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**Canterbury District Local Plan
RUR 18: Land North East of Hersden,
Canterbury, Kent
Agricultural Land Classification
ALC Map and Report
June 1995**

AGRICULTURAL LAND CLASSIFICATION REPORT

CANTERBURY DISTRICT LOCAL PLAN RUR 18: LAND NORTH EAST OF HERSDEN

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 Canterbury District of Kent. The work forms part of MAFF's statutory input to the preparation of the Canterbury Local Plan.
- 1.2 RUR 18 comprises 14.8 hectares of land to the north east of Hersden near Canterbury in Kent. An Agricultural Land Classification (ALC) survey was carried out in June 1995. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 14 borings and two soil inspection pits were assessed according to 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 long-term limitations 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 the survey the agricultural land was under wheat to the east of the track, shown as Urban, and barley to the west. The Urban areas include the track, which was metalled, and two dwellings.
- 1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading. This map supersedes any previous ALC information for this site.

Table 1: Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	3.9	26.3	27.3
3a	10.4	70.3	<u>72.7</u>
Urban	<u>0.5</u>	<u>3.4</u>	100.0 (14.3ha)
Total area of site	14.8	100.0	

- 1.6 Appendix I gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.
- 1.7 The agricultural land at this site has been classified as Grade 2 (very good quality) and Subgrade 3a (good quality). The principal limitation to land quality is soil wetness, although soil droughtiness is significant on some of the land shown as

Grade 2. The area of Grade 2 land is characterised by non-calcareous medium silty clay loam topsoils over clay loam subsoils affected by wetness (gleying). Occasionally the wetness affected subsoils are at moderate depth and as such soil wetness is not a limit to the classification. However, although these soils are relatively water retentive, the dry local climate leads to a slight droughtiness limitation, as such Grade 2 has been appropriately applied in these areas.

- 1.8 The Subgrade 3a land is characterised by non-calcareous medium silty clay loam and medium, occasionally heavy clay loam topsoils and upper subsoils overlying slowly permeable clay at moderate depths in the profile. The clay causes a drainage impedence. Soil wetness, in this case, is due to drainage impedence and affects plant growth and yield potential, as well as restricting land utilisation. The very dry climate regime of the site is an advantage for the agricultural potential of these clayey soils, as the wetness limitation is moderated.

2. Climate

- 2.1 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.
- 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 gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.
- 2.4 No local climatic factors such as exposure or frost risk are believed to affect the site. However, climatic and soil factors interact to influence soil wetness and droughtiness limitations.

Table 2: Climatic Interpolation

Grid Reference	TR209625	TR209623
Altitude, (m, AOD)	25	30
Accumulated Temperature (day degrees C., Jan.-June)	1465	1459
Average Annual Rainfall (mm)	625	630
Field Capacity Days	128	129
Moisture deficit, wheat (mm)	124	123
Moisture deficit, potatoes (mm)	121	120
Overall Climatic Grade	1	1

3. Relief

- 3.1 The site lies between approximately 25 and 30m AOD. The highest land is towards the south of the site, falling gently towards the north. Nowhere in this area does relief or gradient affect agricultural land quality.

4. Geology and Soils

- 4.1 The published geological information (BGS, 1974), shows the majority of the site to be underlain by London Clay. Towards the east of the site head brickearth is shown overlying the London Clay as a drift deposit.
- 4.2 The most recent published soils information (SSEW 1983), shows the majority of the site to be underlain by soils from the Wickham 4 Association. The legend accompanying the map describes these as, 'slowly permeable, seasonally waterlogged, fine loamy over clayey and fine silty over clayey soils. Associated with similar clayey soils, often with brown subsoils.' (SSEW, 1983). Soils of this broad type was found on the site. The area is also covered by the Soils of Kent publication (SSEW, 1980), which describes the soils in this area similarly.

5. Agricultural Land Classification

- 5.1 Paragraph 1.5 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 Land of very good quality has been mapped towards the east of the site. Principal limitations to land quality include soil wetness, and soil droughtiness. Profiles typically comprise a stoneless to slightly stony (0-10% flints), non-calcareous medium silty clay loam topsoil. This passes to a commonly gleyed or slightly gleyed, medium clay loam, medium silty clay loam, or occasionally heavy silty clay loam upper subsoil, with a similar stone content. These horizons rest on gleyed, moderately structured, permeable, stoneless heavy clay loam or heavy silty clay loam lower subsoil horizons to depth (120cm), as seen in the pit observation, 1p (see Appendix III). In the local relatively dry climate, the depth to gleying in these soils causes Wetness Class II to be applied which, in combination with the generally workable nature of the medium textured topsoils leads to a Grade 2 classification being most appropriate. Soil wetness adversely affects crop growth and development as well as restricting land utilisation, in this area to a slight degree.
- 5.4 Occasionally, where the upper subsoil horizons were not gleyed within 40cm, the soil wetness limitation is not applicable (gleying occurs at moderate (45-50cm) depth). However, the dry local climate gives rise to a slight soil droughtiness

limitation, as although the soils are clayey and therefore moisture retentive, available water is limited, to the extent that Grade 2 is appropriate.

