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**ROTHER DISTRICT LOCAL PLAN
Land at Beeches Farm, Bexhill,
East Sussex**

**Agricultural Land Classification
ALC Map and Report**

October 1997

**Resource Planning Team
Eastern Region
FRCA Reading**

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AGRICULTURAL LAND CLASSIFICATION REPORT
ROTHER DISTRICT LOCAL PLAN
LAND AT BEECHES FARM, BEXHILL, EAST SUSSEX

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 20 hectares of land at Beeches Farm to the west of Bexhill, East Sussex. The survey was carried out in October 1997.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA) ¹ on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in connection with its statutory input to the Rother District Local 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 Eastern Region of FRCA. 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.
4. At the time of survey, the land was in permanent grass (which was grazed by horses), ley grass, and cereal production. Areas of the site mapped as 'Other Land' comprise agricultural dwellings and woodland.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. 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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	3.0	15.7	15.3
3a	6.6	34.6	33.7
3b	9.5	49.7	48.5
Other land	0.5	N/A	2.5
Total surveyed area	19.1	100	97.4
Total site area	19.6	-	100

¹ FRCA is an executive agency of MAFF and the Welsh Office.

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land surveyed. A total of 21 borings and two soil pits was described.

8. The agricultural land at this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The key limitation is soil wetness with soil droughtiness and gradient being equally or more restricting in places. Soils vary in nature and across short distances, as a result of the complex underlying Tunbridge Wells Sand deposits.

9. Soil wetness affects land quality where clayey horizons impede soil drainage. The degree of wetness, and therefore the ALC grade, is determined by the depth to clay. Across the lower lying land in the north of the site, clay occurs directly below the topsoil and land is poorly drained such that Subgrade 3b is appropriate. Where clayey horizons occur lower in the profile, soil wetness is less significant, allowing Subgrade 3a or Grade 2 to be mapped.

10. Soil droughtiness (often in combination with soil wetness) restricts the land quality to Grade 2 or Subgrade 3a on the higher land around Beeches Farm. The degree of weathering of the underlying dense siltstone and sandstone layers and the depth to the weathered layer will determine the amount of water available in the soil for uptake by plants, and, therefore, the overall ALC grade. Given the prevailing climate, these soils are slightly droughty and, as a consequence, may suffer from potentially lower and less consistent crop yields.

11. A significant part of the site is limited to Subgrade 3b due to a gradient restriction, where slopes in excess of 7° were measured. These will act to restrict the range of agricultural machinery that may be safely and efficiently used on this land.

FACTORS INFLUENCING ALC GRADE

Climate

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

13. The key climatic variables used for grading this site are given in Table 1 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

14. 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.

15. 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.

16. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. The site is believed not to be at risk from frost. However, it does lie in an area which is indicated as being 'Rather Exposed' (Met. Office, 1980). Detailed field

examination indicates that exposure is not likely to be a significant limitation. The site is climatically Grade 1.

Table 1: Climatic and altitude data

Factors	Units	Values		
		TQ 702 085	TQ 700 083	TQ
Grid reference	N/A	TQ 702 085	TQ 700 083	TQ
Altitude	m,AOD	5	15	28
Accumulated Temperature	day°C	1523	1512	1497
Average Annual Rainfall	mm	762	764	764
Field Capacity Days	days	160	160	160
Moisture Deficit, Wheat	mm	123	122	120
Moisture Deficit, Potatoes	mm	122	120	118
Overall Climatic Grade	N/A	Grade 1	Grade 1	Grade 1

Site

17. The site lies at an altitude of 0-30m AOD, with the highest land occurring in the central/southern part of the site and falling towards the north, east and west. The land quality is limited to Subgrade 3b by steep gradients (usually in the range 7.5-10°) on land which runs across the centre of the site.

Geology and soils

18. The relevant geological sheet (BGS, 1980) maps the entire site as Tunbridge Wells Sand deposits which comprise interbedded sandstones, siltstones and mudstones.

