.5+	7.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines		Sand		Gravel			
				- $\frac{1}{8}$	$+\frac{1}{8}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	+4-16	+16-64	+64 mm	
2	33	65	0.5-1.5*	2	3	30	12	30	23	0	
			1.5-2.5*	2	2	22	13	30	27	4	
			2.5-3.5*	2	2	16	13	31	34	2	
			3.5-4.5*	2	2	18	13	34	28	3	
			4.5-5.5*	2	1	15	13	34	35	0	
			5.5-6.5*	1	0	10	11	42	36	0	
			Mean	2	2	19	12	33	30	2	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.5-6.5	88	1	3	3	5	trace

SY 89 SW 9 8363 9316 Turners Puddle, Turners Puddle

Block D

Surface level +32.0 m
 Water struck at +30.0 m
 Shell (modified) 152 mm diameter
 September 1978

Overburden 0.2 m
 Mineral 5.8 m
 Bedrock 1.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, clayey, black	0.2	0.2
Valley Gravel	Gravel with a thin peat layer (0.8-1.2m), 'very clayey' at the top Gravel: coarse and fine, subangular brown flint with some well rounded black flint and rounded quartz Sand: medium and coarse, subrounded quartz and subangular flint, pale brown	5.8	6.0
Upper Chalk	Chalk	1.0+	7.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines		Sand		Gravel			
				- $\frac{1}{8}$	$+\frac{1}{8}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	+4-16	+16-64	+64 mm	
5	29	66	0.2-0.8	21	4	12	7	18	38	0	
			1.2-2.2*	3	1	13	9	35	36	3	
			2.2-3.2*	1	1	10	145	36	38	0	
			3.2-4.2*	2	1	23	14	35	22	3	
			4.2-5.2*	3	3	23	8	26	37	0	
			5.2-6.0*	7	2	22	9	28	32	0	
			Mean	5	2	17	10	31	34	1	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.2-6.0	89	8	2	trace	1	trace

SY 89 SW 10 8316 9484 Piddle Wood, Bere Regis

Block A

Surface level +99.2 m
 Water struck at +93.7 m
 Shell (modified) 152 mm diameter
 July 1978

Overburden 0.4 m
 Mineral 1.9 m
 Bedrock 5.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with some flint pebbles, pale brown	0.4	0.4
Plateau Gravel	a 'Very clayey' gravel less 'clayey' with depth Gravel: coarse and fine, subangular to subrounded grey and brown flint with some subrounded ironstone, subrounded to rounded quartz and well rounded grey and black flint Sand: medium and coarse, subangular quartz	1.9	2.3
Reading Beds	b 'Clayey' pebbly sand, pebbles occur in thin seams Gravel: coarse and fine, well rounded grey flint Sand: medium subangular to subrounded quartz and flint, brown	5.0+	7.3

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages							
	Fines	Sand	Gravel		Fines		Sand		Gravel			
					- $\frac{1}{8}$	$+\frac{1}{8}-\frac{1}{4}$	$+\frac{1}{4}-1$	$+1-4$	+4-16	+16-64	+64 mm	
a	23	30	47	0.4-1.4	31	2	17	12	18	20	0	
				1.4-2.3	13	3	18	10	22	34	0	
				Mean	23	3	17	10	20	27	0	
b	15	77	8	2.3-3.3	17	8	67	5	2	1	0	
				3.3-4.3	22	7	55	6	3	7	0	
				4.3-5.3	13	6	60	6	7	8	0	
				5.3-6.3*	17	7	59	5	6	6	0	
				6.3-7.3*	6	4	88	1	1	0	0	
				Mean	15	6	66	5	4	4	0	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.4-2.3	83	7	2	8	0	0

SY 89 SW 11 8307 9256 Brockhill, Turners Puddle

Block A

Surface level +57.8 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Overburden 0.5 m
Mineral 3.4 m
Bedrock 4.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, silty with pebbles, brown	0.5	0.5
Valley Gravel	a 'Clayey' gravel Gravel: fine and coarse, subangular to subrounded grey and black flint with some well rounded black flint and traces of rounded quartz and subrounded ironstone Sands: medium and coarse with fine, subrounded quartz with subangular flint, brown	3.4	3.9
Bagshot Beds	Clay, silty, with thin sandy layers, pale grey	1.5	5.4
London Clay	b 'Clayey' pebbly sand Gravel: coarse and fine, well rounded black flint Sands: medium with some coarse and fine, subrounded quartz with some angular to subangular flint, grey and brown	2.6+	8.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	10	34	56	0.5-1.5	16	5	13	10	25	31	0
				1.5-2.5	8	4	17	12	29	30	0
				2.5-3.5	6	5	21	13	33	22	0
				3.5-3.9	8	5	20	14	29	24	0
				Mean	10	5	17	12	29	27	0
b	13	78	9	5.4-5.7	22	10	51	15	1	1	0
				5.7-7.0	14	4	51	20	5	6	0
				7.0-8.0	9	7	75	1	3	5	0
				Mean	13	6	60	12	4	5	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.5-3.9	91	6	2	1	0	trace