Subgrade 3a

- 5.3 Land of good quality has been mapped over the majority of this site. The principal limitation to land quality is soil wetness. Profiles typically comprise a stoneless to very slightly stony (up to 4% flints), non-calcareous medium silty clay loam or medium clay loam, occasionally heavy clay loam topsoil. This commonly rests directly on a gleyed, slowly permeable, stoneless to slightly stony (up to 10% v/v total flints), clay subsoil. The remaining observations, including the pit observation, 2p, contain a gleyed, permeable, slightly stony (up to 10% flints), heavy clay loam upper subsoil horizon. Given the relatively dry local climate and the depth at which slowly permeable horizons occur, these soils are placed in Wetness Class III which, in combination with the generally workable nature of the medium textured topsoils leads to a Subgrade 3a classification being most appropriate. Occasional observations in this area were of a slightly worse quality, due to the presence of a less workable topsoil. However, their number and distribution precludes separate mapping. Soil wetness adversely affects crop growth and development as well as restricting land utilisation, the dry local climate moderates this effect.

ADAS Ref: 2002/103/95
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Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1974), Sheet 273, Faversham, Solid & Drift Edition. 1:50,000

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 (1980), Bulletin No.9, Soils of Kent.

Soil Survey of England and Wales (1983), Sheet No. 6, Soils of South-East England, 1:250,000, and Accompanying Legend.

Soil Survey of England and Wales (1984), Bulletin No.15, Soils and 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 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.

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.

¹The number of days specified is not necessarily a continuous period.

²'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

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% +

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 : CANTERBURY LP RUR 18 Pit Number : 1P

Grid Reference: TR21206240 Average Annual Rainfall : 625 mm
 Accumulated Temperature : 1465 degree days
 Field Capacity Level : 128 days
 Land Use : Wheat
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	MZCL	10YR43 00	0	3	HR					
29- 38	MZCL	10YR44 00	0	5	HR		MDCSAB	FR	M	
38- 57	HZCL	10YR61 62	0	0		C	MDCSAB	FR	M	
57-120	HCL	10YR53 00	0	0		C	MDCSAB	FR	M	

Wetness Grade : 2 Wetness Class : II
 Gleying : 38 cm
 SPL : cm

Drought Grade : 2 APW : 159mm MBW : 35 mm
 APP : 121mm MBP : 0 mm

FINAL ALC GRADE : 2
 MAIN LIMITATION : Soil Wetness/Droughtiness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1	TR21006250	WHT				1	1	52	-72	52	-69	4			DR	2	IMP 30 SEE 1P
1P	TR21206240	WHT	38			2	2	159	35	121	0	2			WD	2	PIT 100
2	TR21106250	WHT	0	48		3	3A		0		0				WE	3A	IMP 60 SEE 2P
2P	TR21036231	WHT	30	44		3	3A		0		0				WE	3A	PIT 70 AUG 90
3	TR21206250	WHT	30			2	2		0		0				WD	2	IMP 78 SEE 1P
4	TR21306250	WHT	30			1	1	156	32	120	-1	2			DR	2	SEE 1P
5	TR21406250	WHT				1	1	43	-81	43	-78	4			DR	2	IMP 25 SEE 1P
6	TR20606240	BAR	29	45		3	3A	133	9	114	-7	2			WE	3A	LIMED TS
7	TR20706240	BAR	0	24		3	3A	128	4	105	-16	3A			WD	3A	LIMED TS
8	TR20806240	BAR	0	40		3	3A		0		0				WE	3A	SEE 2P
9	TR20906240	BAR	29	29		3	3A	130	6	107	-14	3A			WD	3A	SEE 2P
10	TR21006240	WHT	30	30		3	3B		0		0				WE	3B	SEE 2P
11	TR21106240	WHT	50			1	1	160	36	122	1	2			DR	2	SEE 1P
12	TR21206240	WHT	45			1	1	159	35	122	1	2			DR	2	SEE 1P
13	TR20906230	BAR	0	26		3	3A		0		0				WE	3A	SEE 2P
14	TR21036231	WHT	30	50		3	3A		0		0				WE	3A	SEE 2P

