

**A1**  
**Basingstoke and Deane Borough Local Plan**  
**Plan 3 : South of the M3 (West)**  
**Agricultural Land Classification**  
**Reconnaissance Survey Report**  
**September 1994**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## BASINGSTOKE AND DEANE BOROUGH LOCAL PLAN PLAN 3 : SOUTH OF M3 (WEST) RECONNAISSANCE SURVEY

### 1. Summary

- 1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality for a number of sites in the Basingstoke District of Hampshire. The work forms part of MAFF's statutory input to the preparation of the Basingstoke and Deane Borough Local Plan.
- 1.2 Plan 3 comprises approximately 200 hectares of land south of the M3 motorway, to the south-east of Basingstoke in Hampshire. An Agricultural Land Classification (ALC), survey was carried out during September 1994. The survey was undertaken at a reconnaissance level of approximately one boring for every four hectares of land surveyed. A total of 51 auger borings, 5 topsoil stone measurements and 5 soil inspection pits were described in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land, (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose a long term limitation on its use for agriculture.
- 1.3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.
- 1.4 At the time of survey the agricultural land on the site was in a mixture of land uses including, permanent grassland, recently drilled oilseed rape and cereals, maize, cereal stubble and recently ploughed land. Urban areas comprise residential areas and metalled roads. Field margins and overgrown, disused land have been mapped as non-agricultural whilst a number of areas of woodland have been noted. An area of land around Cliddesden Hill was not surveyed because it has been surveyed previously in connection with Basingstoke and Deane Local Plan, (ADAS Reference: 1501/150/93). South of here land was not surveyed because permission to enter onto the land was not obtained.
- 1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table below. The map has been drawn at a scale of 1:15,000. It is accurate at this scale, but any enlargement would be misleading. The reconnaissance nature of the survey means that grade boundaries are shown as dotted lines, to emphasis that their location is approximate.

**Table 1 : Distribution of Grades and Subgrades**

<b>Grade</b>	<b>Area (ha)</b>	<b>% of Site</b>	<b>% of Agricultural Land</b>
2	39.1	19.4	23.1
3a	105.1	52.2	62.2
3b	<u>24.8</u>	<u>12.3</u>	<u>14.7</u>
Total agricultural area	169.0	83.9	100%
Urban	3.6	1.8	
Non-agricultural	2.5	1.2	
Woodland	7.2	3.6	
Not surveyed	<u>19.1</u>	<u>9.5</u>	
Total area of site	201.4	100%	

1.6 Appendix 1 gives a general description of the grades, subgrades and land use categories identified in this survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and expected level and consistency of yield.

1.7 The majority of the agricultural land surveyed has been assigned to Subgrade 3a, good quality land, with smaller units of Grade 2, very good quality land and Subgrade 3b, moderate quality land. Soils on the site generally comprise variably stony, medium silty profiles overlying chalk at varying depths. Some heavier profiles derived from clay-with-flints deposits were noted in the extreme south-east of the site and north of Cliddesden Hill. The land is primarily affected by soil droughtiness limitations. The interaction between soil properties such as soil textures, depths and stone contents with the local climatic parameters, causes profile available water to be restricted. The degree of restriction is largely dependent upon depth to underlying chalk and profile stone content, which thereby determines the grade. The deeper, less stony profiles in the dry valleys are assigned to Grade 2, whilst shallower, more chalky soils over much of the site are classified as Subgrade 3a. Land has also been assigned to Subgrade 3a where topsoil stone contents in the range 11-15% > 2 cm in size restrict the utilisation of the land. Some Subgrade 3a land is associated with the clay-with-flints deposits where soil wetness and/or workability limitations apply. Subgrade 3b land has been mapped in two situations. Towards the south of the site, gradients in the range 7.5-10° restrict land quality whilst north of Cliddesden Hill, very heavy topsoil textures interact with the moist climatic regime at this locality to give rise to soil workability problems.

## 2. Climate

2.1 Climatic criteria are considered first when classifying land as climate can be overriding in the sense that adverse climatic conditions may restrict land to low grades irrespective of favourable site or soil conditions.

2.2 The main parameters used in the assessment of an overall climatic limitation are, average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

- 2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km grid point dataset (Met. Office, 1989). Due to the range in altitude on this site, (ie, 115m - 208m) interpolations were performed at 5-10m altitude increments (a total of 22 interpolations) to assess the degree of climatic variation across the site. The two extremes plus a medium interpolation are given in the table below. The interpolations for the site indicate that all land at an altitude of 162m and above is limited by overall climate to Grade 2 due to the combination of relatively low temperature and high rainfall, in regional terms, at this locality.

**Table 2 : Climatic Interpolations**

Grid Reference	SU634498	SU615479	SU617473
Altitude (m, AOD)	115	160	208
Accumulated Temperature (degree days, Jan-June)	1404	1354	1300
Average Annual Rainfall (mm)	810	859	899
Field Capacity (days)	176	186	192
Moisture Deficit, Wheat (mm)	96	89	82
Moisture Deficit, Potatoes (mm)	86	76	67
Overall Climatic Grade	1	1	2

- 2.4 In addition, climatic factors interact with soil factors to influence soil wetness and droughtiness limitations. The relatively cool, moist climate across the site will lead to the likelihood of soil wetness/workability restrictions being enhanced whilst soil droughtiness may be partially offset.
- 2.5 No local climatic factors such as exposure or frost risk are believed to affect the site.