19. The most recently published soil information (SSEW, 1983) shows the survey area to be mapped as the Curtisen Association. These 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, 1984).

20. Upon detailed field examination, soils broadly consistent with the above description were found in the survey area.

AGRICULTURAL LAND CLASSIFICATION

21. 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.

22. 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 II.

Grade 2

23. Three hectares of very good quality agricultural land (Grade 2) is mapped in the south of the site. The land is limited to a minor extent by a combination of soil wetness and soil droughtiness.

24. The soils are very variable in nature due to the complex pattern of underlying geology from which the soils are derived. The quality of the land will vary depending on the amount of sand, silt and clay, as well as the percentage of rock in the profile. Overall, the profiles in the Grade 2 unit comprise medium silty clay loam and silt loam topsoils, which are stoneless or very slightly stony (up to 3% total flint or ironstone and/or fine soft sandstone). These overlie very similar or slightly heavier upper subsoils. At moderate depths between 65 and 95cm, weathered Tunbridge Wells Sand deposits are often encountered (see pits 1 and 2, Appendix II). These weathered deposits usually comprise either silty clay, soft silt rock or fine soft sandstone, all of which are poorly structured and impede soil drainage. As a result, most of the soils show evidence of slight seasonal waterlogging (in the form of gleying) at depths between 0 and 48cm. A wetness class of I or II is assigned to these soils. Crop germination and growth may be slightly affected in areas where drainage is slightly impeded. The timing of cultivations may also be restricted as trafficking by agricultural machinery or grazing by livestock may lead to structural damage.

25. The combination of the soil textures and stone contents, together with limited soil depth in some cases, means that the land is also affected by a very minor soil droughtiness limitation. The amount of profile available water for crops is therefore restricted slightly and the level and consistency of crop growth and yields may be reduced.

Subgrade 3a

26. Soil profiles within the Subgrade 3a unit (good quality agricultural land) are similar to those described in the Grade 2 unit, but the severity of the wetness and/or droughtiness limitation is slightly greater.

27. On the whole, the profiles tend to comprise medium silty clay loam and, occasionally, silt loam or fine sandy silt loam topsoils which are stoneless or very slightly stony (containing up to 2% total fine soft sandstone or flints and/or ironstone fragments). The upper subsoils vary in composition from medium to heavy silty clay loams or clay loams, with very occasional lighter textures occurring in places. The lower subsoils are encountered at depths between 45 and 75cm, which (like in most of the Grade 2 area) comprise banded fine sands, silts and clays that are poorly structured with low porosity and consequently restricted drainage (see pits 1 and 2, Appendix II). Drainage through the profile is therefore restricted causing a significant amount of seasonal waterlogging. As a consequence, the soils are often gleyed at shallow depths (between 0 and 30cm). In this climatic regime the occurrence of waterlogging as a result of the slowly permeable horizons at moderate depths results in a minor soil wetness limitation such that the soils are placed in Wetness Class III and the land is classified as Subgrade 3a. Crop germination and growth may therefore be adversely affected and cultivations may also be restricted.

28. Occasional profiles with Tunbridge Wells Sand deposits at moderate depths (between 60 and 110cm) became impenetrable to the soil auger. Soil inspection Pit 2 (Appendix II) is typical of these profiles. In Pit 2, a very compacted, stoneless, weathered silt rock horizon begins at 55cm and continues down to 120cm depth. The silt rock is poorly structured and slowly permeable thus causing a moderate drainage impedance through the profile. These soils are placed in Wetness Class II and this, in combination with the lighter topsoils and the moderate climatic regime, would suggest a classification of Grade 2. However, though there is very little stone throughout the profile the overriding limitation is in fact soil droughtiness. The compacted silt loam horizon is impenetrable to most

plant roots therefore reducing the effective soil depth and thus the amount of profile available water for crops. This land can therefore be graded no higher than Subgrade 3a, as drought stress will restrict the level and consistency of crop growth and yields.