SY 89 SW 12 8343 9099 Tonnerspuddle Heath, Bere Regis

Block A

Surface level +82.7 m
Water not struck
Shell (modified) 152 mm diameter
October 1978

Overburden 0.1 m
Bedrock 3.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Made Ground		0.1	0.1
Bagshot Beds	Clay, sandy, silty, with some flint pebbles, pale grey and brown Clay with thin sandy layers and some flint pebbles, brown and dark grey	2.2	2.3
		1.7+	4.0

SY 89 SW 13 8431 9249 Chamberlayne's Farm, Bere Regis

Block D

Surface level +26.6 m
Water struck at +25.2 m
Shell (modified) 152 mm diameter
October 1978

Overburden 0.3 m
Mineral 1.2 m
Bedrock 3.5 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, pale brown	0.3	0.3
Valley Gravel	'Clayey' gravel Gravel: coarse and fine, subangular to subrounded brown and black flint with some rounded ironstone, well rounded black flint and rounded quartz Sand: medium with coarse and fine, subangular flint and subrounded to rounded quartz, pale brown	1.2	1.5
Reading Beds	Clay, silty, with sandy layers and sporadic flint pebbles, mottled grey and red	3.5+	5.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		percentages						
					-½	+½ -¼	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm
	12	41	47	0.3-1.5*	12	10	19	12	19	28	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
0.3-1.5	85	5	3	7	0	0

SY 89 SW 14 8440 9043 Bere Heath, East Stoke

Block A

Surface level +70.2 m
Water struck at 68.1 m
Shell (modified) 152 mm diameter
July 1978

Waste 2.4 m
Bedrock 2.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, with pebbles, brown	0.5	0.5
Plateau Gravel	Clay, sandy with flint pebbles becoming more numerous with depth passing into a thin clayey gravel (2.1-2.4m) at the base	1.9	2.4
Bagshot Beds	Clay, silty, mottled, grey and red-brown	2.6+	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 mm
10	40	50	2.1-2.4*	10	6	18	16	22	28	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
2.1-2.4	77	2	21	0	0	trace

SY 89 SE 1 8511 9396 Dodding's Farm, Bere Regis

Block D

Surface level +29.4 m
Water struck at +28.8 m
Shell (modified) 152 mm diameter
July 1978

Overburden 0.5 m
Mineral 1.8 m
Bedrock 1.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Peat	Peat, black	0.5	0.5
Valley Gravel	Gravel, 'clayey' at the top Gravel: coarse and fine, subangular to subrounded brown and grey flint with some well rounded pale grey flint, subrounded ironstone and rounded quartz Sand: medium and coarse, subrounded quartz, brown	1.8	2.3
Upper Chalk	Chalk	1.2+	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 mm
9	24	67	0.5-1.3*	14	5	14	8	26	33	0
			1.3-2.3*	5	1	11	10	31	37	5
			Mean	9	3	12	9	29	35	3

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.5-2.3	90	6	2	2	0	trace

SY 89 SE 2 8548 9227 Bere Heath Farm, Bere Regis

Block D

Surface level +29.8 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Overburden 1.3 m
Mineral 1.6 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, clayey, pale brown	0.1	0.1
Alluvium	Clay, silty with sandy layers towards the base, dark brown	1.2	1.3
Valley Gravel	a 'Clayey' gravel Gravel: coarse and fine with cobbles, angular to subangular black flint with some well rounded black flint and subangular ironstone Sand: medium and coarse subangular quartz and flint, brown	1.6	2.9
Bagshot Beds	b 'Very clayey' sand: fine with medium subrounded quartz, ironstained in parts pale grey	2.0+	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 mm
a	10	33	57	1.3-2.3	11	4	19	8	21	32	5
				2.3-2.9	8	4	18	13	27	30	0
				Mean	10	4	19	10	23	31	3
b	37	63	0	2.9-3.9	42	48	9	1	0	0	0
				3.9-4.9	32	52	16	0	0	0	0
				Mean	37	50	12	1	0	0	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 1.3-2.9	81	9	1	9	0	trace