### **3. Relief**

- 3.1 The altitude of the land surveyed varies considerably. The highest land lies at about 205-208m and occurs at the extreme south of the site. The land falls towards the north, north-west and north-east from here, initially moderately steeply but then levelling off towards Cliddesden, around which land is at its lowest elevations of about 110-130 m. Land quality is limited to Subgrade 3b by steep gradients in the range 7.5-10° across parts of the site towards the south. Elsewhere the land is generally gently sloping, sometimes approaching gradients of 5-6°. A marked dry valley feature runs south-west to north-east across the western part of the site, close to the M3 motorway.

### **Geology and Soil**

- 4.1 The published geological information for the site (BGS, 1980) shows all of the site to be underlain by Upper Chalk with a small area across the extreme south-eastern part of the site mapped as clay-with-flints deposits over Upper Chalk.
- 4.2 The published Soil Survey map relevant to the site (SSEW, 1983) shows the entire site to comprise soils of the Carstens association. These are described as, 'fine

silty over clayey typical paleo-argillic brown earths', which are deep and freely drained, usually with reddish clayey subsoils. (SSEW, 1984).

- 4.3 Detailed field examination of the soils on the site found a number of soil types. Soils consistent with SSEW's description of the Carstens association were relatively limited in extent, being confined to the south-eastern corner of the site, (in association with the clay-with-flints deposits mapped by BGS) and to the immediate west of Cliddesden. Elsewhere, medium silty soils resting over chalk at varying depths were encountered. Across the moderately sloping parts of the site, soils were shallow over chalk, whilst deeper and/or more flinty soils were observed across the more gently sloping parts of the site and in the dry valley towards the west of the site.

## 5. Agricultural Land Classification

- 5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.
- 5.2 The location of the soil observation points are shown on the attached sample point map.

### Grade 2

- 5.3 Very good quality agricultural land has been mapped through the dry valley towards the west of the site and also along the eastern site boundary immediately south of Cliddesden. The land is limited by minor soil droughtiness, topsoil stone and/or workability restrictions. A number of profiles are equally limited to this grade by all three limitations.

Profiles typically comprise calcareous, medium silty clay loam topsoils which are slightly stony having 7-15% total flints by volume, (3-9% of which may be >2 cm in size). These overlie medium, or occasionally heavy, silty clay loam subsoils containing 5-15% flints and/or 5-25% chalk. Lower subsoils are either impenetrable, (to soil auger), due to flinty horizons at depths between about 35 and 80 cm, or pass to chalky drift (having 35-50% chalk) or chalk from 35-55 cm. Soil inspection pit 4 is typical of the more flinty soil variant in this mapping unit and confirms that subsoils contain 20-50% flints and become progressively more chalky with depth.

Moisture balance calculations (adjusted for altitude) indicate that profile available water is slightly restricted in these soils. The presence of flinty and/or chalky horizons is, however, partially offset by the interaction with the moist climatic regime which prevails to give rise to only a slight risk of drought stress which may have a minor effect upon yield potential. This land is also limited to Grade 2 by slight workability restrictions arising from the combination of topsoil textures and the moist climatic regime. Opportunities for landwork may be subject to minor restrictions. In addition, the majority of land in this mapping unit is limited to Grade 2 by topsoil stone contents in the range 6-10% >2 cm in size.

### Subgrade 3a

- 5.4 Good quality land has been mapped across the majority of the agricultural land surveyed. It occurs in association with a number of soil types and situations. A number of limitations act to slightly restrict the agricultural use of this land.
- 5.5 The most common soil type found in the Subgrade 3a mapping unit is characterised by silty soils overlying chalk at shallow depths. These are principally affected by a soil droughtiness limitation, although topsoil stoniness may be an additional factor. Typical profiles consist of calcareous, medium silty clay loam topsoils, containing 2-15% total flints by volume, (2-12% of which may be >2 cm in size), and/or 2-10% chalk. These either directly overlie chalk, or pass through a very chalky medium silty clay loam upper subsoil to chalk. Soil pits 2 and 3 are representative of this soil type and provide evidence that roots are able to penetrate the chalk and thereby extract moisture from about 45 cm into the chalk substrate. Moisture balance calculations, (adjusted for altitude), show that the combination of shallow soil depth and limited rooting into the chalk, along with profile stoniness results in soils with limited moisture availability. However, as a result of the moist climate at this locality, (giving rise to low crop adjusted moisture deficits) soil droughtiness is partially offset, such that Subgrade 3a is appropriate. Crop yield potential and consistency may be adversely affected by drought stress.
- 5.6 Profiles similar to those described in paragraph 5.5 above, but deeper and/or more stony are also assigned to Subgrade 3a. Although an average 40-45 cm of silt loam or medium silty clay loam topsoil and upper subsoil rests over chalk, these horizons tend to be more stony than those described above. Topsoils typically contain 8-25% total flints, (3-13% > 2 cm), whilst upper subsoils have 15-25% flints (or occasionally chalk). Soil inspection pit number 5 represents this soil type. The additional moisture available as a result of a deeper soil profile over chalk, is offset by the greater stoniness of that profile. Moisture balance calculations (adjusted for altitude) indicate that profile available water may be restricted to the extent that Subgrade 3a is appropriate.
- 5.7 The remaining land assigned to Subgrade 3a is associated with deposits of clay-with-flints covering the chalk. These are located across the extreme southern corner of the site and to the north-west of Cliddesden. Across these areas non-calcareous, medium, or more commonly, heavy silty clay loam topsoils are reddish in colour and contain 5-10% total flints by volume, (2-7% of which may be >2 cm). Usually upper subsoils of very slightly stony, (5% flints) reddish clay which contain common manganese concretions pass to chalk from about 40-48 cm. Such profiles are well drained, (Wetness Class I) but are limited to this grade by workability due to the interaction of a moist climate with relatively heavy topsoil textures. The opportunities for landwork will be restricted as a consequence. Less common are those profiles which are deep and clayey. Topsoils, as described above, rest upon medium or heavy silty clay loam upper subsoils, (5-10% flints), and pass to clay lower subsoils which are much less stony and reddish in colour. Soil pit 1 is typical of such profiles and provides evidence that the clay lower subsoils are slowly permeable. Wetness Class III is thereby

appropriate. Impeded soil drainage may result in restrictions on cultivations, cropping and stocking due to seasonal soil wetness.

