

A1
East Sussex Structure Plan
Land at Uckfield
Agricultural Land Classification
Reconnaissance Survey
ALC Map and Report
August 1995

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT RECONNAISSANCE SURVEY

EAST SUSSEX STRUCTURE PLAN LAND AT UCKFIELD

Introduction

1 This report presents the findings of a reconnaissance Agricultural Land Classification (ALC) survey of 308.6 ha of land around Uckfield East Sussex. The survey was carried out during September and October 1995.

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) Land Use Planning Unit Reading in connection with the East Sussex Structure Plan. The results of this survey supersede any previous ALC information for this land.

3 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988). A description of the ALC grades and subgrades is given in Appendix I. The survey was completed at a reconnaissance level of detail on a free survey basis as it was undertaken primarily to update the 1:63,360 scale provisional ALC maps for this area. Consequently the results are designed for strategic planning purposes only. For site specific proposals further more detailed surveys may be required.

4 At the time of survey most of the land was in permanent grass. Some of the land had recently been harvested for maize and cereal and other areas had recently been ploughed. Urban land in the area of search includes roads, a sewage treatment works and residential buildings. Horse stables are shown as Agricultural Buildings. The Woodland mapped comprises mature and deciduous trees.

Summary

5 The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:50,000. It is accurate at this scale but any enlargement would be misleading.

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 overleaf.

7 The fieldwork was conducted at an average density of approximately 1 boring per 5 hectares of agricultural land. A total of 53 borings and eight soil pits were described.

8 Most of the agricultural land around Uckfield has been classified as Subgrade 3b (moderate quality). Land to the south-west of Uckfield also includes smaller areas of better quality land Grade 2 (very good quality) and Subgrade 3a (good quality). A small area to the north of Uckfield has been classified as Grade 4 (poor quality).

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% agricultural area
2	5 6	1 8	2 1
3a	19 8	6 4	7 4
3b	240 7	78 0	89 5
4	2 7	0 9	1 0
Urban	10 2	3 3	
Woodland	28 4	9 2	
Agricultural Buildings	1 2	0 4	
Total survey area	268 8		100 0
Total site area	308 6	100 0	

9 Land classified as Grade 2 is restricted by a slight soil droughtiness limitation. Deep medium textured soils which are slightly stony (sandstone) interact with the prevailing climate to slightly limit the amount of moisture available for crops. Land classified as Subgrade 3a is limited either by moderate soil droughtiness or soil wetness. Where the former occurs comparatively shallow depth over dense sandstone layers results in a moderate limitation. To the east of Owlsbury Farm the land is limited by soil wetness. This limitation arises from medium textured topsoils which overlies slowly permeable heavier textured lower subsoils. The climatic conditions which prevail at Uckfield means that this land will be subject to some restrictions on the flexibility of cropping and stocking.

10 Land classified as Subgrade 3b is restricted by either significant soil wetness or soil droughtiness limitations. To the east of Uckfield these limitations occur extensively in conjunction with slope restrictions. Gradients within the range of 7-11° act to restrict the range of agricultural machinery that may be safely and efficiently used.

11 Where soil wetness is limiting, medium textured topsoils overlies slowly permeable subsoils. The subsoils are slowly permeable either directly below the topsoil or at shallow depths within the soil profile. Such soil wetness will act to significantly restrict the flexibility of cropping and stocking.

12 Where soil droughtiness is limiting soil profiles typically comprise medium sandy loams and medium clay loams. These profiles contain significant amounts of sandstone in the upper subsoil and then pass into sandstone at shallow to moderate depths. The sandstone acts to restrict crop roots thus lowering the amount of soil available water. Some of the land to the south of Bird-in-Eye Farm is limited by soil droughtiness again because of restricted rooting. These profiles pass into lower subsoils which are very compact and massively structured. Land restricted by soil droughtiness will be subject to lower and inconsistent yield potential.

13 A small area of land has been classified as Grade 4 This land is subject to high groundwater and seepage as indicated by the predominance of hydrophilic vegetation This land is likely to be permanently waterlogged for much of the year restricting agricultural use to seasonal grazing, because of severe soil wetness problems

Factors Influencing ALC Grade

Climate

14 Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics

15 The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989)

Table 2 Climatic and altitude data

Factor	Units	Values	Values	Values
Grid reference	N/A	TQ 470 197	TQ 465 219	TQ 489 212
Altitude	m, AOD	35	40	65
Accumulated Temperature	day°C	1490	1483	1454
Average Annual Rainfall	mm	784	799	815
Field Capacity Days	days	169	171	174
Moisture Deficit Wheat	mm	109	108	106
Moisture Deficit Potatoes	mm	104	102	99

16 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions

17 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (AT0 January to June) as a measure of the relative warmth of a locality

18 The climatic data was adjusted for each of the survey areas around Uckfield by using the highest soil moisture deficits and the highest field capacity days (FCD) within each individual survey area Across all survey areas the FCD fall within the 151-175 FCD range

19 The combination of rainfall and accumulated temperature at this site mean that there is no overall climatic limitation Local climatic factors such as exposure and frost risk are not believed to adversely affect most of the site though land proximate to the sewage works may be rather frost prone (Met Office 1980) All of the land around Uckfield is climatically Grade 1

Site

20 To the north-west of Uckfield the land occupies a hillside falling from 55 m AOD to 25 m AOD. The land typically falls through slopes of 2-5°. The land to the south-west of Uckfield occupies the broad valley of the Ridgewood Stream. This land falls from 50 m AOD along the eastern site boundary to 15 m AOD along Ridgewood Stream. The land then rises again to 35 m AOD along the western site boundary. The land in this area mostly occupies slopes of 1-4° though slightly steeper slopes of 4-5° sometimes occur proximate to the stream.

21 Land to the east of Uckfield is comparatively more undulating. To the north-east of Bird-in-eye Farm the land is virtually flat lying at approximately 55 m AOD. From the farm, the land falls in both a north-westerly and south-westerly direction to lie at 25m AOD along the River Uck and the tributary streams to the west and south. Next to the River Uck the land is flat. However much of the land in this area occupies slopes of 2-6° though in parts slopes of 7-11° occur. The latter give rise to gradient limitations arising from restrictions on the safe and efficient use of farm machinery. The more southern block of land to the east of Uckfield (and south-west of Framfield) typically occupies slopes of 2-3°. However the highest lying land which occurs at 50 m AOD is virtually flat. The northern boundary of this most southerly block of land also includes gradients of 7-11° where the land falls to a stream valley. This land can thus be classified as no higher than Subgrade 3b.