SY 89 SE 3 8829 9259 Sugar Hill, Bloxworth

Block A

Surface level +36.9 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Waste Bedrock 0.1 m
16.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, black	0.1	0.1
Bagshot Beds	Sand, medium subrounded quartz, grey	0.2	0.3
	Clay, sandy, silty, with some flint pebbles and lignitic fragments grey	5.7	6.0
	Sand: medium with some fine, subrounded to rounded quartz, yellow-brown	4.6	10.6
	Clay, with sandy and silty layers and plant remains micaceous in parts, grey	6.4+	17.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages					
Fines	Sand	Gravel		Fines	Sand	Gravel			
			- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
3	97	0	6.0-7.0	5	9	86	0	0	0
			7.0-10.6	2	4	92	2	0	0
			Mean	3	5	91	1	0	0

SY 89 SE 4 8520 9178 Warren, Bere Regis

Block D

Surface level +22.2 m
Water level not recorded
Shell (modified) 152 mm diameter
July 1978

Overburden 0.2 m
Mineral 0.6 m
Bedrock 20.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, dark brown	0.2	0.2
Valley Gravel	a Sandy gravel Gravel: coarse and fine, angular to subangular flint with some well rounded grey flint and rounded quartz Sand: medium with fine and coarse, subrounded quartz with subangular flint grey	0.6	0.8

Bagshot Beds

b 'Clayey' sand with thin clay layers: medium with fine, subrounded quartz with lignitic fragments, yellow-brown

18.2 19.0

Clay, dark grey

2.7+ 21.7

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines	Sand	Gravel				
				- $\frac{1}{2}$	+ $\frac{1}{2}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm	
a	5	60	35	0.2-0.8	5	13	38	9	14	21	0
b	15	85	0	0.8-1.8	61	17	21	1	0	0	0
				1.8-2.2	29	10	59	1	1	0	0
				2.2-3.8	0	21	73	1	2	3	0
				3.8-4.8	16	18	66	0	0	0	0
				4.8-5.8	12	10	77	1	0	0	0
				5.8-6.8	14	21	64	1	0	0	0
				6.8-7.8	5	7	86	2	0	0	0
				7.8-8.8	8	13	77	2	0	0	0
				8.8-9.8	49	14	36	1	0	0	0
				9.8-10.8	4	12	84	0	0	0	0
				10.8-12.8	7	23	70	0	0	0	0
				12.8-14.8	23	7	68	1	1	0	0
				14.8-16.8	7	13	77	2	1	0	0
16.8-18.8	5	13	82	0	0	0	0				
Mean	15	15	69	1	0	0	0				

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.2-0.8	94	3	2	0	0	1

SY 89 SE 5 8637 9137 Philliols Farm, Bere Regis

Block D

Surface level +23.6 m
Water struck at +19.1 m
Shell (modified) 152 mm diameter
July 1978

Overburden 0.6 m
Mineral 2.0 m
Bedrock 13.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, silty with some flint pebbles, pale brown	0.6	0.6
Valley Gravel	a Sandy gravel Gravel: coarse and fine, with some cobbles subangular to subrounded grey and brown flint with some well rounded brown and black flint, subrounded quartz and subangular ironstone Sand: medium with coarse, rounded quartz and subangular flint, brown	2.0	2.1
Bagshot Beds	b Sand: medium with coarse and fine, rounded quartz with some subrounded flint, lignitic fragments; pyritic cement developed in coarse sand layers, yellow-brown and grey	13.2+	15.8

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages							
	Fines	Sand	Gravel									
					Fines		Sand		Gravel			
					-½	+½ -¾	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	6	61	33	0.6-1.6	8	4	25	12	21	28	2	
				1.6-2.6	3	5	70	7	5	10	0	
				Mean	6	4	47	10	13	19	1	
b	5	95	0	2.6-3.6	4	6	70	17	2	1	0	
				3.6-4.5*	9	10	70	11	0	0	0	
				4.6-5.6*	8	5	60	25	2	0	0	
				5.6-8.0*	5	5	57	33	0	0	0	
				8.2-11.0*	5	6	79	10	0	0	0	
				11.0-14.5*	3	11	80	6	0	0	0	
				Mean	5	7	73	15	0	0	0	

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
		a	0.6-2.6	85	8	3	4

SY 89 SE 6

8707 9031

Hyde House, Bere Regis

Block D

Surface level +15.7 m
Water struck at +15.5 m
Shell (modified) 152 mm diameter
August 1978

Overburden 0.2 m
Mineral 2.0 m
Bedrock 2.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, sandy, black	0.2	0.2
Valley Gravel	a Gravel Gravel: coarse and fine, subangular grey and black flint with some well rounded black flint Sand: medium and coarse, subrounded quartz with some subangular flint, grey	2.0	2.2
Bagshot Beds	b 'Clayey' sand: medium and fine subrounded quartz, pale grey	2.7+	4.9

