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**ARUN DISTRICT LOCAL PLAN REVIEW
Site Ros 5 (V) : Land between Bognor Regis
and Felpham, West Sussex**

**Agricultural Land Classification
ALC Map and Report**

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**Resource Planning Team
Eastern Region
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AGRICULTURAL LAND CLASSIFICATION REPORT

ARUN DISTRICT LOCAL PLAN REVIEW SITE ROS 5 (V) : LAND BETWEEN BOGNOR REGIS AND FELPHAM, WEST SUSSEX

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 23 hectares of land between the Lidsey Rife and Felpham Way (the A259) at South Bersted, between Bognor Regis and Felpham, West Sussex. The survey was carried out during March 1997.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with MAFF's statutory input to the Arun District Local Plan. This survey supersedes any previous ALC information for this land.
3. Prior to 1 April 1997, the work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. After this date, the work was completed by the same team as part of the Farming and Rural Conservation Agency (FRCA), Reading. 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 south of the site was in permanent grassland; the north was growing field beans. The area shown as 'Other Land' comprises an area of scrub. Two areas of the site have been mapped as 'Agricultural land not surveyed', due to difficulties in obtaining permission to enter the land within the timescale for the survey work.

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 overleaf.
7. The fieldwork was conducted at an average density of approximately one boring per hectare within the surveyed. A total of 14 borings and two soil pits were described.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	2.5	21.2	10.9
3b	9.3	78.8	40.4
Agricultural land not surveyed	11.0	N/A	47.8
Other land	0.2	N/A	0.9
Total surveyed area	11.8	100	51.3
Total site area	23.0	-	100

8. The higher land on the site has been classified as Grade 2, very good quality. This land is limited by minor soil droughtiness, sometimes in conjunction with slight soil wetness. Profiles comprise deep, well or moderately well drained medium loamy and coarse loamy soils which are (very) slightly stony. At this relatively dry locality, the soil available water may be insufficient to fully meet crop needs in some years. Consequently, this land may be subject to slightly lower and less consistent crop yields. Where profiles are moderately well drained and have medium loamy topsoils, the resulting soil wetness limitation means that this land may also have slight restrictions on the flexibility of cropping, stocking and cultivations.

9. The lower lying land on the site has been classified as Subgrade 3b, moderate quality. This land, which is derived from alluvial deposits, is limited by soil wetness and workability. Typical profiles comprise medium and heavy textured topsoils which overlie clay subsoils at shallow depths within the soil profile. The clay subsoils act to impede drainage, and thus reduce the flexibility of cropping, stocking and cultivations. Given the low-lying nature of this land and its proximity to the Lidsey Rife, it should be noted that this land is also likely to be prone to flooding.

Factors Influencing ALC Grade

Climate

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

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

12. 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.

13. 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.

Table 2: Climatic and altitude data

Factor	Units	Values	
		SU 945 002	SU 946 005
Grid reference	N/A		
Altitude	m, AOD	3	5
Accumulated Temperature	day°C (Jan-June)	1546	1544
Average Annual Rainfall	mm	736	737
Field Capacity Days	days	149	149
Moisture Deficit, Wheat	mm	121	121
Moisture Deficit, Potatoes	mm	118	118
Overall climatic grade	N/A	Grade 1	Grade 1

14. The combination of rainfall and accumulated temperature at this site mean that there is no overall climatic limitation. However, climatic factors do interact with soil properties to influence soil wetness and droughtiness limitations. At this locality, the climate is relatively dry in regional terms. As a result the likelihood of soil droughtiness problems will be increased whilst soil wetness limitations may be reduced. Frost risk is not believed to adversely affect the land quality on the site, though unpublished information suggests that the site may be rather exposed (Met. Office, 1969). All of the land on the site is climatically Grade 1.

Site

15. Land adjacent to the Lidsey Rife is flat and low-lying at an altitude of approximately 2-3 m AOD. The land gently rises (1-3°) to 5 m AOD along the eastern site boundary. Nowhere on the site do gradient or microrelief adversely affect agricultural land quality.

Geology and soils

16. The published geology map (BGS, 1975) shows the higher land in the east of the site to be underlain by brickearth deposits over Upper Chalk. The lower lying land is shown to be underlain by alluvial deposits.

