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Wokingham District Local Plan
Site SH05 - Land at Sussex Lane,
Spencers Wood, Berkshire.
Agricultural Land Classification
ALC Map and Report
February 1996

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT
WOKINGHAM DISTRICT LOCAL PLAN
SITE SH05 - LAND AT SUSSEX LANE SPENCERS WOOD, BERKSHIRE

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 9.3 hectares of land to the east of Sussex Lane and south of Hyde End Road between Spencers Wood and Shinfield near Wokingham in Berkshire. The survey was carried out during January 1996.
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 the Wokingham 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 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.
4. At the time of survey all of the agricultural land was under permanent grass. The areas shown as 'Other Land' includes scrubby woodland to the north of the site and similar vegetation surrounding a drain towards the centre and east of the site. An area of derelict agricultural buildings is also shown as 'Other Land', this is located towards the centre of the site.

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 1 boring per hectare. A total of 10 borings and two soil pits were described.
8. The majority of the agricultural land at this site has been classified as Subgrade 3b (moderate quality) on the basis of both soil wetness and soil droughtiness limitations. The remaining area has been classified as Grade 4 (poor quality) on the basis of a microrelief limitation. This area also appears to have been disturbed.
9. Where Subgrade 3b has been mapped to the north, east and west of the site, soil droughtiness is the principal limitation. Moderately to very stony medium and light loamy soils overlie gravelly horizons at moderate depths in the profile. The stones in the profile

cause a reduction in available water, such that there is a risk of droughtiness affecting plant growth and yield.

10. Where Subgrade 3b is shown towards the north west of the site, soil wetness is the principal limitation. In this area gleyed medium loamy topsoils and upper subsoils overlie poorly structured, gleyed and slowly permeable clays at shallow depths in the profile. The slowly permeable horizons cause drainage to be impeded such that land utilisation is restricted.

11. Towards the south of the site, Grade 4 has been mapped on the basis of microrelief and disturbance limitations. This area of the site is currently in a state whereby most mechanised operations are not feasible and as such it is only suited to its current usage, permanent grazing. The area appears to have been quarried at some point in the past, which has led to it having a shallow soil resource over some form of backfill. As such this area has been classified as being of poor quality.

Table 1: Area of grades and other land

Grade/Other Land	Area (hectares)	% Surveyed Area	% Agricultural Land
3b	5.7	61.3	69.5
4	2.5	26.9	30.5
Other Land	1.1	11.8	N/A
Total Agricultural Area	8.2		100.0
Total Site Area	9.3	100.0	

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 2 overleaf and were obtained from the published 5km grid datasets using standard interpolation procedures (Met. Office, 1989).

14. 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.

15. 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.

16. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Other local climatic factors such as exposure and frost risk are also believed not to affect the site. The site is climatically Grade 1.

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SU 728 665
Altitude	m, AOD	45
Accumulated Temperature	day°C	1474
Average Annual Rainfall	mm	667
Field Capacity Days	days	138
Moisture Deficit, Wheat	mm	115
Moisture Deficit, Potatoes	mm	109

Site

17. The site lies at an altitude of approximately 45m AOD. Overall the site is flat. Towards the south of the site, there is an area with many hillocks giving a complex landscape. Some of these had steep slopes, greater than 7°, as such these areas cannot be graded higher than Subgrade 3b. However, these are in an area which is limited to Grade 4 by microrelief and disturbance.

Geology and soils

18. The published geological information for the site (BGS, 1971), shows the whole site to be underlain by valley gravels overlying London Clay.

19. The most detailed published soils information for the site (SSEW, 1983 and 1984) shows the site to comprise soils of the Hurst association. These are described as, 'coarse and fine loamy permeable soils mainly over gravel variably affected by groundwater.' (SSEW, 1983). Soils of this broad type were found across the majority of the site. To the west of the site shallow slowly permeable clay horizons were encountered and to the south the land has been disturbed such that the soil type encountered was atypical of the area.

Agricultural Land Classification

20. 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.

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

Subgrade 3b

22. Land of moderate quality has been mapped over the site in a single mapping unit to the north. Principal limitations to land quality include soil droughtiness and soil wetness.

23. The area affected by soil droughtiness is towards the north and north east of the site. Soils in this area commonly comprise a slightly stony (up to 10% v/v total flints, including up to 3% >2cm) medium sandy loam, medium sandy silt loam or medium clay loam topsoil which was occasionally gleyed. This passes to moderately stony (15-30% total v/v flints), medium sandy loam, medium clay loam or medium sandy silt loam upper subsoil horizons which were commonly gleyed. These overlie a gravelly (approximately 55-60% v/v small flints), medium sandy loam lower subsoil horizon which passed to an impenetrable (to the soil auger and spade) gravelly horizon containing a higher stone content than the above. This horizon was commonly saturated at the time of survey. The pit observation, 1P, is representative of this soil type. The stones in the profile cause the water holding capacity of the soil profile to be reduced to the extent that in the local climate Subgrade 3b is appropriate. Soil droughtiness restricts crop establishment, growth and yield.