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages							
	Fines	Sand	Gravel									
					Fines		Sand		Gravel			
					-½	+½ -¾	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	1	42	57	0.2-1.2*	3	2	22	15	25	33	0	
				1.2-2.2*	0	1	27	17	28	27	0	
				Mean	1	1	25	16	27	30	0	
b	12	88	0	2.2-3.2*	14	25	60	1	0	0	0	
				3.2-4.2*	13	45	42	0	0	0	0	
				4.2-4.9*	8	58	33	1	0	0	0	
				Mean	12	41	46	1	0	0	0	

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
		a	0.2-2.2	94	4	2	0

SY 89 SE 7

8640 9039

Cuckoo Pound, Bere Regis

Block D

Surface level +28.0 m
Water not struck
Shell (modified) 152 mm diameter
July 1978

Overburden 0.4 m
Mineral 2.6 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy with pebbles, pale grey	0.4	0.4
Valley Gravel	Gravel Gravel: fine and coarse, subangular to subrounded grey and black flint with some well rounded black flint and rounded quartz Sand: medium and coarse with fine, subangular quartz and flint	2.6	3.0
Bagshot Beds	Clay, silty, sandy, pale grey	2.0+	5.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages							
	Fines	Sand	Gravel									
					Fines		Sand		Gravel			
					-½	+½ -¾	+¼ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	6	45	49	0.4-1.4	8	5	19	15	27	26	0	
				1.4-2.4	5	4	26	17	30	18	0	
				2.4-3.0	5	5	20	23	28	19	0	
				Mean	6	5	22	18	28	21	0	

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
		a	0.4-3.0	86	3	6	5

SY 98 NW 6 9056 8776 Wareham Common, Wareham Lady St. Mary

Block F

Surface level +6.4 m
Water struck at +4.7 m
Shell (modified) 152 mm diameter
June 1978

Overburden 1.7 m
Mineral 2.3 m
Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, red-brown	0.5	0.5
Alluvium	Clay, becoming sandy, and pebbly with depth, grey and yellow	1.2	1.7
Valley Gravel	a Gravel Gravel: coarse and fine with some cobbles, subangular to rounded grey flint with some well rounded grey flint and rounded quartz Sand: coarse and medium, angular to subrounded quartz and flint	2.3	4.0
Bagshot Beds	b Sand: medium with fine subangular to rounded quartz, grey	2.0+	6.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					-1/8	+1/8 - 1/4	+1/4 - 1	+1 - 4	+4 - 16	+16 - 64	+64 mm
a	12	43	56	1.7-2.7*	1	3	18	19	27	32	0
				2.7-3.7*	1	7	24	14	17	26	11
				Mean	1	5	21	17	22	29	5
b	2	98	0	4.0-5.0*	2	13	84	1	0	0	0
				5.0-6.0*	3	12	82	3	0	0	0
				Mean	2	13	83	2	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	1.7-3.7	84	5	10	1	0	0

SY 98 NW 7 9051 8590 Squirrel's Cottages, East Holme

Block F

Surface level +1.8 m
Water struck at -0.6 m
Shell (modified) 152 mm diameter
June 1978

Overburden 1.2 m
Mineral 1.7 m
Bedrock 2.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made Ground	0.6	0.6
Alluvium	Silt, clayey with rootlets, brown	0.6	1.2
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey and brown flint with some rounded quartz and a trace of subrounded ironstone Sand: coarse and medium with fine, subangular to rounded quartz with subangular flint, yellow-brown	1.7	2.9
Bagshot Beds	Clay, sandy thin interlaminated clays and fine to medium subrounded quartz sands b Sand: medium with fine, subangular to rounded quartz yellow	0.3 1.8+	3.2 5.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					-1/8	+1/8 - 1/4	+1/4 - 1	+1 - 4	+4 - 16	+16 - 64	+64 mm
a	2	45	53	1.2-2.4	2	3	18	17	29	31	0
				2.4-2.9*	3	7	34	18	16	22	0
				Mean	2	5	23	17	25	28	0
b	4	96	0	3.2-4.0*	7	13	72	8	0	0	0
				4.0-5.0*	1	16	79	4	0	0	0
				Mean	4	14	76	6	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	1.2-2.9	90	1	7	2	0	0

SY 98 NW 8 9103 8878 Seven Barrows, Wareham St. Martin

Block A

Surface level +33.7 m
Water not struck
Shell (modified) 152 mm diameter
June 1978