17. The most detailed published soil map for this area (SSEW, 1967) maps three soil types across the land surveyed on this site. Soils of the Arundel Complex are mapped on the lower lying land, generally in association with the alluvial deposits. These soils are described as 'groundwater gley soils.' (SSEW, 1967). The lower slopes of the slightly higher land are mapped as soils of the Park Gate Series (deep phase). These soils are described as 'gley soils developed in brickearth.' (SSEW, 1967). The highest land on the site is mapped as the Hook Series (shallow phase over loamy pebbly drift). These soils are described as 'brown earths with gleying...developed in silty drift' (SSEW, 1967).

Agricultural Land Classification

18. 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.

19. 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

20. Grade 2, very good quality, land occurs on the slightly higher area in the east of the site. This land is limited by minor soil droughtiness, sometimes in conjunction with slight soil wetness. Topsoils comprise non-calcareous fine sandy silt loams which overlie similarly textured or medium clay loam upper subsoils. These typically pass into heavy clay loam lower subsoils. Topsoils tend to be slightly stony, containing 1-3% of hard stone > 2 cm and 2-6% total hard stone, by volume. Subsoils have a similar stone content. Most of the profiles are gleyed within 40 cm, and have been assessed as moderately well drained (Wetness Class II). From Pit 2, which represents such profiles, the soils were found to be permeable and with moderately structured subsoils. The interaction between the soil characteristics and the relatively dry local climate means that the profile available water is not quite sufficient to fully meet crop needs. Consequently, there is a minor risk of drought stress for those crops which are grown. This will result in slightly lower yield potential and less consistent crop yields.

21. Some of this land is equally by minor soil wetness limitations. The profiles are similar to those described in paragraph 20, but have medium clay loam topsoils. The slightly heavier topsoils mean that this land will be subject to slight restrictions on the flexibility of cropping, stocking and cultivations.

Subgrade 3b

22. The lower lying land on the site has been classified as Subgrade 3b. This land is subject to significant soil wetness and workability limitations. Topsoils comprise medium and heavy silty clay loams. These pass into heavy textured subsoils (heavy (silty) clay loams and (silty) clays) immediately below the topsoil. All of the subsoils are poorly structured and slowly permeable. As such, these profiles are poorly drained (Wetness Class IV). Despite the relatively dry local climate, the poor drainage and topsoil textures mean that this land is limited by soil wetness. Soil wetness can adversely affect seed germination and survival and can inhibit the development of a good root system. It also influences the sensitivity of soil to structural damage and is, therefore, a major factor in determining the number of days when cultivation, trafficking or grazing can take place.

23. Much of the land classified as Subgrade is also likely to be prone to flooding, caused by the low-lying nature of the land and its proximity to the Lidsey Rife. Flooding may be significant in affecting the choice of crops to be grown, because at certain times of the year it can have a detrimental effect on yield, and may give rise to soil management problems. Given that the soils on this site have slowly permeable layers at shallow depths within the soil profile, if flooding occurs then the soils are likely to remain saturated for relatively long periods of time. Consequently, this land can be classified no higher than Subgrade 3b.

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SOURCES OF REFERENCE

British Geological Survey (1975) *Sheet No. 322, Bognor Regis, 1:63,360*.
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 (1969) *Unpublished climatic data relating to old series OS 1:63,360 scale Sheet 181*.
Met. Office: Bracknell.

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

Soil Survey of England and Wales (1967) *Soils of the West Sussex Coastal Plain and accompanying map Sheet SU90, Bognor Regis, 1:25,000*.
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.