Geology and soils

22 The published geological information (BGS 1971 and 1979) maps a number of deposits around Uckfield. For the survey area to the north-west of Uckfield the northern half is mapped as Ardingly Sandstone the southern half as Grinstead Clay. The survey area to the south-west of Uckfield the land is mostly shown as Wadhurst Clay. Upper Tunbridge Wells Sand is mapped in the north-east of this area and also around Ridgewood Farm. Ashdown Beds and head deposits are also shown as less extensive deposits in the north of this area. For the survey area to the east of Uckfield most of the land is mapped as the Ashdown Beds (the southern half) and Lower Tunbridge Wells Sand. Along the northern boundary of this area, the land is mapped as Wadhurst Clay overlain by alluvium along the River Uck. A very narrow strip of head occurs between the latter two.

23 The published soils information (SSEW 1983) maps two soil types around Uckfield. Soils of the Curtisden Association generally occur in conjunction with the Upper Tunbridge Wells Sand the Ardingly Sandstone and the Ashdown Beds. All of the survey area to the north-west of Uckfield is shown as Curtisden soils even though the southern half of the site is mapped as Grinstead Clay. These soils are described as silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging. Some similar well drained soils. Some well drained coarse loamy soils over sandstone. Slumping locally (SSEW 1983). Soils of the Wickham 1 Association are generally mapped over the Wadhurst Clay. These soils are described as slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils (SSEW 1983).

Agricultural Land Classification

24 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1 page 2

25 The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix III

Grade 2

26 A very small area of land to the south-west of Uckfield has been classified as Grade 2. This land is limited by minor soil droughtiness arising from deep well drained soils believed to be derived from the head deposits. Profiles typically comprise non-calcareous medium silty clay loam topsoils which overlie medium clay loam subsoils. Topsoils and upper subsoils are virtually stoneless. Lower subsoils are slightly stonier containing 5-15% total sandstone by volume. Some of the profiles are slightly gleyed but all of the profiles within this mapping unit are well drained. Wetness Class I (see Appendix II). These profiles are typified by Pit 6. The interaction between these soil characteristics and the prevailing climate results in the amount of soil available water being slightly inadequate to meet crop requirements in some years. The resultant soil droughtiness limitation means that this land will suffer from a slightly lower yield potential and less consistent crop yields.

Subgrade 3a

27 To the east of Owlsbury Farm the land classified as Subgrade 3a, good quality is generally limited by soil wetness and workability. The higher flatter land around Ridgewood Farm is also classified as Subgrade 3a due to soil droughtiness limitations. Where soil wetness and workability are limiting, profiles comprise non-calcareous medium clay loam and medium silty clay loam topsoils. These overlie permeable similarly textured upper subsoils which pass into heavy clay loam and clay lower subsoils at approximately 50 cm depth. These heavier textured subsoils are slowly permeable and act to cause imperfect soil drainage conditions such that Wetness Class III is appropriate. The interaction between the medium textured topsoils and soil drainage status with the prevailing climate acts to impose some restrictions on the flexibility of cropping, stocking and cultivations.

28 Land limited by soil droughtiness mainly occurs on the Upper Tunbridge Wells Sand around Ridgewood Farm. Non-calcareous medium clay loam topsoils over medium clay loam upper subsoils. Topsoils are very slightly stony containing 2% total hard rock by volume. Subsoils are slightly to moderately stony containing 5-20% total sandstone by volume. These profiles proved impenetrable to an auger at 50 cm, occasionally 70 cm, depth. Using information from Pits 2 and 7 dug elsewhere for shallower and stonier soil profiles derived from Upper Tunbridge Wells Sand, assumptions have been made regarding the profile available water of these soils. Based upon observations at Pit 2, these profiles may be impenetrable at 50 cm due to a shallow very stony (approximately 45% sandstone by volume) horizon over dense sandstone. Alternatively, if similar but deeper soils to those described at Pit 7 occur, the impenetrable nature may be due to a relatively compact but rootable fine sandstone horizon over dense sandstone. Assuming either scenario, the interaction of the soil characteristics (texture, stone contents, restricted rooting) with the local climatic regime acts to impart a moderate soil droughtiness limitation. This may result in the soil available water

being insufficient to fully meet crop needs in some years. Consequently this land may suffer from reduced and less consistent crop yields.

Subgrade 3b

29 The majority of land around Uckfield has been classified as Subgrade 3b moderate quality. Most of this land is limited by significant soil wetness and workability. However to the east of Uckfield much of the land is limited by soil droughtiness, sometimes in conjunction with soil wetness and workability. In addition, some of this land is subject to gradient limitations. Slopes within the range of 7-11° act to limit the safe and efficient use of agricultural machinery.

30 Where the land is limited by soil wetness and workability the soil profiles tend to vary in accordance with the underlying geology. Profiles derived from the Wadhurst Clay typically comprise medium clay loam, occasionally medium silty clay loam topsoils. Topsoils tend to directly overlie clay or silty clay subsoils but occasionally a shallow and permeable medium textured upper subsoil occurs. Over the Grinstead Clay medium clay loam topsoils overlie heavy clay loam upper subsoils and clay lower subsoils. To the east of the sewage works where the Upper Tunbridge Wells Sand is mapped medium silty clay loam topsoils are underlain by similarly textured or heavier heavy silty clay loam, heavy clay loam and clay subsoils. Some of the subsoils contain approximately 10% sandstone by volume. To the north-west of Uckfield profiles derived from the Ardingly Sandstone comprise medium clay loam topsoils over similarly textured occasionally heavy clay loam, subsoils. Lighter profiles also occur over the Ashdown Beds. Silt loam and fine sandy silt loam topsoils overlie similarly textured upper subsoils and silt loam lower subsoils. Topsoils contain approximately 5% siltstone by volume, subsoils tend to be somewhat stonier containing 20-35% but are dense and massively structured. All of the topsoils across this Subgrade 3b mapping unit were found to be non-calcareous.