### **Subgrade 3b**

- 5.8 Moderate quality land occurs in two different situations on this site.
- 5.9 Towards the south of the site, land is limited to Subgrade 3b on the basis of slope restrictions. Gradients of 7.5-10° were recorded using an optical reading clinometer. Such angles of slope will restrict the safe and efficient use of farm machinery and on such shallow soils over chalk, may increase the risk of soil erosion.
- 5.10 To the north of the site, west of Cliddesden, very heavy soils give rise to land affected by severe soil wetness/workability limitations. Very slightly to slightly stony, (ie, 5-8% total flints) medium silty clay loam, or more usually, clay topsoils either overlie slowly permeable clay subsoils (Wetness Class III or IV) or chalk (Wetness Class I). Where clay subsoils are present these severely impede drainage and lead to the land being affected by soil wetness and workability restrictions. Where clay topsoils directly overlie chalk, the land is limited by workability due to the interaction of the heavy topsoil texture and the moist climate which prevails.

In both cases the utilisation of the land will be severely limited since the opportunities for landwork or grazing will be confined to the drier times of the year.

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MAFF Ref: EL15/144

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

## **SOURCES OF REFERENCE**

British Geological Survey (1980) Sheet No. 284, 1:50,000 Series (solid and drift edition).

MAFF (1988), Agricultural Land Classification of England and Wales : Revised guidelines and criteria for grading the quality of agricultural land.

Meteorological Office (1989), Climatological Data for Agricultural Land Classification.

Soil Survey of England and Wales (1983), Sheet 6, Soils of South East England.

Soil Survey of England and Wales (1984), Bulletin 15, Soils of their use in South-East England.



# APPENDIX I

## DESCRIPTION OF THE GRADES AND SUBGRADES

### **Grade 1 : Excellent Quality Agricultural Land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

### **Grade 2 : Very Good Quality Agricultural Land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

### **Grade 3 : Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

### **Subgrade 3a : Good Quality Agricultural Land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

### **Subgrade 3b : Moderate Quality Agricultural Land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

### **Grade 4 : Poor Quality Agricultural Land**

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

### **Grade 5 : Very Poor Quality Agricultural Land**

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

## **Urban**

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

## **Non-agricultural**

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

## **Woodland**

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm woodland.

## **Agricultural Buildings**

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

## **Open Water**

Includes lakes, ponds and rivers as map scale permits.

## **Land Not Surveyed**

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

## APPENDIX II

### FIELD ASSESSMENT OF SOIL WETNESS CLASS

#### SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

#### Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging <sup>1</sup>
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. <sup>2</sup>
II	The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

<sup>1</sup>The number of days specified is not necessarily a continuous period.

<sup>2</sup>'In most years' is defined as more than 10 out of 20 years.

## APPENDIX III

### SOIL PIT AND SOIL BORING DESCRIPTIONS

#### Contents :

**Soil Abbreviations - Explanatory Note**

**Soil Pit Descriptions**

**Database Printout - Boring Level Information**

**Database Printout - Horizon Level Information**

## SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a computer database. This uses notations and abbreviations as set out below.

### Boring Header Information

- GRID REF** : national 100 km grid square and 8 figure grid reference.
- USE** : Land use at the time of survey. The following abbreviations are used.

<b>ARA</b> : Arable	<b>WHT</b> : Wheat	<b>BAR</b> : Barley
<b>CER</b> : Cereals	<b>OAT</b> : Oats	<b>MZE</b> : Maize
<b>OSR</b> : Oilseed rape	<b>BEN</b> : Field Beans	<b>BRA</b> : Brassicae
<b>POT</b> : Potatoes	<b>SBT</b> : Sugar Beet	<b>FCD</b> : Fodder Crops
<b>LIN</b> : Linseed	<b>FRT</b> : Soft and Top Fruit	<b>FLW</b> : Fallow
<b>PGR</b> : Permanent Pasture	<b>LEY</b> : Ley Grass	<b>RGR</b> : Rough Grazing
<b>SCR</b> : Scrub	<b>CFW</b> : Coniferous Woodland	<b>DCW</b> : Deciduous Wood
<b>HTH</b> : Heathland	<b>BOG</b> : Bog or Marsh	<b>FLW</b> : Fallow
<b>PLO</b> : Ploughed	<b>SAS</b> : Set aside	<b>OTH</b> : Other
<b>HRT</b> : Horticultural Crops		
- GRDNT** : Gradient as estimated or measured by a hand-held optical clinometer.
- GLEYSPL** : Depth in centimetres (cm) to gleying and/or slowly permeable layers.
- AP (WHEAT/POTS)** : Crop-adjusted available water capacity.
- MB (WHEAT/POTS)** : Moisture Balance. (Crop adjusted AP - crop adjusted MD)
- DRT** : Best grade according to soil droughtiness.
- If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

**MREL** : Microrelief limitation    **FLOOD** : Flood risk    **EROSN** : Soil erosion risk  
**EXP** : Exposure limitation    **FROST** : Frost prone    **DIST** : Disturbed land  
**CHEM** : Chemical limitation

- LIMIT** : The main limitation to land quality. The following abbreviations are used.