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/	SUBS	IMP	SPL	CALC		
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH						TOT	CONSIST
1	0-30	mzc1	10YR43 00						1	0	HR	10				IMP FLINTS 30		
1P	0-29	mzc1	10YR43 00						0	0	HR	3						
	29-38	mzc1	10YR44 00						0	0	HR	5	MDCSAB	FR	M			
	38-57	hzc1	10YR61 62	10YR66	00	C		00MN00	00	Y	0	0	0	MDCSAB	FR	M		
	57-120	hc1	10YR53 00	10YR58	68	C		00MN00	00	Y	0	0	0	MDCSAB	FR	M		
2	0-30	mzc1	10YR43 00	10YR58	61	F			0	0		0						
	30-48	hc1	10YR43 00	75YR58	00	M			S	0	0	HR	3		M			
	48-60	c	10YR53 00	75YR58	00	M		00MN00	00	Y	0	0	HR	10		P	Y	IMP FLINTS 60
2P	0-30	mc1	10YR43 00						0	0	HR	4						
	30-44	hc1	10YR62 00	10YR58	00	C		00MN00	00	Y	0	0	HR	10	MDCSAB	FR	M	
	44-70	c	10YR61 63	10YR68	00	M		00MN00	00	Y	0	0		0	WKCSAB	FM	P	Y
3	0-30	mzc1	10YR43 00						0	0	HR	2						
	30-50	hzc1	10YR53 63	75YR58	00	C		00MN00	00	Y	0	0		0		M		
	50-78	hc1	10YR63 00	75YR58	00	M		00MN00	00	Y	0	0		0		M		IMP FLINTS 78
4	0-30	mzc1	10YR32 00						0	0	HR	2						
	30-50	mc1	10YR54 00	75YR58	00	C		00MN00	00	S	0	0		0		M		
	50-90	hc1	10YR53 63	75YR58	00	M		00MN00	00	Y	0	0		0		M		
	90-120	hc1	10YR53 63	75YR58	00	M		00MN00	00	Y	0	0	HR	5		M		
5	0-25	mzc1	10YR43 00						3	0	HR	10				IMP FLINTS 25		
6	0-29	mzc1	10YR53 00	10YR56	00	F			0	0	CH	2				Y	LIMED TOPSOIL	
	29-45	hzc1	10YR62 00	10YR68	71	M			Y	0	0		0		M			
	45-80	c	10YR63 00	10YR68	71	M			Y	0	0		0		P		Y	
	80-120	hzc1	10YR61 00	10YR68	00	M			Y	0	0		0		P		Y	
7	0-24	mzc1	10YR53 00	10YR56	00	C			Y	0	0	CH	3			Y	LIMED TOPSOIL	
	24-45	c	10YR52 00	10YR68	00	C			Y	0	0		0		P		Y	
	45-120	c	10YR54 00	10YR58	61	C			S	0	0	CH	3		P		Y	
8	0-25	mzc1	10YR53 00	10YR56	00	C			Y	0	0	HR	2					
	25-40	hzc1	10YR52 00	10YR58	00	C			Y	0	0		0		M			
	40-80	c	10YR63 00	10YR68	71	C			Y	0	0	HR	5		P		Y	
9	0-29	mzc1	10YR42 00						0	0	HR	2						
	29-120	c	10YR63 00	10YR68	00	C		00MN00	00	Y	0	0		0		P		Y
10	0-30	hc1	10YR42 43						0	0	HR	3						
	30-80	c	25Y 61 63	75YR68	00	M		00MN00	00	Y	0	0		0		P		Y
11	0-30	mzc1	10YR43 00						0	0	HR	1						
	30-50	mzc1	10YR43 00						0	0		0			M			
	50-120	hc1	10YR53 00	10YR56	00	C			Y	0	0		0		M			

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL	CALC
12	0-30	mzc1	10YR43 00						0	0	HR	1						
	30-45	mzc1	10YR44 00	00MN00	00	F			0	0	HR	5			M			
	45-58	mzc1	10YR53 00	10YR58	00	C	00MN00	00	Y	0	0	HR	2		M			
	58-120	hc1	10YR53 00	10YR58	62	M	00MN00	00	Y	0	0		0		M			
13	0-26	mzc1	10YR43 00	10YR56	00	C			Y	0	0	0						
	26-70	c	10YR54 00	10YR68	00	C			S	0	0	0			P			Y
14	0-30	mc1	10YR43 00						0	0	HR	3						
	30-50	hc1	25Y 51 61	10YR68	00	M	00MN00	00	Y	0	0	HR	5		M			
	50-100	c	25Y 61 62	10YR58	00	M	00MN00	00	Y	0	0	HR	2		P			Y