31 As shown by Pits 1, 3, 4, 5 and 8 all of the subsoils are slowly permeable with the exception of the medium textured upper subsoils over the Wadhurst Clay. However all of the profiles within this mapping unit are slowly permeable within 45 cm depth, some as the result of dense massive silt loam subsoils which occur over the Ashdown Beds. This causes poor soil drainage as indicated by gleying within the subsoils and often within the topsoils. These profiles are thus assigned to Wetness Class IV. The interaction between the topsoil textures and drainage characteristics with the prevailing climate means that this land is most appropriately classified as Subgrade 3b. This land will be subject to significant restrictions on the flexibility of cropping, stocking and cultivations.

32 Land within the floodplain zone of the River Uck, to the east of Uckfield is likely to be prone to flooding due to its flat and low-lying nature. At certain times of the year flooding can have a detrimental effect on yield and may give rise to wetness and associated soil management problems. Consequently flood risk may restrict the range of crops which can be grown. Although the duration, frequency and timing of flooding for this area is unknown it is considered that Subgrade 3b is the most appropriate classification.

33 Land limited by soil droughtiness is derived from the Upper Tunbridge Wells Sand. Such land prevails to the east of Uckfield around Bird-in-eye Farm. This land also occurs though to a lesser extent to the south-west of Uckfield on the slightly higher land between the

convent and Ridgewood Farm. Topsoils comprise non-calcareous medium clay loams and medium sandy loams. These overlie similarly textured and occasionally loamy medium sand upper subsoils. Where the latter occur these typically pass into fine sandstone lower subsoils. Topsoils are slightly stony generally containing 5-10% total sandstone by volume. Subsoils are moderately or very stony typically containing 20-50% total sandstone by volume. Most of these profiles proved impenetrable to an auger at approximately 40-50 cm depth. Consequently Pit 2 was dug to investigate lower subsoil conditions (see para 33). Profiles which pass into sandstone lower subsoils proved impenetrable (to a spade) at greater depths typically 65 cm depth. Pit 7 typifies such profiles (see para 34).

34 From Pit 2 it could be seen that the upper subsoil comprises a moderately stony approximately 30% total sandstone by volume medium sandy loam. The lower subsoil comprises a shallow and very stony approximately 45% total sandstone by volume medium clay loam over dense sandstone. Although not excessively stony both subsoils were found to be relatively compact and have thus been assumed to be poorly structured. The extremely compact nature of the underlying sandstone made it impossible to dig beyond a depth of 70 cm. Consequently it is considered unlikely that roots would be able to penetrate below this depth in order to extract water. The interaction of the soil properties (texture stone content structure restricted rooting) and the prevailing climate results in the amount of soil available water being inadequate to meet crop requirements in most years. The resultant soil droughtiness limitation means that this land will suffer from lower and less consistent yield potential.

35 The loamy medium sand upper subsoil of Pit 7 was assessed as moderately structured containing just 15% total sandstone by volume. The lower subsoil comprising relatively compact but rootable fine sandstone was assessed as poorly structured. It was impossible to dig beyond 65 cm depth due to the underlying dense sandstone. It is thus likely that rooting would once again be restricted. As before this land is limited by soil droughtiness.

36 Some of the land to the east of Uckfield over the Ashdown Beds is also limited by soil droughtiness in combination with soil wetness (see para 30). Fine sandy silt loam topsoils overlie similarly textured upper subsoils which pass into a silt loam horizon at approximately 40 cm depth. Topsoils are very slightly stony containing 5% total silt rock by volume upper subsoils moderately stony 20% total silt rock which then become stoneless at 40 cm depth. Pit 4 which typifies such profiles found the subsoils to be compact massive and poorly structured. At approximately 50 cm these profiles become extremely dense and compact and thus considered both impenetrable to crop roots and slowly permeable. Although fine sandy silt loams and silt loams have a high available water capacity the restricted rooting and poor subsoil structures means that this land is also subject to soil droughtiness limitations.

Grade 4

37 A small area of land to the north-west of Uckfield has been classified as Grade 4 poor quality. This land is subject to severe soil wetness and workability limitations. The predominance of hydrophilic vegetation, such as rushes across this land is indicative of long periods of waterlogging caused by the seepage of groundwater at the junction of two

geological deposits Given the extreme saturation of the land for much of the year such profiles are assigned to Wetness Class V Such land is unlikely to benefit significantly from artificial drainage As such, it will present severe difficulties in terms of cropping and cultivations and will be best suited to seasonal grazing

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SOURCES OF REFERENCE

British Geological Survey (1971) *Sheet No 303 Tunbridge Wells 1 50 000 (solid and drift edition)*

BGS London

British Geological Survey (1979) *Sheet No 319 Lewes 1 50 000 (solid and drift edition)*

BGS London

Ministry of Agriculture Fisheries and Food (1988) *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land*

MAFF London

Met Office (1980) *Unpublished climatic data relating to old series OS 1 63 360 scale Sheet 183*

Met Office Bracknell

Met Office (1989) *Climatological Data for Agricultural Land Classification*

Met Office Bracknell

Soil Survey of England and Wales (1983) *Sheet 6 Soils of South East England, 1 250 000 and accompanying legend*

SSEW Harpenden.

APPENDIX I

DESCRIPTIONS 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 (e.g. 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

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

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.

Wetness Class	Duration of waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years ²
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

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land* (MAFF 1988).

¹ The number of days is not necessarily a continuous period

² In most years is defined as more than 10 out of 20 years

APPENDIX III

SOIL DATA

Contents

Sample location map

Soil abbreviations - Explanatory Note

Soil Pit Descriptions

Soil boring descriptions (boring and horizon levels)

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

1 **GRID REF** national 100 km grid square and 8 figure grid reference

2 **USE** Land use at the time of survey The following abbreviations are used

ARA Arable	WHT Wheat	BAR Barley
CER Cereals	OAT Oats	MZE Maize
OSR Oilseed rape	BEN Field Beans	BRA Brassicae
POT Potatoes	SBT Sugar Beet	FCD Fodder Crops
LIN Linseed	FRT Soft and Top Fruit	FLW Fallow
PGR Permanent Pasture	LEY Ley Grass	RGR Rough Grazing
SCR Scrub	CFW Coniferous Woodland	DCW Deciduous Wood
HTH Heathland	BOG Bog or Marsh	FLW Fallow
PLO Ploughed	SAS Set aside	OTH Other
HRT Horticultural Crops		