24. The area affected by soil wetness is towards the north west of the site. Soils here commonly comprise a very slightly to slightly stony (up to 15% v/v total flints, including up to 2% >2cm), medium or heavy clay loam topsoil, which was commonly gleyed. This passes to a moderately stony, gleyed medium clay loam upper subsoil horizon. This passes to a very slightly to slightly stony (up to 10% v/v total flints), gleyed and slowly permeable clay lower subsoil horizon. The pit observation, 2P, is representative of this soil type. The slowly permeable clay horizon restricts water flow through the soil profile so causing drainage to be impeded to the extent that Wetness Classes III and IV have been appropriately applied to this land given the local climate. Given the workability status of the topsoils and the depths to the slowly permeable horizons, these observations are of Subgrade 3a quality but, given their scattered location within a larger area of Subgrade 3b land they have been included in this mapping unit. Soil wetness affects plant growth and yield as well as restricting land utilisation in terms of the number of days when machinery cultivations and grazing by livestock can occur without causing structural damage to the soil.

Grade 4

25. Land of poor quality has been mapped towards the south of the site in a single unit. The principal limitations to land quality are that the land has been disturbed such that the depth of the soil resource is limited and the land has been left with a severe microrelief limitation.

26. The landform in this area contains complex changes of slope angle and direction over short distances on a flat original ground base. This severely limits the use of agricultural machinery to the extent that this area is primarily suited to its current usage, ie. permanent grass. The microrelief gives this area the appearance of having been disturbed at some point in the past. This fact was confirmed by a soil auger boring. The soil resource was limited to a depth of approximately 30cm, at which point a hard iron pan layer was encountered, through which roots are not expected to penetrate. Below this level, the soil first becomes very pale and wet and then anaerobic and very dark; it appears to comprise a high proportion of decomposing organic matter including ash and wood remains. Because of the combination of

restricted rooting and the complex microrelief in this area, this area cannot be graded higher than Grade 4.

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SOURCES OF REFERENCE

British Geological Survey (1971) *Sheet 268, Reading. Drift Edition. 1:63 360. Scale.*
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 (1989) *Climatological Data for Agricultural Land Classification.*
Met. Office: Bracknell.

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

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No. 15.*
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 dolomitic 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 : WOKINGHAM DLP SH05 Pit Number : 1P

Grid Reference: SU72806650 Average Annual Rainfall : 667 mm
 Accumulated Temperature : 1474 degree days
 Field Capacity Level : 138 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	MSL	10YR43 42	2	8	HR					
27- 41	MSL	10YR43 44	0	15	HR	F	MDCSAB	FR	M	
41- 52	MSL	10YR43 44	0	25	HR	F	WKCSAB	FR	M	
52- 78	MSL	10YR53 54	0	54	HR	C		FR	M	

Wetness Grade : 1 Wetness Class : I
 Gleying : 52 cm
 SPL : cm

Drought Grade : 3B APW : 86 mm MBW : -29 mm
 APP : 87 mm MBP : -22 mm

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : WOKINGHAM DLP SH05 Pit Number : 2P

Grid Reference: SU72706650 Average Annual Rainfall : 667 mm
 Accumulated Temperature : 1474 degree days
 Field Capacity Level : 138 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MCL	10YR41 51	2	10	HR	C				
25- 39	MCL	10YR52 00	0	20	HR	M	MDCSAB	FR	M	
39- 60	C	25Y 53 51	0	5	HR	M	MDCAB	FM	P	

Wetness Grade : 3A Wetness Class : III
 Gleying : 0 cm
 SPL : 39 cm

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

FINAL ALC GRADE : 3A
 MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS	
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST		LIMIT
1	SU72806655	PGR			1	1	68	-47	68	-41	38			DR	38	IMP 50 SEE 1P
1P	SU72806650	PGR	52		1	1	86	-29	87	-22	38			DR	38	IMP 78 3BT0120
2	SU72706650	PGR	0	38	3	3A		0		0				WE	3A	A/B BORDER 2P
2P	SU72706650	PGR	0	39	3	3A		0		0				WE	3A	PIT 60 3AB BDR
3	SU72806650	PGR	50		1	1	92	-23	95	-14	38			DR	38	IMP 70 SEE 1P
4	SU72706640	PGR	0		2	3A	85	-30	93	-16	38		Q	DR	38	IMP 70
5	SU72806638	PGR			1	1	43	-72	43	-66	4			DR	38	IMP 35 SEE 1P
6	SU72506630	PGR	0		2	2	69	-46	69	-40	38			DR	38	IMP 55 SEE 1P
7	SU72636635	RGR	0		2	2	69	-46	69	-40	38			DR	38	IMP 50 SEE 1P
8	SU72556620	PGR	0		2	2	89	-26	95	-14	38	Y	Y	MR	4	OLD TIP
9	SU72856654	PGR	0	65	3	2	132	17	106	-3	2			WD	2	MOD DEEP SPL
10	SU72666638	PGR	0	35	4	38		0		0				WE	38	SEE 2P