<b>OC</b> : Overall Climate	<b>AE</b> : Aspect	<b>EX</b> : Exposure
<b>FR</b> : Frost Risk	<b>GR</b> : Gradient	<b>MR</b> : Microrelief
<b>FL</b> : Flood Risk	<b>TX</b> : Topsoil Texture	<b>DP</b> : Soil Depth
<b>CH</b> : Chemical	<b>WE</b> : Wetness	<b>WK</b> : Workability
<b>DR</b> : Drought	<b>ER</b> : Erosion Risk	<b>WD</b> : Soil Wetness/Droughtiness
<b>ST</b> : Topsoil Stoniness		

## Soil Pits and Auger Borings

1. **TEXTURE** : soil texture classes are denoted by the following abbreviations.

<b>S</b> :	Sand	<b>LS</b> :	Loamy Sand	<b>SL</b> :	Sandy Loam
<b>SZL</b> :	Sandy Silt Loam	<b>CL</b> :	Clay Loam	<b>ZCL</b> :	Silty Clay Loam
<b>ZL</b> :	Silt Loam	<b>SCL</b> :	Sandy Clay Loam	<b>C</b> :	Clay
<b>SC</b> :	Sandy Clay	<b>ZC</b> :	Silty Clay	<b>OL</b> :	Organic Loam
<b>P</b> :	Peat	<b>SP</b> :	Sandy Peat	<b>LP</b> :	Loamy Peat
<b>PL</b> :	Peaty Loam	<b>PS</b> :	Peaty Sand	<b>MZ</b> :	Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of the following prefixes:

<b>F</b> :	Fine (more than 66% of the sand less than 0.2mm)
<b>M</b> :	Medium (less than 66% fine sand and less than 33% coarse sand)
<b>C</b> :	Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content: **M** : Medium (<27% clay) **H** : Heavy (27-35% clay)

2. **MOTTLE COL** : Mottle colour using Munsell notation.
3. **MOTTLE ABUN** : Mottle abundance, expressed as a percentage of the matrix or surface described.

**F** : few <2% **C** : common 2-20% **M** : many 20-40% **VM** : very many 40% +

4. **MOTTLE CONT** : Mottle contrast

**F** : faint - indistinct mottles, evident only on close inspection  
**D** : distinct - mottles are readily seen  
**P** : prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL** : Ped face colour using Munsell notation.
6. **GLEYS** : If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.
7. **STONE LITH** : Stone Lithology - One of the following is used.

<b>HR</b> :	all hard rocks and stones	<b>SLST</b> :	soft oolitic or dolimitic limestone
<b>CH</b> :	chalk	<b>FSST</b> :	soft, fine grained sandstone
<b>ZR</b> :	soft, argillaceous, or silty rocks	<b>GH</b> :	gravel with non-porous (hard) stones
<b>MSST</b> :	soft, medium grained sandstone	<b>GS</b> :	gravel with porous (soft) stones
<b>SI</b> :	soft weathered igneous/metamorphic rock		

Stone contents (>2cm, >6cm and total) are given in percentages (by volume).

8. **STRUCT** : the degree of development, size and shape of soil peds are described using the following notation:

degree of development    **WK** : weakly developed            **MD** : moderately developed  
   **ST** : strongly developed

ped size                      **F** : fine                                      **M** : medium  
   **C** : coarse                                      **VC** : very coarse

ped shape                      **S** : single grain                              **M** : massive  
   **GR** : granular                                      **AB** : angular blocky  
   **SAB** : sub-angular blocky                      **PR** : prismatic  
   **PL** : platy

9. **CONSIST** : Soil consistence is described using the following notation:

**L** : loose    **VF** : very friable    **FR** : friable    **FM** : firm    **VM** : very firm  
**EM** : extremely firm                      **EH** : extremely hard

10. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness : **G** : good    **M** : moderate    **P** : poor

11. **POR** : Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.

12. **IMP** : If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.

13. **SPL** : Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

14. **CALC** : If the soil horizon is calcareous, a 'Y' will appear in this column.

15. Other notations

**APW** : available water capacity (in mm) adjusted for wheat  
**APP** : available water capacity (in mm) adjusted for potatoes  
**MBW** : moisture balance, wheat  
**MBP** : moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : B'STOKE LP PLAN 3 RECONN Pit Number : 1P

Grid Reference: SU61804740 Average Annual Rainfall : 810 mm  
 Accumulated Temperature : 1404 degree days  
 Field Capacity Level : 176 days  
 Land Use : Permanent Grass  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MZCL	10YR43 00	2	8	HR					
28- 40	MZCL	10YR54 00	0	10	HR	F	MDCSAB	VM	M	
40- 65	C	75YR54 00	0	1	HR	M	STCAB	FM	P	
65-120	C	10YR53 00	0	1	HR	M	WKCAB	FM	P	

Wetness Grade : 3A Wetness Class : III  
 Gleying : 065 cm  
 SPL : 040 cm

Drought Grade : 1 APW : 129mm MBW : 33 mm  
 APP : 106mm MBP : 20 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Wetness