Overburden 0.3 m
Mineral 1.6 m
Waste 1.0 m
Bedrock 3.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.3	0.3
Plateau Gravel	a 'Very clayey' sandy gravel Gravel: fine and coarse, angular to subrounded grey and brown flint with some rounded quartz Sand: medium and coarse subangular quartz, pale grey	1.6	1.9
	Clay, silty, with flint pebbles grey	1.0	2.9
Bagshot Beds	Silt, clayey, sandy pale grey	2.0	4.9
	Clay, pale grey	0.3	5.2
	b Sand with some lignitic fragments: medium with fine and coarse subangular to subrounded quartz, pale grey	1.0+	6.2

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Gravel						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	32	36	32	0.3-1.3	33	5	17	14	18	13	0
				1.3-1.9	29	4	18	13	22	14	0
				Mean	32	4	18	14	19	13	0
b	9	91	0	5.2-6.2	9	16	65	10	0	0	0

SY 98 NW 9 9128 8708 Worgret Manor Farm, Wareham Lady St. Mary

Block F

Surface level +15.2 m
Water struck at +11.9 m
Shell (modified) 152 mm diameter
June 1978

Overburden 0.8 m
Mineral 2.5 m
Bedrock 2.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.3	0.3
	Soil, sandy, clayey, with flint pebbles	0.5	0.8
Valley Gravel	a Gravel Gravel: coarse and fine with some cobbles, subrounded to rounded grey and brown flint with some rounded quartz and well rounded grey flint with a trace of subrounded ironstone Sand: medium and coarse with fine, subangular to rounded quartz, yellow-brown.	2.5	3.3

Bagshot Beds

b Sand: fine and medium, subrounded to rounded quartz 1.1 4.4
Silt, clayey, with sandy laminae, some well rounded flint pebbles and lignite fragments, dark grey 1.6+ 6.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Gravel						
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1-4	+4-16	+16-64	+64 mm
a	5	44	51	0.8-2.0	7	8	24	12	25	22	2
				2.0-3.3	4	8	19	16	24	29	0
				Mean	5	8	22	14	24	26	1
b	6	94	0	3.3-4.4*	6	60	31	3	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/Subangular flint	Rounded/Well rounded flint	Quartz	Ironstone	Chalk	Others
a	0.3-3.3	84	4	10	2	0	0

SY 98 NW 10 9168 8641 Stoborough, Arne

Block F

Surface level +2.0 m
Water struck at +0.2 m
Shell (modified) 152 mm diameter
June 1978

Overburden 1.8 m
Mineral 2.4 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty	0.4	0.4
Alluvium	Clay, grey-yellow	1.4	1.8
Valley Gravel	Gravel Gravel: coarse and fine, subangular to rounded grey and brown flint with some rounded quartz and well rounded grey flint, trace of subrounded ironstone Sand: medium and coarse, subangular to rounded quartz	2.4	4.2
Bagshot Beds	Clay silty, mottled, white and red-brown	1.2	5.4
	Clay, with thin laminae of sand and some well rounded flint pebbles, mottled white and red-brown	1.8+	7.2

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
				-½	+½ -¾	+¾ -1	+1 -4	+4 -16	+16 -64	+64 mm
6	40	54	1.8-3.0*	2	2	17	11	29	39	0
			3.0-4.2*	11	4	35	12	18	20	0
			Mean	6	3	26	11	24	30	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
1.8-4.2	84	4	8	4	0	0

SY 98 NW 11 9142 8545 East Holme Farm, East Holme

Block E

Surface level +10.9 m
Water struck at +5.4 m
Shell (modified) 152 mm diameter
June 1978

Overburden 0.2 m
Mineral 6.2 m
Bedrock 18.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, grey	0.2	0.2
Valley Gravel	a Sandy gravel, coarser at base Gravel: coarse and fine with cobbles, subangular to subrounded brown flint with subangular ironstone and rounded quartz Sand: medium with coarse and fine, angular to subrounded quartz with subangular flint, pale grey and yellow-brown	6.2	6.4
Bagshot Beds	b Pebbly sand with thin silty layers Gravel: coarse with fine, subangular grey flint Sand: medium with fine and coarse subangular to subrounded quartz with angular flint, pale grey	4.5	10.9
	Clay, with sporadic siderite pellets, pyritised rootlets and lignitic fragments, often mottled grey, yellow-brown and red	10.8	21.7
	Clay, silty, pale grey	3.3+	25.0