Subgrade 3b

29. The remainder of the site has been classified as Subgrade 3b (moderate quality agricultural land) on the basis of a significant soil wetness and gradient limitation.

30. Land in the north of the site is limited to Subgrade 3b due to a soil wetness problem. Here, stoneless or slightly stony (0-2% flint) medium silty clay loam topsoils occur which are often gleyed. These usually overlie similar or slightly heavier shallow upper subsoils which rest over slowly permeable clay or silty clay at depths between 25 and 40cm. In this climatic regime the land has been assessed as Wetness Class IV as the shallow slowly permeable horizons significantly impede drainage causing prolonged waterlogging in the soil profile. As a result, crop germination and growth may be adversely affected and the timing of cultivations may also be restricted as trafficking by agricultural machinery or grazing by livestock may lead to structural damage. This land cannot therefore be graded higher than Subgrade 3b.

31. Land running as a broad band across the centre of the site is steeply sloping and has also been classified as Subgrade 3b due to a severe gradient restriction. The angle of slope in most of this area measures from 7-11° (with occasional slopes measuring 12°) thus restricting the range of agricultural machinery that can safely and efficiently be used.

Sharron Cauldwell, FRCA, Eastern Region.

SOURCES OF REFERENCE

British Geological Survey (1980) Sheet No. 320/321, Hastings and Dungeness 1:50,000 scale (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.

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Met. Office (1980) *Unpublished Climatological Data*. Map Sheet 183.
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 6, Soils of South East England*. 1:250,000 scale. SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*. Bulletin 15. SSEW: Harpenden.

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 that 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 that restricts use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

SOIL DATA

Contents:

Sample location map

Soil abbreviations - explanatory note

Soil pit descriptions

Soil boring descriptions (boring and horizon levels)

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	OTH: Other
DCW: Deciduous woodland	BOG: Bog or marsh	SAS: Set-Aside
HTH: Heathland	HRT: Horticultural crops	PLO: Ploughed

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

4. **GLEYS/SPL:** 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	ST: Topsoil Stoniness
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
EX: Exposure		

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	FSST:	soft, fine grained sandstone
ZR:	soft, argillaceous, or silty rocks	CH:	chalk
MSST:	soft, medium grained sandstone	GS:	gravel with porous (soft) stones
SI:	soft weathered igneous/metamorphic rock	GH:	gravel with non-porous (hard) stones

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	
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

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	TQ70210845	LEY NW	1	30	40	4	3B	136	13	113	-9	2			WE	3B	SEE PIT 1
2	TQ70300850	LEY NW	1	26	26	4	3B	127	4	102	-20	3A			WE	3B	SEE PIT 1
3	TQ70370850	LEY		0	35	4	3B	132	9	109	-13	3A			WE	3B	SEE PIT 1
4	TQ70100840	PGR N	4	27	45	3	3A	100	-23	112	-10	3B			WE	3A	SEE PIT 1
5	TQ70200840	PGR NE	4	0	75	2	2	144	21	120	-2	2			WD	2	SEE PIT 1
6	TQ70300840	LEY NW	1	0	35	4	3B	132	9	107	-15	3A			WE	3B	SEE PIT 1
7	TQ70400840	PGR N	6	0		2	2	95	-28	97	-25	3B			DR	3A	I55 SEE 2P
8	TQ70000830	PGR NW	8						0		0				GR	3B	
9	TQ70100830	PGR NW	8						0		0				GR	3B	
10	TQ70200830	PGR N	12						0		0				GR	4	
11	TQ70300830	PGR NE	6	0	58	3	3A	140	17	117	-5	2			WE	3A	SEE PIT 1
12	TQ70400830	PGR NE	4	0	25	4	3B	99	-24	102	-20	3B			WE	3B	SEE PIT 1
13	TQ70000820	PGR W	8						0		0				GR	3B	
14	TQ70100820	PGR W	5	0	68	3	3A	144	21	123	1	2			WE	3A	SEE PIT 1
15	TQ70200820	PGR		0	45	3	3A	114	-9	110	-12	3A			WD	3A	SEE PIT 2
16	TQ70300820	PGR E	4	25	45	3	3A	137	14	112	-10	2			WE	3A	SEE PIT 1
17	TQ69990815	PGR W	5	0	75	2	2	154	31	130	8	2			WD	2	SEE PIT 1
18	TQ70100810	CER		48		1	1	144	21	133	11	2			DR	2	I110 SEE 1P
19	TQ70200810	PGR E	3	30	70	3	3A	156	33	157	35	1			WE	3A	I100 SEE 2P
20	TQ70300810	PGR E	5	30		1	1	211	88	157	35	1				1	
21	TQ70120802	CER				1	1	127	4	138	16	3A			DR	2	I65 FSST
1P	TQ70100840	PGR N	6	25	57	3	3A	126	3	115	-7	3A			WE	3A	
2P	TQ70200820	PGR		0	45	3	3A	122	-1	124	2	3A			WD	3A	I55 ZR G/W