SOIL PIT DESCRIPTION

Site Name : B'STOKE LP PLAN 3 RECONN Pit Number : 2P

Grid Reference: SU61204778 Average Annual Rainfall : 810 mm  
 Accumulated Temperature : 1404 degree days  
 Field Capacity Level : 176 days  
 Land Use : Ploughed  
 Slope and Aspect : 05 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	MZCL	10YR43 00	3	4	HR					Y
27- 70	CH	10YR81 00	0	0					P	Y

Wetness Grade : 2 Wetness Class : I  
 Gleying : cm  
 SPL : No SPL

Drought Grade : 3A APW : 086mm MBW : -1 mm  
 APP : 092mm MBP : 19 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : B'STOKE LP PLAN 3 RECONN Pit Number : 3P

Grid Reference: SU62224805 Average Annual Rainfall : 810 mm  
Accumulated Temperature : 1404 degree days  
Field Capacity Level : 176 days  
Land Use :  
Slope and Aspect : 05 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	MZCL	10YR53 00	1	10	CH					Y
27- 75	CH	10YR81 00	0	4	HR				P	Y

Wetness Grade : 2 Wetness Class : I  
Gleying : cm  
SPL : No SPL

Drought Grade : 3A APW : 088mm MBW : 2 mm  
APP : 090mm MBP : 18 mm

FINAL ALC GRADE : 3A  
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : B'STOKE LP PLAN 3 RECONN Pit Number : 4P

Grid Reference: SU62004840 Average Annual Rainfall : 810 mm  
 Accumulated Temperature : 1404 degree days  
 Field Capacity Level : 176 days  
 Land Use : Oilseed Rape  
 Slope and Aspect : 03 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	ZL	10YR43 00	12	15	HR					Y
27- 48	MZCL	10YR44 00	45	52	HR				M	Y
48- 75	MZCL	10YR54 00	25	30	HR				M	Y
75-120	MZCL	10YR74 00	0	20	HR				M	Y

Wetness Grade : 2 Wetness Class : I  
 Gleying : cm  
 SPL : No SPL

Drought Grade : 1 APW : 129mm MBW : 36 mm  
 APP : 099mm MBP : 17 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Topsoil Stoniness

SOIL PIT DESCRIPTION

Site Name : B'STOKE LP PLAN 3 RECONN Pit Number : 5P :

Grid Reference: SU62364900 Average Annual Rainfall : 810 mm  
 Accumulated Temperature : 1404 degree days  
 Field Capacity Level : 176 days  
 Land Use :  
 Slope and Aspect : 04 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	ZL	10YR43 00	5	10	HR					Y
28- 45	HZCL	75YR44 00	15	25	HR		MDCSAB	FR	M	Y
45- 60	CH	10YR81 00	0	2	HR				P	Y

Wetness Grade : 2 Wetness Class : I  
 Gleying : cm  
 SPL : No SPL

Drought Grade : 3A APW : 092mm MBW : -2 mm  
 APP : 095mm MBP : 12 mm

FINAL ALC GRADE : 3A  
 MAIN LIMITATION : Droughtiness

SAMPLE NO.	GRID REF	ASPECT USE	GRDNT	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
				GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB					
1	SU63294974	HOR E	02		1	3A	102	6	101	16	2			WK	3A	
1P	SU61804740	PGR		065	040	3	3A	129	33	106	20	1		WE	3A	SL GLEY 40
1S	SU61604830	STB E	04		1	2			0		0			TS	3A	TS ONLY
2	SU63004960	OSR NW	02	027	4	3B	090	-5	098	14	3A			WE	3B	C-WITH-F
2P	SU61204778	PLO N	05		1	2	086	-1	092	19	3A			DR	3A	ROOTS 70
2S	SU61504820	STB E	03		1	2			0		0			TS	2	TS ONLY
3	SU63204960	STB E	02	029	3	4			0		0			WE	4	SL GLEY 42
3P	SU62224805	STB N	05		1	2	088	2	090	18	3A			DR	3A	ROOTS 75
3S	SU61504810	STB NE	01		1	2			0		0			TS	2	TS ONLY
4	SU62804940	OSR NW	02		1	3A	097	3	096	13	3A			DR	3A	ALSO WK
4P	SU62004840	OSR W	03		1	2	129	36	099	17	1			TS	3A	
4S	SU61604810	STB W	02		1	2			0		0			TS	3A	TS ONLY
5	SU63004940	STB E	02		1	3B	079	-15	085	2	3A			WK	3B	
5P	SU62364900	STB W	04		1	2	092	-2	095	12	3A			DR	3A	AT BORING 8
5S	SU61704800	STB NW	02		1	2			0		0			TS	3A	TS ONLY
6	SU62604920	OSR N	02		1	2	087	-6	093	11	3A			DR	3A	
7	SU62204900	STB NW	02		1	2	065	-30	065	-20	3B			WK	2	140, SEE 4P
8	SU62404900	STB NW	04		1	2	092	-2	098	15				DR	3A	143, SEE 5P
9	SU62854895	PGR E	02		1	2	111	18	113	30	2			DR	2	ALSO WK/TS
10	SU62004880	PLO SW	04		1	2	085	-8	091	9	3A			DR	3A	
11	SU62204880	STB NW	04		1	2	105	11	106	23	2			DR	2	ALSO WK
12	SU62404880	STB NW	04		1	2	078	-14	078	-3	3A			DR	3A	145, POSS 2
13	SU62774880	STB E	03		1	2	088	-5	094	12	3A			DR	3A	
14	SU62964880	STB E	01		1	2	082	-13	082	-2	3A			WK	2	150, SEE 4P
15	SU61804860	PLO SE	04		1	2	077	-15	077	-4	3A			ST	2	147, SEE 4P
16	SU62004860	PLO NE	01		1	2	066	-30	066	-20	3B			ST	2	140, SEE 4P
17	SU62204860	OSR NW	05		1	2	083	-9	089	8	3A			DR	3A	
18	SU62404860	STB			1	2	089	-2	095	17	3A			DR	3A	
19	SU62604860	STB SE	04		1	2	080	-11	080	2	3A			WK	2	150, SEE 4P
20	SU62804860	STB NE	01		1	2	063	-31	063	-20	3B			TS	3A	120, SEE 4P
21	SU61604840	STB E	04		1	2	086	-5	092	14	3A			DR	3A	
22	SU61804840	STB E	02		1	2	100	7	111	29	2			DR	2	ALSO TS/WK
23	SU62004840	OSR NW	02		1	2	074	-19	074	-8	3A			DR	2	145, SEE 4P
24	SU62204840	OSR W	02		1	2	098	6	097	18	2			DR	2	ALSO WK
25	SU62404848	STB NE	02		1	2	097	6	096	18	2			DR	2	ALSO WK
26	SU62604840	STB NE	01		1	2	106	14	101	20	2			DR	2	ALSO WK
27	SU62304830	STB N	01		1	2	090	0	092	15	3A			DR	3A	ALSO TS
28	SU62404830	STB NE	02		1	2	091	1	093	16	3A			DR	3A	
29	SU61204820	PLO E	04		1	2	087	-2	089	14	3A			DR	3A	
30	SU61404820	PLO E	02		1	2	106	15	099	21	2			TS	3A	
31	SU61604820	STB E	01		1	2	058	-34	058	-23	3B			DR	2	135, SEE 4P
32	SU61804820	STB W	02		1	2	046	-46	046	-35	3B			TS	3B	