3 **GRDNT** Gradient as estimated or measured by a hand-held optical clinometer

4 **GLEYSPL** Depth in centimetres (cm) to gleying and/or slowly permeable layers

5 **AP (WHEAT/POTS)** Crop-adjusted available water capacity

6 **MB (WHEAT/POTS)** Moisture Balance (Crop adjusted AP - crop adjusted MD)

7 **DRT** Best grade according to soil droughtiness

8 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		

9 **LIMIT** The main limitation to land quality The following abbreviations are used

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

Soil Pits and Auger Borings

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

S	Sand	LS	Loamy Sand	SL	Sandy Loam
SZL	Sandy Silt Loam	CL	Clay Loam	ZCL	Silty Clay Loam
ZL	Silt Loam	SCL	Sandy Clay Loam	C	Clay
SC	Sandy Clay	ZC	Silty Clay	OL	Organic Loam
P	Peat	SP	Sandy Peat	LP	Loamy Peat
PL	Peaty Loam	PS	Peaty Sand	MZ	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

F	Fine (more than 66% of the sand less than 0.2mm)
M	Medium (less than 66% fine sand and less than 33% coarse sand)
C	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% +
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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

HR	all hard rocks and stones	SLST	soft oolitic or dolimitic limestone
CH	chalk	FSST	soft fine grained sandstone
ZR	soft argillaceous or silty rocks	GH	gravel with non-porous (hard) stones
MSST	soft medium grained sandstone	GS	gravel with porous (soft) stones
SI	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 EAST SUSSEX SP UCKFIELD Pit Number 1P

Grid Reference TQ46932235 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use Permanent Grass
 Slope and Aspect 02 degrees W

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	MCL	10YR5/3 0/0	0	1	HR	C				
29- 53	MCL	2.5Y 7/4 0/0	0	0		M	MDCAB	FM	P	
53- 68	HZCL	2.5Y 7/2 0/0	0	0		M	MDCAB	FM	P	

Wetness Grade 3B Wetness Class IV
 Gleying 0 cm
 SPL 0.29 cm

Drought Grade APW mm MBW 0 mm
 APP mm MBP 0 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 2P

Grid Reference TQ48542070 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use Permanent Grass
 Slope and Aspect 03 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MSL	10YR43 00	1	5	MSST					
28- 50	MSL	10YR54 00	0	30	MSST				P	
50- 70	MCL	10YR64 00	0	45	MSST				P	

Wetness Grade 1 Wetness Class I
 Gleying cm
 SPL No SPL

Drought Grade 3B APW 084mm MBW -26 mm
 APP 091mm MBP -14 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 3P

Grid Reference TQ48702032 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use Ploughed
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	ZL	10YR53 00	0	5	ZR					
28- 45	ZL	10YR53 00	0	30	ZR	C	MASSIV	VM	P	
45- 55	ZL	10YR72 00	0	50	ZR	C	MASSIV	VM	P	

Wetness Grade 3B Wetness Class IV
 Gleying 028 cm
 SPL 028 cm

Drought Grade 3A APW 093mm MBW -16 mm
 APP 096mm MBP -7 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 4P

Grid Reference TQ49072000 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use Permanent Grass
 Slope and Aspect 02 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	FSZL	10YR53 00	0	5	ZR	C				
25- 40	FSZL	10YR63 00	0	20	ZR	M	MASSIV	VM	P	
40- 50	ZL	10YR81 00	0	0		M	MASSIV	VM	P	

Wetness Grade 3A Wetness Class IV
 Gleying 0 cm
 SPL 025 cm

Drought Grade 3B APW 089mm MBW -20 mm
 APP 089mm MBP -14 mm

FINAL ALC GRADE 3A
 MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 5P

Grid Reference TQ47682054 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use
 Slope and Aspect 03 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MZCL	10YR53 00	0	0		C				
28- 40	MZCL	10YR53 63	0	0		M	MDCPL	VM	P	
40- 60	ZC	10YR72 00	0	0		M	MDVCPR	VM	P	

Wetness Grade 3B Wetness Class IV
 Gleying 000 cm
 SPL 028 cm

Drought Grade APW mm MBW 0 mm
 APP mm MBP 0 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Wetness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 6P

Grid Reference TQ46352030 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use
 Slope and Aspect 02 degrees NE

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MCL	10YR42 00	0	1	HR					
25- 37	MCL	10YR43 00	0	1	MSST	F	MDCSAB	FR	M	
37- 70	MCL	10YR54 00	0	10	FSST		MDCSAB	FM	M	
70-120	MCL	10YR64 00	0	15	FSST				M	

Wetness Grade 1 Wetness Class I
 Gleying cm
 SPL No SPL

Drought Grade 2 APW 146mm MBW 36 mm
 APP 113mm MBP 8 mm

FINAL ALC GRADE 2
 MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 7P

Grid Reference TQ46772035 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 31	MSL	10YR43 00	0	5	MSST					
31- 43	LMS	10YR56 58	0	15	MSST		WKCSAB	VF	M	
43- 65	FSST	10YR64 72	0	0		M			P	

Wetness Grade 1 Wetness Class I
 Gleying cm
 SPL No SPL

Drought Grade 3B APW 066mm MBW -44 mm
 APP 069mm MBP -36 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name EAST SUSSEX SP UCKFIELD Pit Number 8P

Grid Reference TQ46751975 Average Annual Rainfall 793 mm
 Accumulated Temperature 1489 degree days
 Field Capacity Level 173 days
 Land Use Permanent Grass
 Slope and Aspect 04 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 23	MCL	10YR42 00	0	2	HR	C				
23- 36	MCL	10YR53 00	0	1	MSST	M	MDCSAB	FM	M	
36- 55	ZC	25Y 53 00	0	0		M	STCPR	VM	P	