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/	SUBS	SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH				
1	0-30	MZCL	10YR4353						0	0	0				
	30-40	MZCL	10YR5343	10YR56	C			Y	0	0	0		M		LOOSE
	40-120	C	25Y 64	10YR5658	M			Y	0	0	0		P	Y	DENSE/FIRM
2	0-26	MZCL	10YR4243	10YR46	F				0	0	0				
	26-120	ZC	25Y 7172	10YR58	M			Y	0	0	0		P	Y	PLASTIC
3	0-20	MZCL	10YR52	10YR46	C			Y	0	0	0				
	20-35	HZCL	25Y 6272	10YR58	M			Y	0	0	0		M		LOOSE
	35-120	C	25Y 7172	10YR58	M			Y	0	0	0		P	Y	PLASTIC
4	0-27	MZCL	25Y 43	10YR58	C			S	0	0	HR	2			
	27-45	HCL	25Y 64	10YR58	C			Y	0	0	0		M		MIXED FS+C
	45-70	C	25Y 7172	10YR68	M			Y	0	0	0		P	Y	DENSE/FIRM
5	0-28	MZCL	10YR53	10YR58	C			Y	0	0	HR	1			
	28-57	MCL	25Y 5352	10YR58	C			Y	0	0	0		M		
	57-75	HCL	25Y 5362	10YR58	M			Y	0	0	0		M		MIXED FS+C
	75-120	ZC	05Y 7163	10YR58	M			Y	0	0	0		P	Y	PLASTIC
6	0-25	MZCL	10YR53	10YR46	C			Y	0	0	0				
	25-35	HZCL	25Y63	10YR56	C			Y	0	0	0		M		MIXED FS+C
	35-120	ZC	25Y 72	10YR5658	M			Y	0	0	0		P	Y	PLASTIC
7	0-20	MZCL	10YR53	10YR46	C			Y	0	0	0				
	20-30	MZCL	10YR6263	10YR5658	M			Y	0	0	0		M		
	30-40	MZCL	10YR5354	10YR58	M			Y	0	0	FSST 10		M		LOOSE, FRIABLE
	40-50	FSZL	10YR5354	10YR58	M			Y	0	0	0		M		FS LENSES
	50-55	ZC	25Y 72	10YR56	M			Y	0	0	0		P		IMP ZR/FSST
11	0-28	MZCL	10YR53	10YR58	C			Y	0	0	HR	2			
	28-45	MZCL	10YR6353	10YR58	C			Y	0	0	0		M		LOOSE
	45-58	HCL	25Y 5363	10YR58	M			Y	0	0	0		M		MIXED FS+C
	58-120	C	05Y 7172	05YR5658	M			Y	0	0	0		P	Y	DENSE/FIRM
12	0-25	MZCL	10YR53	75YR56	C			Y	0	0	0				
	25-80	ZC	05Y 71	10YR68	M			Y	0	0	0		P	Y	PLASTIC
14	0-30	MZCL	10YR4243	10YR46	C			Y	0	0	0				
	30-68	HZCL	10YR53	10YR5658	C			Y	0	0	HR	2	M		MIXED FS/Z/C
	68-120	ZC	25Y 71	10YR58	M			Y	0	0	0		P	Y	DENSE/FIRM
15	0-30	MZCL	10YR4142	10YR46	C			Y	0	0	0				
	30-45	ZL	25Y 53	10YR58	M			Y	0	0	0		M		WEATHERED ZR
	45-90	ZR	25Y 71	10YR5658	M			Y	0	0	0		P	Y	IMP FSST/ZR
16	0-25	MZCL	10YR43	10YR46	F				0	0	0				
	25-45	HZCL	25Y 53	10YR5658	C			Y	0	0	0		M		MIXED FS/Z/C
	45-120	ZC	25Y 7172	10YR58	M			Y	0	0	0		P	Y	PLASTIC