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/	SUBS	STR	POR	IMP	SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH							
1	0-28	msl	10YR41 00						3	0	HR	10						
	28-40	msl	10YR44 54						0	0	HR	30			M			
	40-50	msl	10YR44 54						0	0	HR	60			P		IMP FLINTS 50	
1P	0-27	msl	10YR43 42						2	0	HR	8						
	27-41	msl	10YR43 44	10YR46 00 F					0	0	HR	15	MDCSAB	FR	M			
	41-52	msl	10YR43 44	10YR46 00 F					0	0	HR	25	WKCSAB	FR	M			
	52-78	msl	10YR53 54	10YR56 00 C				Y	0	0	HR	54			FR	M		
2	0-28	mc1	10YR51 00	10YR46 00 C				Y	0	0	HR	3						
	28-38	mc1	25Y 52 00	10YR58 00 C				Y	0	0	HR	10			M			
	38-70	c	25Y 53 52	10YR58 00 M				Y	0	0	HR	5			P		Y	
2P	0-25	mc1	10YR41 51	10YR46 00 C				Y	2	0	HR	10						
	25-39	mc1	10YR52 00	10YR58 00 M			00MN00	00	Y	0	0	HR	20	MDCSAB	FR	M		
	39-60	c	25Y 53 51	10YR58 68 M				Y	0	0	HR	5	MDCAB	FM	P	Y	Y	
3	0-27	msl	10YR43 00						2	0	HR	8						
	27-50	msl	10YR44 00						0	0	HR	10			M			
	50-65	msl	10YR53 54	10YR56 00 C				Y	0	0	HR	25			M		V WET FROM 65	
	65-75	msl	10YR53 54	10YR56 00 C				Y	0	0	HR	50			M		IMP GRAVELLY 75	
4	0-30	hc1	10YR53 00	75YR58 00 M				Y	0	0	HR	10						
	30-60	hc1	10YR53 00	75YR58 00 M				Y	0	0	HR	10			P		DISTURBED	
	60-70	fsz1	10YR31 41	10YR46 00 C				Y	0	0	HR	50			M		IMP GRAVELLY 70	
5	0-25	msl	10YR43 00						5	0	HR	20						
	25-35	msl	10YR54 00						0	0	HR	50			M		IMP GRAVELLY 35	
6	0-28	msl	10YR41 51	10YR46 00 C				Y	3	0	HR	10						
	28-50	msl	10YR52 42	10YR46 58 C				Y	0	0	HR	30			M			
	50-55	msl	10YR53 63	10YR58 00 M				Y	0	0	HR	60			P		IMP GRAVELLY 55	
7	0-25	mc1	10YR42 00	10YR46 00 C				Y	2	0	HR	8						
	25-35	mc1	10YR52 62	10YR58 00 C				Y	0	0	HR	3			M			
	35-50	sc1	25Y 61 00	10YR68 00 M				Y	0	0	HR	50			M		IMP GRAVELLY 50	
8	0-5	mzc1	10YR42 00	10YR46 00 C				Y	0	0	HR	3					DISTURBED PROFILE	
	5-20	c	10YR42 43	10YR58 00 C				Y	0	0	HR	10			P			
	20-30	sc1	10YR44 00	75YR58 00 C			00FE00	00	Y	0	0	HR	10		M	Y	POSS ROOTING DEPTH	
	30-45	fsz1	25Y 61 00	10YR68 00 C			00MN00	00	Y	0	0	HR	5		M	Y		
	45-60	mzc1	25Y 61 62	10YR68 00 C			00MN00	00	Y	0	0	HR	5		M	Y		
	60-80	o1	10YR21 00	10YR46 00 C				Y	0	0	HR	5			P	Y	ANAEROBIC	
	80-120	o1	10YR21 00					Y	0	0	HR	20			P	Y	IMP TO ROOTS	
9	0-28	msl	10YR43 42	10YR46 00 C				Y	0	0	HR	5						
	28-50	msl	10YR43 53	10YR56 00 C				Y	0	0	HR	5			M			
	50-65	msl	10YR53 00	10YR58 00 M				Y	0	0		0			M			
	65-120	c	25Y 53 00	10YR58 00 M				Y	0	0		0			P		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED	----STONES----			STRUCT/ CONSIST	SUBS						
				COL	ABUN	CONT		COL.	GLEY	>2		>6	LITH	TOT	STR	POR	IMP	SPL
10.	0-20	mc1	10YR41 51	10YR46	00	C		Y	0	0	HR	15						
	20-35	mc1	10YR51 00	10YR46	58	M		Y	0	0	HR	30		M				
	35-70	c	25Y 51 00	10YR68	00	M		Y	0	0	HR	10		P			Y	