Wetness Grade 3B Wetness Class IV
 Gleying 0 cm
 SPL 036 cm

Drought Grade APW mm MBW 0 mm
 APP mm MBP 0 mm

FINAL ALC GRADE 3B
 MAIN LIMITATION Wetness

SAMPLE NO	GRID REF	ASPECT		--WETNESS--				-WHEAT-		-POTS-		M REL		EROSN	FROST	CHEM	ALC	COMMENTS
		USE	GRDNT	GLEYS	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT		
1	TQ46872250	PGR	NW	06	0	028	4	3B		0	0					WE	3B	Re Pit 1
1P	TQ46932235	PGR	W	02	0	029	4	3B		0	0					WE	3B	Imp70 siltstn
2	TQ46552235	CER			030	030	4	3B		0	0					WE	3B	Re Pit 1
2P	TQ48542070	PGR	SW	03			1	1	084	-26	091	-14	3B			DR	3B	Imp70 hard sst
3	TQ46932235	PGR	NW	05	028	028	4	3B		0	0					WE	3B	Re Pit 1
3P	TQ48702032	PLO			028	028	4	3B	093	-16	096	-7	3A			WE	3B	Massive s/soil
4	TQ47032225	RGR	NE	02	0	020	5	4		0	0					WE	4	Wet flush
4P	TQ49072000	PGR	SW	02	0	025	4	3A	089	-20	089	-14	3B			WE	3A	Bordrline 3b d
5	TQ46622223	CER	NW	05	030	030	4	3B		0	0					WE	3B	Re Pit 1
5P	TQ47682054	MAZ	SW	03	000	028	4	3B		0	0					WE	3B	
6	TQ46932220	RGR	NE	02	045	055	3	3A		0	0					WE	3A	
6P	TQ46352030	STB	NE	02			1	1	146	36	113	8	2			DR	2	Porous 70
7	TQ46472217	ARA	NW	04	030	030	4	3A		0	0					WE	3A	fsz1 topsoil
7P	TQ46772035	MAZ					1	1	066	-44	069	-36	3B			DR	3B	Imp65 sst Q WC
8	TQ46972214	RGR	NE	02	060		1	1	100	-10	110	5	3A			DR	3A	Imp68 sst Q WC
8P	TQ46751975	PGR	SW	04	0	036	4	3B		0	0					WE	3B	
9	TQ46752213	CER	SW	03	030	030	4	3B		0	0					WE	3B	
10	TQ46452205	RGR	W	04	028	028	4	3B		0	0					WE	3B	
11	TQ46632186	RGR	W	05	030	034	4	3B		0	0					WE	3B	
12	TQ48512136	STB	NW	03	0	030	4	3B		0	0					WE	3B	Plastic 40
13	TQ48402124	PGR	NW	02	0	030	4	3B		0	0					WE	3B	
14	TQ48932121	STB	NW	03	030		2	1	068	-42	068	-37	3B			DR	3B	Imp45 sst Re2P
15	TQ48152117	PGR			030	060	3	3A		0	0					WE	3A	Q 3b flood ris
16	TQ48562117	STB	NW	06			1	1	076	-34	076	-29	3B			DR	3B	Imp50 sst Q WC
17	TQ48302115	PGR	N	02			1	1	072	-38	072	-33	3B			DR	3B	Imp50 sst Q WC
18	TQ48252100	PGR	NW	05	060		1	1	130	20	098	-7	3A			DR	2	
19	TQ48682090	PGR					1	1	074	-36	077	-28	3B			DR	3B	Imp65 sst Q WC
20	TQ48542070	PGR	SW	01			1	1	062	-48	062	-43	3B			DR	3B	Imp45 sst Q WC
21	TQ46752065	PGR	SW	02			1	1	084	-26	088	-17	3B			DR	3B	Imp65 sst Q WC
22	TQ48502040	PLO	N	04			4	3B		0	0					WE	3B	Compact28 Re4P
23	TQ48562037	PLO			025	030	4	3B		0	0					WE	3B	Compact30 Re4P
24	TQ48752020	PGR	SW	02	025	030	4	3B		0	0					WE	3B	Compact30 Re4P
25	TQ48752007	PGR	SW	02	025	025	4	3B		0	0					WE	3B	Compact50 Re4P
26	TQ49072000	PGR	SW	02	025	025	4	3A		0	0					WD	3A	fsz1 topsoil
27	TQ48971984	PGR	SW	02	028	028	4	3B		0	0					WE	3B	Compact50 Re3P
28	TQ48931973	PGR	SW	03	025	025	4	3B		0	0					WE	3B	Compact43 Re3P
29	TQ46752065	STB			025	025	4	3B		0	0					WE	3B	
30	TQ47652054	MAZ	W	01	023	023	4	3B		0	0					WE	3B	
31	TQ47002043	STB	SW	02	025	025	4	3B		0	0					WE	3B	S1 gleyed 0
32	TQ46202030	STB	NE	02			1	1	153	43	117	12	1				1	S1 gley 20-50
33	TQ46352030	STB	NE	02			1	1	109	-1	118	13	3A			DR	2	Imp72dry Re6P
34	TQ47582025	LEY	SW	02			1	1	085	-25	085	-20	3B			DR	3A	Imp50sst Q WC