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	
33	SU62004820	OSR W	02		1	2	111	19	105	26	2			DR 2	ALSO TS/WK
34	SU62204820	STB N	06		1	2	089	0	095	19	3A			DR 3A	
35	SU62404820	STB NE	02		1	2	087	-3	093	16	3A			DR 3A	
36	SU61904810	OSR NE	06		1	2	090	-1	096	18	3A			DR 3A	
37	SU62144809	STB NE	06		1	2	087	-1	093	19	3A			DR 3A	
38	SU62304810	STB N	06		1	2	087	-2	093	18	3A			DR 3A	
39	SU61204800	PLO NE	04		1	2	046	-43	046	-29	3B			TS 3A	I32, SEE 4P
40	SU61404800	STB NE	02		1	2	046	-43	046	-29	3B			TS 3A	I32, SEE 4P
41	SU61604800	STB NW	02		1	2	063	-28	063	-15	3B			TS 3A	I40, SEE 4P
42	SU61804800	STB W	02		1	2	106	15	105	27	2			DR 2	ALSO TS/WK
43	SU62244799	STB NE	06		1	2	087	1	093	21	3A			DR 3A	
44	SU61204780	PLO NE	05		1	2	086	-1	092	13	3A			DR 3A	
45	SU62004770	PGR W	02		1	3A	086	2	092	23	3A			DR 3A	ALSO WK
46	SU61204763	PLO NW	02		1	2	084	-2	090	19	3A			DR 3A	
47	SU61404760	PLO N	05		1	2	085	0	091	21	3A			DR 3A	
48	SU61504760	PLO NE	05		1	2	087	2	093	23	3A			DR 3A	
49	SU61604760	PLO N	05		1	3A	102	17	101	31	2			WK 3A	
50	SU61614740	MAZ			1	2	106	23	117	50	2			WK 2	ALSO DR
51	SU61804740	PGR N	01	042	3	3A	132	49	109	42	1			WE 3A	SL GLEY 42

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/		SUBS			SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP		
1	0-30	hzc1	75YR46 00						4	0	HR	8						
	30-45	c	05YR46 00		C		00MN00 00		0	0	HR	5		M				
	45-80	ch	10YR81 00						0	0		0		P			Y	
1P	0-28	mzc1	10YR43 00						2	0	HR	8						
	28-40	mzc1	10YR54 00	00MN00 00	F				0	0	HR	10	MDCSAB	VM	M			
	40-65	c	75YR54 00	75YR58 00	M		75YR54 00	S	0	0	HR	1	STCAB	FM	P	Y	Y	
	65-120	c	10YR53 00	05YR46 56	M				Y	0	0	HR	1	WKCB	FM	P	Y	Y
1S	0-30	mzc1	10YR43 00						12	0	HR	15					Y	Topsoil stone
2	0-27	mzc1	10YR44 00						4	0	HR	8						
	27-60	c	05YR46 00		C		00MN00 00		0	0	HR	5		M			Y	
2P	0-27	mzc1	10YR43 00						3	0	HR	4					Y	+5% chalk
	27-70	ch	10YR81 00						0	0		0		P			Y	Roots to 70
2S	0-30	mzc1	10YR43 00						8	0	HR	10					Y	Topsoil stone
3	0-29	c	75YR46 00						2	0	HR	5					Y	
	29-42	c	05YR56 00		C		00MN00 00		0	0	HR	5		M			Y	
	42-58	c	75YR46 00	75YR68 00	C		10YR64 00	S	0	0	HR	5		M			Y	Imp, flints
3P	0-27	mzc1	10YR53 00						1	0	CH	10					Y	
	27-75	ch	10YR81 00						0	0	HR	4		P			Y	Roots to 75
3S	0-30	mzc1	10YR43 00						8	0	HR	10					Y	Topsoil stone
4	0-27	hzc1	10YR44 00						7	0	HR	10						
	27-40	c	05YR56 00		C		00MN00 00		0	0	HR	5		M				
	40-80	ch	10YR81 00						0	0		0		P			Y	
4P	0-27	z1	10YR43 00						12	0	HR	15					Y	
	27-48	mzc1	10YR44 00						45	0	HR	52		M			Y	
	48-75	mzc1	10YR54 00						25	0	HR	30		M			Y	Chalky
	75-120	mzc1	10YR74 00						0	0	HR	20		M			Y	+15% chalk
4S	0-30	mzc1	10YR43 00						11	0	HR	15					Y	Topsoil stone
5	0-27	c	75YR46 00						5	0	HR	8					Y	+5% chalk
	27-70	ch	10YR81 00						0	0		0		P				
5P	0-28	z1	10YR43 00						5	0	HR	10					Y	
	28-45	hzc1	75YR44 00						15	0	HR	25	MDCSAB	FR	M		Y	
	45-60	ch	10YR81 00						0	0	HR	2		P			Y	Roots to 60
5S	0-25	mzc1	10YR43-00						14	0	HR	20						Topsoil stone