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages							
Fines	Sand	Gravel		Fines		Sand		Gravel			
				-½	+½ -¾	+¾ -1	+1 -4	+4 -16	+16 -64	+64 mm	
a	5	56	39	0.4-0.7	1	14	35	19	12	19	0
				0.7-1.7	5	22	48	7	6	12	0
				1.7-2.7	5	23	45	11	9	7	0
				2.7-3.7	8	14	33	14	14	17	0
				3.7-4.7	2	1	19	16	17	36	9
				4.7-5.4	1	1	17	20	22	37	2
				5.4-6.4*	6	14	21	4	6	35	14
				Mean	5	13	31	12	12	23	4
b	7	87	6	6.4-7.0*	9	31	39	8	5	8	0
				7.0-8.0*	10	21	44	8	2	15	0
				8.0-9.0*	4	22	64	9	0	1	0
				9.0-10.0*	3	21	69	5	0	2	0
				10.0-10.9*	11	8	77	4	0	0	0
				Mean	7	20	60	7	1	5	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well-rounded flint	Quartz	Ironstone	Chalk	Others
a	0.4-6.4	52	2	19	27	0

SY 98 NW 12 9238 8827 Sandford Farm, Wareham Lady St. Mary

Block F

Surface level +1.5 m
Water struck at -3.3 m
Shell (modified) 152 mm diameter
September 1978

Overburden 4.8 m
Mineral 0.9 m
Bedrock 1.3 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	2.0	2.0
Peat	Peat	2.7	4.7
Alluvium	Silt, grey	0.1	4.8
Valley Gravel	a Gravel Gravel: coarse and fine, subangular to subrounded grey flint with some well rounded black flint and rounded quartz Sand: coarse and medium, subrounded quartz and subangular flint, grey	0.9	5.7
Bagshot Beds	b Sand: medium with coarse and fine, subrounded to rounded quartz with some subangular flint, brown and grey	1.3+	7.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages								
	Fines	Sand	Gravel		percentages								
					Fines	Sand			Gravel				
- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm							
a	8	34	58	4.8-5.7*	8	2	13	19	22	36	0		
b	5	95	0	5.7-7.0*	5	15	57	23	0	0	0		

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	4.8-5.7	88	5	5	trace	0	2

SY 98 NW 13 9302 8719 Bestwall, Wareham St. Martin

Surface level +1.4 m
Water struck at -2.2 m
Shell (modified) 152 mm diameter
July 1978

Block F

Overburden 4.5 m
Mineral 1.4 m
Bedrock 6.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Peat	3.6	3.6
Alluvium	Clay, silty pale grey	0.9	4.5
Valley Gravel	a Sandy gravel Gravel: coarse and fine, subangular to subrounded flint with some subrounded quartz Sand: medium with fine, subangular to subrounded quartz, brown	1.4	5.9
Bagshot Beds	Clay, silty, with sandy laminae, becoming a clayey silt with depth b Sand: medium with fine subrounded quartz with lignitic fragments and thin clay layers, yellow-brown	2.6 3.5+	8.5 12.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages								
	Fines	Sand	Gravel		percentages								
					Fines	Sand			Gravel				
- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm							
a	9	56	35	4.5-5.9*	9	7	33	16	18	17	0		
b	6	94	0	8.5-12.0*	6	15	78	1	0	0	0		

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	4.5-5.9	90	1	8	trace	0	1

SY 98 NW 14 9355 8941 Keyworth Crossing, Wareham St. Martin

Surface level +5.1 m
Water struck at +2.7 m
Shell (modified) 152 mm diameter
August 1978

Block F

Overburden 0.2 m
Mineral 3.2 m
Bedrock 17.1 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, brown	0.2	0.2
Valley Gravel	Sandy gravel Gravel: coarse and fine, angular to subrounded brown and grey flint with subrounded to rounded quartz and some well rounded grey flint and subrounded ironstone Sand: medium and coarse with fine, subrounded quartz with some subangular flint, dark brown	3.2	3.4
Bagshot Beds	Clay, silty, with some sandy layers, lignitic fragments passing with depth into clayey silt interbedded with clay, becoming sandy at the base	17.1+	20.5

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages							
	Fines	Sand	Gravel		percentages							
					Fines	Sand			Gravel			
- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm						
12	45	43	0.2-1.2	4	7	26	16	21	24	2		
			1.2-2.2	31	9	24	7	17	12	0		
			2.2-3.4	4	4	23	18	20	31	0		
			Mean	12	7	24	14	19	23	1		

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
	0.2-3.4	80	2	15	3	0	0

SY 98 NW 15 9338 8811 North Bestwall House, Wareham St. Martin

Block F

Surface level +2.1 m
Water struck at +0.1 m
Shell (modified) 152 mm diameter
June 1978