SAMPLE NO	GRID REF	ASPECT		GRDNT	--WETNESS--		-WHEAT-		-POTS-		M REL		EROSN	FROST	CHEM	ALC	COMMENTS	
		USE			GLEYS	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST		LIMIT
35	TQ46772017	PGR	NW	03		1	1	070	-40	070	-35	3B				DR	3B	Imp43 sst Q WC
36	TQ46432015	PGR	NE	01		1	1	097	-13	107	2	3A				DR	3A	Imp70sst Q WC
37	TQ46402003	PGR	NE	03	0	050	3	3A	0	0						WE	3A	
38	TQ46572005	PGR			0	023	4	3B	0	0						WE	3B	
39	TQ46902005	PGR			0	035	4	3B	0	0						WE	3B	Some sst
40	TQ47001996	PGR	SW	03		1	1	081	-29	081	-24	3B				DR	3B	Imp50 sst Q WC
41	TQ47231997	PLO	SW	03		2	2	153	43	115	10	1				WE	2	S1 gleyed 25
42	TQ46281981	ARA	NE	02	025	050	3	3A	0	0						WE	3A	
43	TQ46751975	PGR	SW	04	0	035	4	3B	0	0						WE	3B	Re Pit 8
44	TQ47301970	PGR	S	03	028		2	2	082	-28	082	-23	3B			DR	3A	Imp50 sst Q WC
45	TQ46311966	ARA	NE	01	018	030	4	3B	0	0						WE	3B	
46	TQ47071965	PGR	SW	05	015	025	4	3B	0	0						WE	3B	S1 gleyed 0
47	TQ46381955	MAZ	NE	01	028	045	4	3B	0	0						WE	3B	S1 gleyed 0
48	TQ47931950	PGR	SW	03	020	030	4	3B	0	0						WE	3B	
49	TQ57253954	PGR	SW	02	0	028	4	3B	0	0						WE	3B	Very hard clay
50	TQ46751943	CER	NE	05	020	030	4	3B	0	0						WE	3B	
51	TQ46751923	PGR	NE	02	025	035	4	3B	0	0						WE	3B	S1 gleyed 0
52	TQ47201920	CER	NE	03	028	038	4	3B	0	0						WE	3B	
53	TQ46751897	PGR	SW	02	030	038	4	3B	0	0						WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED COL	-----STONES-----				STRUCT/ CONSIST	SUBS			CALC			
				COL	ABUN	CONT		GLEY	>2	>6	LITH		TOT	STR	POR		IMP	SPL	
1	0-28	mc1	10YR42 00	10YR56	52	C		Y	0	0	0								
	28-55	mc1	10YR53 00	10YR56	00	C		Y	0	0	0		P		Y	Re Pit 1			
	55-90	mc1	10YR63 00	75YR68	81	M		Y	0	0	0		P		Y	Re Pit 1			
	90-120	z1	10YR81 00	75YR68	00	M		Y	0	0	0		P		Y	Re Pit 1			
1P	0-29	mc1	10YR53 00	10YR56	00	C		Y	0	0	HR	1							
	29-53	mc1	25Y 74 00	10YR68	00	M		Y	0	0	0	MDCAB	FM	P	Y	Y	Borderline mzc1		
	53-68	hzc1	25Y 72 00	10YR66	00	M		Y	0	0	0	MDCAB	FM	P	Y	Y	Platy siltstn 68		
2	0-30	mc1	10YR43 00						0	0	0								
	30-65	hc1	25Y 53 00	10YR58	00	M	00MN00	00	Y	0	0	0		P		Y	Re Pit 1		
	65-85	hc1	05Y 61 00	75YR58	00	M			Y	0	0	0		P		Y			
2P	0-28	ms1	10YR43 00						1	0	MSST	5							
	28-50	ms1	10YR54 00						0	0	MSST	30		P					
	50-70	mc1	10YR64 00						0	0	MSST	45		P			I70sst Qroots 70		
3	0-28	mc1	10YR43 00						0	0	0								
	28-55	mc1	10YR53 00	10YR56	00	C		Y	0	0	0		P		Y	Re Pit 1			
	55-68	mzc1	10YR64 00	75YR68	72	M		Y	0	0	0		P		Y	Re Pit 1			
	68-80	mzc1	10YR71 00	75YR68	00	M		Y	0	0	0		P		Y	Re Pit 1 Q siltstn			
3P	0-28	z1	10YR53 00						0	0	ZR	5							
	28-45	z1	10YR53 00	10YR58	00	C	00MN00	00	Y	0	0	ZR	30	MASSIV	VM	P	Y	Y	Compact
	45-55	z1	10YR72 00	10YR66	00	C			Y	0	0	ZR	50	MASSIV	VM	P	Y	Y	V compact 55
4	0-20	mc1	25Y 52 00	75YR46	00	M		Y	0	0	0								
	20-35	mc1	10YR72 00	10YR74	68	M		Y	0	0	0		P		Y				
	35-80	zc	10YR72 00	10YR74	68	M		Y	0	0	0		P		Y		Water seepage area		
4P	0-25	fsz1	10YR53 00	75YR46	00	C		Y	0	0	ZR	5							
	25-40	fsz1	10YR63 00	75YR46	00	M		Y	0	0	ZR	20	MASSIV	VM	P	Y	Y		
	40-50	z1	10YR81 00	10YR66	68	M		Y	0	0	0	MASSIV	VM	P	Y	Y			
5	0-30	mc1	10YR43 00						0	0	0								
	30-50	mc1	25Y 53 52	75YR58	00	M	00MN00	00	Y	0	0	0		P		Y	Re Pit 1		
	50-80	c	05Y 61 71	10YR68	00	M			Y	0	0	0		P		Y			
5P	0-28	mzc1	10YR53 00	75YR58	00	C		Y	0	0	0								
	28-40	mzc1	10YR53 63	75YR46	00	M		Y	0	0	0	MDCPL	VM	P	Y	Y	Plough Pan		
	40-60	zc	10YR72 00	10YR58	00	M		Y	0	0	0	MDVCPR	VM	P	Y	Y			
6	0-25	mc1	10YR42 00						0	0	0								
	25-45	mc1	10YR42 00	10YR66	00	F			0	0	0		M						
	45-55	mc1	10YR54 53	10YR66	00	C		Y	0	0	0		M				Browner - Q sp1		
	55-80	z1	10YR72 00	10YR74	68	M		Y	0	0	0		P		Y				
6P	0-25	mc1	10YR42 00						0	0	HR	1							
	25-37	mc1	10YR43 00	10YR56	00	F			0	0	MSST	1	MDCSAB	FR	M				
	37-70	mc1	10YR54 00						0	0	FSST	10	MDCSAB	FM	M				
	70-120	mc1	10YR64 00						0	0	FSST	15		M					