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT	COL.	GLEYS	>2	>6	LITH		TOT	STR	POR	IMP	SPL	CALC
6	0-29	mzc1	10YR53 00						3	0	HR	5					Y	+5% chalk
	29-70	ch	10YR81 00						0	0		0			P		Y	
7	0-30	mzc1	10YR43 00						8	0	HR	12					Y	
	30-40	mzc1	10YR54 00						0	0	HR	15			M		Y	Imp, flints
8	0-25	mzc1	10YR43 00						3	0	HR	8					Y	
	25-40	mzc1	10YR54 00						0	0	CH	20			M		Y	+2% flints
	40-43	mzc1	10YR54 00						0	0	CH	50			P		Y	Imp, chalk
9	0-28	mzc1	10YR43 00						6	0	HR	10					Y	
	28-50	mzc1	10YR54 00						0	0	HR	10			M		Y	+5% chalk
	50-82	hzc1	10YR54 00						0	0	HR	10			M		Y	+5% ch, Imp flint
10	0-25	mzc1	10YR43 00						7	0	HR	12					Y	+4% chalk
	25-32	mzc1	10YR54 00						0	0	CH	25			M		Y	
	32-70	ch	10YR81 00						0	0		0			P		Y	
11	0-30	mzc1	10YR43 00						5	0	HR	8					Y	
	30-55	mzc1	10YR54 00						0	0	CH	25			M		Y	
	55-80	ch	10YR81 00						0	0		0			P		Y	
12	0-25	mzc1	10YR43 00						2	0	HR	5					Y	
	25-38	mzc1	10YR54 00						0	0	HR	2			M		Y	
	38-45	mzc1	10YR54 00						0	0	CH	25			M		Y	+8% flints, Imp
13	0-30	mzc1	10YR43 00						3	0	HR	5					Y	+5% chalk
	30-70	ch	10YR81 00						0	0		0			P		Y	
14	0-30	mzc1	10YR43 00						4	0	HR	10					Y	
	30-40	mzc1	10YR44 54						0	0	HR	10			M		Y	
	40-50	mzc1	10YR54 00						0	0	HR	15			M		Y	Imp, flints
15	0-27	mzc1	10YR43 00						7	0	HR	10					Y	+2% chalk
	27-47	mzc1	10YR54 00						0	0	CH	25			M		Y	+10% flints, Imp
16	0-27	mzc1	10YR43 00						7	0	HR	10					Y	
	27-40	mzc1	10YR64 00						0	0	HR	10			M		Y	Imp, flints
17	0-27	mzc1	10YR43 00						4	0	HR	8					Y	+2% chalk
	27-70	ch	10YR81 00						0	0	HR	3			P		Y	
18	0-27	mzc1	10YR43 00						5	0	HR	10					Y	
	27-35	hzc1	75YR43 00						0	0	HR	4			M		Y	
	35-70	ch	10YR81 00						0	0		0			P		Y	
19	0-27	mzc1	10YR43 00						9	0	HR	15					Y	
	27-50	hzc1	10YR54 00						0	0	HR	8			M			Imp, flints