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% +

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 : ARUN DLP SITE V Pit Number : 1P

Grid Reference: SU94500020 Average Annual Rainfall : 736 mm
 Accumulated Temperature : 1544 degree days
 Field Capacity Level : 149 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 22	HZCL	10YR52 00	0	2	HR	C				
22- 33	ZC	10YR61 62	0	2	HR	C	MDCPR	FM	P	
33- 60	C	05Y 52 62	0	0		C	STVCAB	VM	P	
60- 90	HCL	05Y 62 00	0	1	HR	C	MDVCPL	FM	P	
90-120	HCL	10YR71 72	0	1	HR	C			P	

Wetness Grade : 3B Wetness Class : IV
 Gleying : 0 cm
 SPL : 022 cm

Drought Grade : 3A APW : 125mm MBW : 9 mm
 APP : 101mm MBP : -17 mm

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : ARUN DLP SITE V

Pit Number : 2P

Grid Reference: SU94500050

Average Annual Rainfall : 736 mm

Accumulated Temperature : 1544 degree days

Field Capacity Level : 149 days

Land Use : Field Beans

Slope and Aspect : 02 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	FSZL	10YR43 00	3	6	HR					
27- 67	MCL	10YR63 53	0	5	HR	C	MDCSAB	FR	M	
67- 82	MCL	10YR53 00	0	5	HR	C	MDCSAB	FM	M	
82-120	HCL	25Y 53 00	0	0		M	MDCSAB	FR	M	

Wetness Grade : 1

Wetness Class : II

Gleying : 027 cm

SPL : No SPL

Drought Grade : 2

APW : 160mm MBW : 39 mm

APP : 122mm MBP : 4 mm

FINAL ALC GRADE : 2

MAIN LIMITATION : Droughtiness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRONT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	
1	SU94600070	BEN		025 025	4	3B		0	0					WE 3B	Alluvial
1P	SU94500020	PGR		0 022	4	3B	125	9 101	-17	3A				WE 3B	
2	SU94500060	BEN		028 028	4	3B		0	0					WE 3B	Alluvial
2P	SU94500050	BEN SW	02	027	2	1	160	39 122	4	2				DR 2	
3	SU94600060	BEN N	02	033	2	2	154	33 118	0	2				WD 2	
4	SU94500050	BEN SW	03	025	2	1	163	42 127	9	2				DR 2	
5	SU94600050	BEN SE	01	028	2	1	179	58 141	23	1				1	
6	SU94510041	BEN SW	01	025 025	4	3B		0	0					WE 3B	Alluvial
7	SU94600040	BEN SE	01	048	1	1	200	79 138	20	1				1	
8	SU94580034	BEN E	02	088	1	1	129	8 106	-12	3A				DR 3A	S1 gleyed 29
9	SU94400020	PGR		045 045	3	2	130	9 107	-11	3A				DR 3A	Calc t/soil
10	SU94500020	PGR		0 018	4	3B	89	0 101	0					WE 3B	Alluvial
11	SU94600020	PGR		0 018	4	3B	86	0 96	0					WE 3B	Alluvial
12	SU94500010	PGR		0 025	4	3B	98	0 103	0					WE 3B	Alluvial
13	SU94600010	PGR		0 025	4	3B	93	0 104	0					WE 3B	Alluvial
14	SU94500000	PGR		0 030	4	3B	114	0 105	0					WE 3B	Alluvial