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED		---STONES---			STRUCT/	SUBS	SPL	CALC
				COL	ABUN	CONT	COL	GLE	2	>6	LITH				
7	0-30	fsz1	10YR43 00						0	0	0				
	30-75	mc1	10YR64 00 75YR58 00 M					Y	0	0	0		P	Y	Re Pit 1
	75-110	mc1	10YR63 00 75YR58 00 M					Y	0	0	0		P	Y	Re Pit 1
7P	0-31	ms1	10YR43 00						0	0	MSST 5				
	31-43	lms	10YR56 58						0	0	MSST 15	WKCSAB VF M			
	43-65	fsst	10YR64 72 10YR68 00 M						0	0	0		P		Compact - Q sp1 65
8	0-30	mc1	10YR32 00						5	0	MSST 5				
	30-60	mc1	10YR42 00 10YR44 00 F						0	0	MSST 5		M		
	60-68	mc1	10YR42 53 10YR44 00 C					Y	0	0	MSST 5		M		Compact - Q sp1 68
8P	0-23	mc1	10YR42 00 10YR56 00 C					Y	0	0	HR 2				
	23-36	mc1	10YR53 00 10YR56 00 M					00MN00 00 Y	0	0	MSST 1	MDCSAB FM M			
	36-55	zc	25Y 53 00 10YR68 56 M					00MN00 00 Y	0	0	0	STCPR VM P	Y	Y	
9	0-30	mc1	10YR42 00						0	0	0				
	30-55	hc1	10YR52 00 10YR56 00 C					00MN00 00 Y	0	0	0		P	Y	Re Pit 1
	55-90	c	05Y 61 71 10YR68 00 M					Y	0	0	0		P	Y	
10	0-28	mc1	10YR53 00 10YR58 00 F						0	0	HR 1				
	28-45	hc1	25Y 63 00 10YR58 00 C					Y	0	0	0		P	Y	Re Pit 1
	45-60	c	05Y 72 00 75YR58 00 M					Y	0	0	0		P	Y	
11	0-30	mc1	10YR53 00 10YR58 00 F						0	0	HR 1				
	30-40	hc1	25Y 63 00 10YR68 00 C					Y	0	0	HR 5		P	Y	Re Pit 1
	40-60	c	25Y 72 00 75YR58 00 M					Y	0	0	0		P	Y	
12	0-30	mc1	10YR53 00 75YR58 00 C					Y	0	0	0				
	30-40	c	10YR63 00 75YR58 51 M					Y	0	0	MSST 10		P	Y	
	40-60	c	10YR72 00 75YR58 00 M					Y	0	0	0		P	Y	
13	0-30	mzc1	10YR53 00 10YR56 52 C					Y	0	0	0				
	30-60	c	10YR73 00 75YR58 00 M					Y	0	0	0		P	Y	
14	0-30	ms1	10YR43 00						0	0	MSST 10				
	30-45	ms1	10YR64 00 10YR66 62 M					Y	0	0	MSST 10		M		Compact - Q sp1 45
15	0-30	mzc1	10YR53 00 10YR56 00 F						0	0	0) Flat and low
	30-60	mzc1	10YR53 00 10YR56 00 C					Y	0	0	0		M) lying land -
	60-80	hzc1	10YR63 00 10YR56 00 C					Y	0	0	0		P	Y) Q 3b flood risk
16	0-30	mc1	10YR43 00						0	0	MSST 5				
	30-40	mc1	10YR54 00						0	0	MSST 25		M		
	40-50	mc1	10YR54 00						0	0	MSST 35		P		Impen 50 sst
17	0-25	mc1	10YR43 00						0	0	MSST 5				
	25-40	mc1	10YR54 00						0	0	MSST 30		P		
	40-50	mc1	10YR54 00						0	0	MSST 40		P		Impen 50 sst