SAMPLÉ	DEPTH	TEXTURE	COLOUR	----MOTTLES----- PED			----STONES-----			STRUCT/ CONSIST	SUBS STR POR IMP SPL	CALC					
				COL	ABUN	CONT	COL.	GLEY	>2				>6	LITH	TOT		
20	0-29	mzc1	10YR43 00							12	0	HR	15			Y	
	29-40	mzc1	10YR44 00							0	0	HR	15	M		Y	Imp, flints
21	0-30	mzc1	10YR43 00							6	0	HR	10			Y	
	30-70	ch	10YR81 00							0	0		0	P		Y	
22	0-28	mzc1	10YR43 00							6	0	HR	10			Y	
	28-45	mzc1	10YR54 00							0	0	HR	10	M		Y	
	45-70	mzc1	10YR74 00							0	0	CH	35	M		Y	Imp, ch drift
23	0-30	mzc1	10YR43 00							8	0	HR	10			Y	
	30-45	mzc1	10YR44 00							0	0	HR	15	M		Y	Imp, flints
24	0-30	mzc1	10YR43 00							2	0	HR	6			Y	
	30-40	mzc1	10YR74 00							0	0	CH	50	M		Y	
	40-80	ch	10YR81 00							0	0		0	P		Y	
25	0-29	mzc1	10YR43 00							3	0	HR	10			Y	
	29-38	hzc1	10YR44 54							0	0	HR	10	M		Y	
	38-80	ch	10YR81 00							0	0		0	P		Y	
26	0-29	mzc1	10YR43 00							3	0	HR	7			Y	
	29-35	mzc1	10YR54 00							0	0	CH	20	M		Y	+10% flints
	35-50	mzc1	10YR64 00							0	0	CH	50	M		Y	+10% flints
	50-85	ch	10YR81 00							0	0		0	P		Y	
27	0-28	mzc1	10YR43 00							12	0	HR	13			Y	
	28-35	hzc1	10YR44 54							0	0	HR	10	M		Y	
	35-75	ch	10YR81 00							0	0		0	P		Y	
28	0-30	mzc1	10YR43 00							7	0	HR	10			Y	
	30-35	mzc1	10YR44 00							0	0	CH	50	M		Y	+5% flints
	35-75	ch	10YR81 00							0	0		0	P		Y	
29	0-30	mzc1	10YR43 00							10	0	HR	15			Y	
	30-35	mzc1	10YR44 00							0	0	CH	70	P		Y	
	35-75	ch	10YR81 00							0	0		0	P		Y	
30	0-30	mzc1	10YR43 00							12	0	HR	15			Y	
	30-58	mzc1	10YR74 00							0	0	CH	50	M		Y	+10% flints
	58-90	ch	10YR81 00							0	0		0	P		Y	
31	0-32	mzc1	10YR43 00							8	0	HR	13			Y	
	32-35	mzc1	10YR64 00							0	0	HR	10	M		Y	Imp, flints
32	0-32	mzc1	10YR44 00							17	0	HR	25			Y	Imp, flints
33	0-29	mzc1	10YR43 00							7	0	HR	12			Y	
	29-50	mzc1	10YR64 00							0	0	CH	20	M		Y	+5% flints
	50-60	mzc1	10YR74 00							0	0	CH	50	M		Y	
	60-90	ch	10YR81 00							0	0		0	P		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT	COL.	GLEYS	>2	>6	LITH		TOT	STR	POR	IMP	SPL	CALC
34	0-29	mzc1	10YR43 00						0	0	CH	4					Y	+1% flints
	29-70	ch	10YR81 00						0	0		0			P		Y	
35	0-28	mzc1	10YR43 44						0	0	HR	5					Y	+5% chalk
	28-70	ch	10YR81 00						0	0		0			P		Y	
36	0-29	mzc1	10YR43 44						0	0	HR	1					Y	+1% chalk
	29-70	ch	10YR81 00						0	0		0			P		Y	
37	0-29	mzc1	10YR43 00						3	0	HR	5					Y	+5% chalk
	29-70	ch	10YR81 00						0	0		0			P		Y	
38	0-26	mzc1	10YR43 00						0	0	CH	4					Y	+1% flints
	26-70	ch	10YR81 00						0	0	HR	1			P		Y	
39	0-27	mzc1	10YR43 00						13	0	HR	25					Y	
	27-32	mzc1	10YR44 00						0	0	HR	25			M		Y	Imp, flints
40	0-27	mzc1	75YR43 00						13	0	HR	25					Y	
	27-32	mzc1	75YR53 00						0	0	HR	25			M			Imp, flints
41	0-30	mzc1	10YR43 00						13	0	HR	17					Y	
	30-35	mzc1	10YR44 00						0	0	HR	15			M		Y	+2% chalk
	35-40	mzc1	10YR64 00						0	0	CH	20			M		Y	+10% flints, Imp
42	0-29	mzc1	10YR43 00						6	0	HR	10					Y	
	29-50	mzc1	10YR54 00						0	0	HR	10			M		Y	+5% chalk
	50-80	ch	10YR81 00						0	0		0			P		Y	
43	0-29	mzc1	10YR43 44						3	0	HR	5					Y	+5% chalk
	29-70	ch	10YR81 00						0	0		0			P		Y	
44	0-26	mzc1	10YR43 00						0	0	CH	5					Y	
	26-70	ch	10YR81 00						0	0		0			P		Y	
45	0-27	hzc1	10YR43 00						0	0	CH	10					Y	
	27-70	ch	10YR81 00						0	0		0			P		Y	
46	0-27	mzc1	10YR43 00						6	0	HR	8					Y	+1% chalk
	27-70	ch	10YR81 00						0	0		0			P		Y	
47	0-26	mzc1	10YR43 00						0	0	CH	10					Y	
	26-70	ch	10YR81 00						0	0		0			P		Y	
48	0-28	mzc1	10YR43 00						0	0	CH	8					Y	
	28-70	ch	10YR81 00						0	0		0			M		Y	
49	0-22	hzc1	75YR43 00						5	0	HR	10					Y	
	22-48	c	75YR56 00	00M00	00	M			0	0	HR	1			M		Y	
	48-80	ch	10YR81 00						0	0		0			P		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL.	GLEYS	>2	>6	LITH		TOT	STR	POR	IMP	SPL
50	0-25	mzc1	75YR43 00	10YR56	00	F	00M00	00	3	0	HR	8					
	25-45	mzc1	10YR54 00	00M00	00	C			0	0	HR	8	M				
	45-73	mzc1	10YR54 63	00M00	00	C			0	0	HR	3	M				Imp, flints
51	0-30	mzc1	10YR54 00						0	0	HR	5					Y
	30-42	hzc1	10YR54 56			F	00M00	00	0	0	HR	5	M				Y
	42-120	c	75YR56 00	75YR58	00	C			S	0	0	HR	2	P			Y Y