Overburden 0.7 m
Mineral 2.5 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, dark brown	0.7	0.7
Valley Gravel	Sandy gravel Gravel: coarse and fine, subangular to subrounded grey and brown flint with some rounded quartz well rounded pale grey flint and subrounded ironstone Sand: medium and coarse with fine subangular quartz	2.5	3.2
Bagshot Beds	Clay, sandy, brown	0.1	3.3
	Clay with fine sand laminae, dark grey	2.9+	6.2

GRADING

Mean for deposit percentages			Depth below surface (m)	percentages						
Fines	Sand	Gravel		Fines		Sand		Gravel		
			- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm	
6	55	39	12	12	30	11	19	16	0	
			3	6	29	16	9	37	0	
			0	6	40	21	20	13	0	
			6	8	32	15	15	24	0	

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.7-3.2	97	1	1	1	0	0

SY 98 NW 16 9399 8722 Ridge Wharf, Arne

Block F

Surface level +0.3 m
Water struck at -4.7 m
Shell (modified) 152 mm diameter
June 1978

Overburden 5.0 m
Mineral 5.0 m
Bedrock 2.2 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Peat	Peat	1.5	1.5
Alluvium	Clay, silty, dark grey	0.8	2.3
Peat	Peat, silty, grey-brown	2.7	5.0

Valley Gravel

a Sand: medium and fine, subangular to rounded quartz, dark grey

1.0 6.0

b Gravel

Gravel: coarse and fine, subangular to subrounded black grey and brown flint with some rounded quartz, well rounded grey flint and subangular ironstone
Sand: medium with fine and coarse, subangular to rounded quartz, yellow-brown

4.0 10.0

Bagshot Beds

c 'Clayey' pebbly sand with thin clay layers
Gravel: coarse with fine, subangular to subrounded quartz sandstone and flint
Sand: fine and medium with coarse, subangular to subrounded quartz

1.2 11.2

Silt, clayey, mottled pale grey and red-brown

1.0+ 12.2

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines		Sand		Gravel		
					- $\frac{1}{8}$	+ $\frac{1}{8}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	4	95	1	5.0-6.0*	4	27	67	1	0	1	0
b	4	36	60	6.0-7.0*	2	4	31	11	6	46	0
				7.0-8.0*	8	1	10	7	42	32	0
				8.0-9.0*	1	3	17	13	26	40	0
				9.0-10.0*	5	16	20	13	18	28	0
				Mean	4	6	19	11	23	37	0
c	17	67	16	10.0-10.2*	27	7	39	10	4	13	0
				10.2-11.2*	15	37	21	11	3	13	0
				Mean	17	32	24	11	3	13	0

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
b 6.0-10.0	81	8	7	4	0	0

SY 98 NW 17 9438 8927 Keyworth Point, Wareham St. Martin

Block F

Surface level +1.4 m
Water struck at +0.3 m
Shell (modified) 152 mm diameter
June 1978

Overburden 1.1 m
Mineral 2.2 m
Bedrock 4.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, dark brown	0.3	0.3
Alluvium	Clay with thin sandy laminae, yellow	0.8	1.1

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
0.2-1.9	82	2	14	2	0	trace

SY 99 SW 1 9013 9364 Snail's Bridge, Morden Block D

Surface level +23.6 m
 Water struck at +19.5 m
 Shell (modified) 152 mm diameter
 September 1978

Overburden 0.6 m
 Mineral 1.7 m
 Bedrock 2.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
Alluvium	Soil, sandy, brown	0.3	0.3
Valley Gravel	a 'Very clayey' sandy gravel Gravel: coarse and fine, angular to subangular brown flint with some subangular ironstone, well rounded black flint and rounded quartz Sand: medium with fine and coarse, subrounded to rounded quartz and subangular flint, orange-brown	1.7	2.3
Bagshot Beds	b Sand with thin silty laminae: medium with fine, rounded quartz	2.0+	4.3

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages									
	Fines	Sand	Gravel		percentages									
					Fines	Sand	Gravel			mm				
- $\frac{1}{16}$	+ $\frac{1}{16}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64								
a	21	58	21	0.6-1.6	30	10	36	8	8	8	0			
				1.6-2.3	8	11	40	11	16	12	2			
				Mean	21	11	38	9	11	9	1			
b	7	93	0	2.3-3.3	7	13	78	1	0	1	0			
				3.3-4.3*	7	25	68	0	0	0	0			
				Mean	7	19	73	1	0	0	0			

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.6-2.3	79	6	4	10	0	1

SY 99 SW 2 9235 9213 Sherford Bridge, Wareham St. Martin Block A

Surface level +42.6 m
 Water not struck
 Shell (modified) 152 mm diameter
 July 1978