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED		----STONES----			STRUCT/ CONSIST	SUBS			SPL	CALC	
				COL	ABUN	CONT	COL.	GLEYS	>2	>6	LITH		TOT	STR	POR			IMP
17	0-28	FSZL	10YR53	10YR58	C			Y	0	0	HR	2						
	28-55	MZCL	05Y 7253	10YR58	C			Y	0	0		0		M			LOOSE	
	55-75	MCL	10YR53	10YR56	M			Y	0	0		0		M			MIXED FS+C	
	75-120	C	05Y 7172	10YR66	C			Y	0	0		0		P		Y	DENSE/FIRM	
18	0-34	FSZL	10YR54	10YR56	F				0	0	HR	2						
	34-48	MZCL	25Y 64	10YR56	F				0	0	HR	2		M			MIXED FS/Z/C	
	48-95	HZCL	25Y 7473	10YR66	C			Y	0	0	HR	2		M			IMP FSST/ZR	
19	0-30	ZL	10YR43	10YR56	F				0	0		0						
	30-70	ZL	10YR53	10YR56	M			Y	0	0		0		M			MIXED FS/Z/C	
	70-100	ZR	25Y 71	10YR58	M			Y	0	0		0		P		Y	IMP FSST/ZR	
20	0-30	ZL	10YR43	10YR46	F				0	0		0						
	30-100	ZL	10YR53	10YR56	C			Y	0	0		0		M			LOOSE, FRIABLE	
	100-120	ZL	25Y 56	10YR58	M			Y	0	0		0		M			LOOSE	
21	0-30	ZL	10YR5354						0	0	FSST	5						
	30-65	ZL	10YR44	10YR46	F				0	0	FSST	3		M			QFSZL,IFSST	
1P	0-25	MZCL	10YR53	10YR56	F				0	0	HR	2						
	25-45	HZCL	10YR5363	10YR5658	C			Y	0	0	HR	3	MDCAB	FR	M		MIXED FS/Z/C	
	45-57	HZCL	10YR5363	10YR5658	M			Y	0	0	HR	3	MDCAB	FR	M		MIXED FS/Z/C	
	57-80	ZC	25Y 7172	10YR58	M			Y	0	0		0	WDCAB	FM	P	Y	Y	DENSE/FIRM
	80-102	ZC	25Y 71	05Y 58	M			Y	0	0		0	WDCAB	FM	P	Y	Y	PLASTIC
2P	0-34	ZL	25Y 42	75YR46	C			Y	0	0	HR	2					N	
	34-45	ZL	25Y 52	10YR5658	M			Y	0	0		0	WDCPR	FR	M			
	45-55	MZCL	05Y 7172	10YR68	M			Y	0	0		0	MDVCPR	FM	P	Y	Y	DENSE/FIRM
	55-90	ZR	05Y 7172	10YR68	M			Y	0	0		0	STCPL	FM	P	Y	Y	TUN.WELLS S