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL	----STONES-----			STRUCT/ CONSIST	SUBS			SPL	CALC	
				COL	ABUN	CONT		GLE	>2	>6		LITH	TOT	STR			POR
18	0-28	mc1	10YR43 00					0	0	MSST	5						
	28-45	mc1	10YR54 00					0	0	MSST	30			P			
	45-60	mc1	10YR64 56					0	0	MSST	30			P			
	60-85	ms1	10YR64 00	10YR68 00	C		Y	0	0	MSST	30			P			
	85-120	sc1	10YR64 00	10YR68 00	M		Y	0	0	MSST	30			P			
19	0-30	ms1	10YR43 00					0	0	MSST	10						
	30-50	ms1	10YR54 00					0	0	MSST	30			P			
	50-60	lms	10YR64 00					0	0	MSST	50			P			
	60-65	fsst	10YR73 00					0	0		0			P		Compact 65	
20	0-30	mc1	10YR43 00					0	0	MSST	20						
	30-45	mc1	10YR54 00					0	0	MSST	35			M		Imp 45 sst	
21	0-30	mc1	10YR43 00					0	0	MSST	10						
	30-50	mc1	10YR54 00					0	0	MSST	20			M			
	50-58	mc1	10YR54 00					0	0	MSST	30			P			
	58-65	msst	10YR63 00					0	0		0			P		Compact 65	
22	0-25	z1	10YR53 00					0	0	ZR	5						
	25-28	z1	10YR64 00					0	0	ZR	30			M		I2Bcompact Re4P	
23	0-25	z1	10YR53 00					0	0	ZR	5						
	25-30	z1	10YR63 00	75YR68 00	M		Y	0	0	ZR	30			P	Y	I30compact Re4P	
24	0-25	z1	10YR53 00					0	0	ZR	5						
	25-30	z1	10YR64 00	10YR56 00	C		00M00 00	Y	0	0	ZR	30			P	Y	I30compact Re4P
25	0-25	z1	10YR53 00					0	0	ZR	10						
	25-45	z1	10YR63 72	10YR56 00	C		00M00 00	Y	0	0	ZR	35			P	Y	
	45-50	z1	10YR72 00	10YR56 00	C			Y	0	0		0			P	Y	I50compact Re4P
26	0-25	fsz1	10YR53 00					0	0	ZR	10						
	25-40	fsz1	10YR81 72	10YR56 00	C			Y	0	0	ZR	30			P	Y	
	40-45	z1	10YR81 72	10YR58 00	M			Y	0	0		0			P	Y	I45compact Re3P
27	0-28	z1	10YR53 00					0	0	ZR	5						
	28-50	z1	10YR81 72	10YR66 68	M			Y	0	0	ZR	30			P	Y	I50compact Re3P
28	0-25	z1	10YR53 00					0	0	ZR	10						
	25-38	z1	10YR81 72	10YR66 68	M			Y	0	0	ZR	35			P	Y	
	38-43	z1	10YR75 00	10YR66 00	C			Y	0	0		0			P	Y	I43compact Re3P
29	0-25	mc1	10YR43 00					0	0		0						
	25-30	hc1	10YR53 00	75YR58 46	M			Y	0	0	MSST	10			P	Y	
	30-60	c	10YR71 00	75YR46 00	M			Y	0	0	MSST	10			P	Y	
30	0-23	mzc1	10YR53 00	10YR56 00	F			0	0		0						
	23-40	hzc1	25Y 74 66	10YR56 00	C			Y	0	0		0			P	Y	
	40-70	hzc1	10YR71 00	10YR56 58	M			Y	0	0		0			P	Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES-----				STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR		IMP
31	0-25	mc1	10YR43 00 75YR58 00 C					S	0	0	0						S1 gleyed
	25-40	hc1	10YR64 00 75YR46 58 M					Y	0	0	0		P		Y		
	40-60	c	10YR71 00 75YR58 46 M					Y	0	0	0		P		Y		
32	0-20	mzc1	10YR42 00						0	0	HR	1					
	20-50	mc1	10YR54 00 10YR58 00 C				00MN00 00	S	0	0	0		M				S1 gleyed
	50-70	mc1	10YR54 00 10YR58 00 F						0	0	MSST	2	M				
	70-120	mc1	10YR64 00						0	0	MSST	5	M				
33	0-25	mzc1	10YR53 00						0	0	HR	1					
	25-45	mc1	10YR54 00						0	0	0		M				
	45-70	mc1	10YR54 00 10YR58 00 F						0	0	MSST	2	M				
	70-72	mc1	10YR64 00						0	0	MSST	5	M				Imp 72 hard/dry
34	0-25	mc1	10YR53 00						0	0	0						
	25-50	mc1	10YR54 00						0	0	0		M				Impen 50 sst
35	0-23	mc1	10YR53 00						2	0	MSST	2					
	23-38	mc1	10YR43 00						0	0	MSST	2	M				
	38-43	fsz1	10YR43 00						0	0	MSST	50	P				Impen 43 sst
36	0-25	mc1	10YR43 00						0	0	0						
	25-55	mc1	10YR54 00						0	0	MSST	20	M				
	55-70	mc1	10YR56 00						0	0	MSST	10	M				Impen 70 sst
37	0-28	mc1	10YR53 00 10YR58 00 C					Y	0	0	0						
	28-50	mc1	25Y 63 00 75YR58 00 C				00MN00 00	Y	0	0	0		M				Q sp1
	50-68	hc1	10YR72 00 75YR58 00 M				00MN00 00	Y	0	0	0		P		Y		
	68-85	c	10YR61 00 75YR58 00 M					Y	0	0	0		P		Y		
38	0-23	hc1	10YR53 00 75YR56 00 C					Y	0	0	0						
	23-40	hc1	10YR51 00 75YR56 00 M					Y	0	0	0		P		Y		
	40-80	zc	10YR61 00 10YR58 00 C					Y	0	0	0		P		Y		
39	0-15	mc1	75YR53 00 75YR56 00 C					Y	0	0	HR	2					
	15-35	hc1	75YR53 00 75YR56 00 M					Y	0	0	0		P				Q sp1
	35-60	c	10YR61 00 10YR68 00 M				00MN00 00	Y	0	0	0		P		Y		
40	0-25	mc1	10YR43 00						0	0	HR	2					
	25-40	mc1	10YR53 00						0	0	MSST	5	M				
	40-50	mc1	10YR53 00						0	0	MSST	20	M				Imp 50 sst
41	0-25	hc1	10YR53 00 10YR58 00 F						0	0	HR	2					
	25-70	hc1	10YR54 00 10YR58 00 C					S	0	0	HR	2	M				S1 gleyed
	70-120	hc1	10YR54 00 10YR58 00 C					S	0	0	0		M				S1 gleyed
42	0-25	mzc1	10YR43 00						0	0	MSST	2					
	25-50	mc1	10YR53 00 10YR56 00 C					Y	0	0	MSST	5	M				Re Pit 8
	50-80	c	10YR72 00 75YR56 00 M					Y	0	0	MSST	10	P		Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS			CALC
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR	
43	0-20	mzc1	10YR42 00 75YR58 00 C					Y	0	0	0					
	20-35	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M			Re Pit 8
	35-60	zc	25Y 63 61 75YR46 00 M					Y	0	0	0	P		Y		
44	0-28	mc1	10YR53 43						0	0	HR	2				
	28-50	mc1	10YR63 00 10YR58 00 M				00M00	00	Y	0	0	MSST	10	M		Impen 50 sst
45	0-18	mzc1	10YR43 00						0	0	0					
	18-30	mc1	10YR63 00 10YR56 00 C				00M00	00	Y	0	0	0	M			
	30-60	c	10YR73 00 75YR56 00 M				00M00	00	Y	0	0	0	P		Y	
46	0-15	mzc1	10YR44 00 10YR58 00 C					S	0	0	0				S1 gleyed	
	15-25	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	25-60	zc	25Y 63 61 75YR46 00 M					Y	0	0	MSST	2	P		Y	
47	0-28	mzc1	10YR44 00 10YR58 00 C					S	0	0	0				S1 gleyed	
	28-45	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	45-65	zc	25Y 63 61 75YR46 00 M					Y	0	0	0	0	P		Y	
48	0-20	mzc1	25Y 43 00 10YR58 00 C					S	0	0	0				S1 gleyed	
	20-30	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	30-60	zc	25Y 63 61 75YR46 00 M					Y	0	0	MSST	2	P		Y	
49	0-28	mzc1	10YR53 00 10YR56 00 C					Y	0	0	HR	2				
	28-60	zc	10YR53 00 75YR58 52 M				00M00	00	Y	0	0	0	P		Y	
50	0-20	mzc1	10YR44 00 10YR58 00 C					S	0	0	HR	1			S1 gleyed	
	20-30	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	30-60	zc	25Y 63 61 75YR46 00 M					Y	0	0	0	0	P		Y	
51	0-25	mzc1	10YR44 00 10YR58 00 C					S	0	0	0				S1 gleyed	
	25-35	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	35-60	c	25Y 63 61 75YR46 00 M					Y	0	0	0	0	P		Y	
52	0-28	mzc1	10YR42 00						0	0	HR	2				
	28-38	hc1	25Y 63 00 10YR58 00 M				00M00	00	Y	0	0	HR	2	M		Q spl
	38-60	c	25Y 73 00 10YR58 00 M				00M00	00	Y	0	0	HR	2	P		Y
53	0-30	mzc1	10YR44 00						0	0	0					
	30-38	mzc1	10YR53 00 10YR56 00 C				00M00	00	Y	0	0	0	M		Re Pit 8	
	38-50	c	25Y 72 00 75YR68 00 M				00M00	00	Y	0	0	0	P		Y	
	50-70	c	25Y 63 61 75YR58 00 M					Y	0	0	0	0	P		Y	