Overburden 0.3 m
 Mineral 1.1 m
 Bedrock 19.6 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, sandy, with flint pebbles, pale grey	0.3	0.3
Plateau Gravel	a 'Clayey' gravel Gravel: fine and coarse, subangular to subrounded brown and black flint with well rounded black flint with some rounded quartz Sand: medium and coarse, subangular to subrounded quartz with some subangular flint, yellow-brown	1.1	1.4
Bagshot Beds	b 'Clayey' sand with thin clay layers: medium with fine and coarse, subrounded quartz, pale grey and yellow-brown Clay, silty, patchily ironstained, pale grey Silt clayey, pale grey	13.0	14.4
		5.4	19.8
		1.2+	21.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages									
	Fines	Sand	Gravel		percentages									
					Fines	Sand	Gravel			mm				
- $\frac{1}{16}$	+ $\frac{1}{16}$ - $\frac{1}{4}$	+ $\frac{1}{4}$ -1	+1 -4	+4 -16	+16 -64	+64								
a	19	40	41	0.3-1.4	19	4	19	17	23	18	0			
b	11	89	0	1.4-2.4	6	6	80	8	0	0	0			
				2.4-3.4	8	12	74	6	0	0	0			
				3.4-4.4	8	12	74	6	0	0	0			
				4.4-5.4	18	14	67	1	0	0	0			
				5.4-6.4	9	13	76	2	0	0	0			
				6.4-7.4	28	7	62	3	0	0	0			
				7.4-8.4	6	10	78	6	0	0	0			
				8.4-10.4	6	20	64	10	0	0	0			
				10.4-12.4	17	5	66	11	1	0	0			
				12.4-14.4	6	5	78	11	0	0	0			
				Mean	11	10	72	7	0	0	0			

COMPOSITION

Depth below surface (m)	percentages by weight in +4-16 mm fraction					
	Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a 0.3-1.4	87	10	3	trace	0	trace

SY 99 SW 3 9473 9034 Black Hill, Wareham St. Martin

Block F

Surface level +4.7 m
Water struck at +2.0 m
Shell (modified) 152 mm diameter
June 1978

Overburden 2.7 m
Mineral 2.1 m
Bedrock 3.0 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Made ground	0.8	0.8
Valley Gravel	Clay, sandy, yellow-brown and grey	1.9	2.7
	a Sandy gravel	2.1	4.8
	Gravel: coarse and fine, subangular to subrounded brown and grey flint with some well rounded grey flint, rounded quartz and subangular to subrounded ironstone		
	Sand: medium with coarse, subangular to rounded quartz		
Bagshot Beds	b Sand: Medium with fine subrounded to rounded quartz sand, brown	3.0+	7.8

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
a	4	57	39	2.7-3.7*	4	13	38	11	16	18	0
				3.7-4.7*	4	1	26	25	23	21	0
				Mean	4	7	32	18	19	20	0
b	2	98	0	4.8-5.8*	2	13	82	3	0	0	0
				5.8-6.8*	4	8	87	1	0	0	0
				6.8-7.8*	1	5	94	0	0	0	0
				Mean	2	9	88	1	0	0	0

COMPOSITION

	Depth below surface (m)	percentages by weight in +4-16 mm fraction					
		Angular/ Subangular flint	Rounded/ Well rounded flint	Quartz	Ironstone	Chalk	Others
a	2.7-4.7	86	3	7	3	0	1

SY 99 SW 4 9002 9166 Morden Heath, Wareham St. Martin

Block A

Surface level +18.3 m
Water struck at +8.5 m
Shell (modified) 152 mm diameter
July 1978

Waste 0.1 m
Bedrock 9.9 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Soil, peaty, black	0.1	0.1
Bagshot Beds	Sand: medium with some fine and coarse, subrounded to rounded quartz with some subangular flint, yellow-brown and pale grey	3.2	3.3
	Clay, with carbonaceous material, dark grey	3.0	6.3
	Clay, silty, with siderite pellets, mottled pale grey and red	1.0	7.3
	Clay, silty, carbonaceous, pale grey	2.3	9.6
	Sand, medium, rounded quartz, grey	0.4+	10.0

GRADING

	Mean for deposit percentages			Depth below surface (m)	percentages						
	Fines	Sand	Gravel		Fines			Gravel			
					-½	+½ -½	+½ -1	+1 -4	+4 -16	+16 -64	+64 mm
	7	92	1	0.1-1.1	11	5	79	5	0	0	0
				1.1-2.4	4	10	85	1	0	0	0
				2.4-3.3	7	5	76	10	2	0	0
				Mean	7	7	80	5	1	0	0

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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 X £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 880614 9 £1.30
 - 8 The sand and gravel resources of the country around Shotley and Felixstowe, 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.
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