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES-----			STRUCT/ CONSIST	SUBS			SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR		
1	0-25	mzc1	10YR43 00						0	0	0						
	25-65	zc	10YR61 64 10YR58 00 C					Y	0	0	0		P			Y	
	65-100	hzc1	10YR71 00 10YR58 00 C					Y	0	0	0		P			Y	
1P	0-22	hzc1	10YR52 00 10YR58 00 C				00M00 00	Y	0	0	HR	2					
	22-33	zc	10YR61 62 10YR68 00 C					Y	0	0	HR	2	MDCPR	FM	P	Y	Y
	33-60	c	05Y 52 62 10YR68 00 C					Y	0	0		0	STVCAB	VM	P	Y	Y
	60-90	hc1	05Y 62 00 75YR58 00 C					Y	0	0	HR	1	MDVCPL	FM	P	Y	Y
	90-120	hc1	10YR71 72 10YR68 00 C					Y	0	0	HR	1			P	Y	Y
2	0-28	mzc1	10YR43 00						0	0	0						
	28-70	zc	10YR51 00 75YR58 00 C					Y	0	0	0		P			Y	
2P	0-27	fsz1	10YR43 00						3	2	HR	6					psd=fsz1;hand=mc1
	27-67	mc1	10YR63 53 10YR58 00 C					Y	0	0	HR	5	MDCSAB	FR	M		psd=mc1;hand=fsz1
	67-82	mc1	10YR53 00 10YR58 00 C					Y	0	0	HR	5	MDCSAB	FM	M		
	82-120	hc1	25Y 53 00 10YR58 00 M					Y	0	0		0	MDCSAB	FR	M		
3	0-33	mzc1	10YR42 00						0	0	HR	4					
	33-45	mzc1	10YR53 54 75YR58 00 C					Y	0	0	HR	4		M			
	45-120	mc1	10YR56 00						0	0	HR	5		M			Q gleying
4	0-25	fsz1	10YR43 00						1	0	HR	5					See psd from 2P
	25-58	mc1	10YR52 53 10YR58 00 C				00M00 00	Y	0	0	HR	5		M			See psd from 2P
	58-78	mc1	10YR53 00 10YR58 00 C				00M00 00	Y	0	0	HR	5		M			
	78-120	hc1	10YR52 00 10YR58 00 M					Y	0	0	HR	5		M			Q clay
5	0-28	fsz1	10YR43 00						0	0	HR	2					
	28-60	fsz1	25Y 62 63 75YR56 00 C					Y	0	0	HR	2		M			
	60-70	hc1	10YR54 00						0	0	HR	10		M			Q gleying
	70-120	hc1	10YR56 00						0	0	HR	2		M			Q gleying
6	0-25	mzc1	25Y 53 00						0	0	HR	2					
	25-70	zc	25Y 63 53 10YR58 00 M					Y	0	0		0		P		Y	
7	0-29	fsz1	10YR42 00						0	0	HR	2					
	29-48	mc1	10YR56 00						0	0	HR	2		M			
	48-120	fsz1	10YR53 56 10YR58 00 C					Y	0	0	HR	2		M			
8	0-29	msz1	10YR43 00						0	0	HR	10					
	29-88	ms1	25Y 66 00 10YR58 00 C					S	0	0	HR	10		M			S1 gleyed
	88-120	lms	10YR56 53 75YR58 00 C					Y	0	0	HR	20		M			
9	0-20	mzc1	10YR42 00						0	0	HR	2					Y
	20-45	mc1	10YR53 00 10YR58 00 F						0	0	HR	2		M			Y
	45-62	hzc1	10YR61 00 75YR58 00 C					Y	0	0	HR	2		P		Y	Y
	62-80	c	05Y 61 00 75YR58 00 C					Y	0	0	HR	2		P		Y	Y
	80-120	hc1	10YR71 00 75YR58 00 C					Y	0	0		0		P		Y	Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/	SUBS						
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
10	0-18	hzc1	10YR53 42	10YR58	00	C		Y	0	0	0							
	18-30	zc	10YR53 00	10YR58	00	M		Y	0	0	0		P					Y
	30-70	c	05Y 61 41	10YR58	00	M		Y	0	0	0		P					Y
11	0-18	hzc1	10YR42 00	10YR56	00	C		Y	0	0	HR	2						
	18-35	zc	25Y 53 00	10YR56	00	C		Y	0	0	0		P					Y
	35-70	zc	05Y 51 00	10YR58	00	M		Y	0	0	0		P					Y
12	0-25	mzc1	10YR42 00	10YR58	00	C		Y	0	0	HR	2						
	25-39	hzc1	10YR61 62	10YR58	00	C		Y	0	0	HR	2		P				Y
	39-80	c	05Y 61 00	75YR58	00	C		Y	0	0	HR	2		P				Y
13	0-25	hzc1	10YR41 42	10YR58	00	C		Y	0	0	HR	2						
	25-35	c	25Y 53 00	10YR58	00	M		Y	0	0	0		P					Y
	35-55	c	05Y 52 63	10YR58	00	M		Y	0	0	0		P					Y
	55-70	zc	05Y 52 00	10YR58	00	C		Y	0	0	0		P					Y
14	0-30	mzc1	10YR42 00	10YR58	00	C		Y	0	0	HR	2						
	30-50	hc1	10YR62 61	10YR58	00	M		Y	0	0	HR	2		P				Y
	50-100	c	05Y 62 00	75YR58	00	C		Y	0	0	HR	2		P				Y