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Vale of the White Horse Local Plan
Site H1: Land to the west of
Coxwell Road,
Faringdon, Oxfordshire
Agricultural Land Classification
November 1995

Resource Planning Team
Guildford Statutory Group
ADAS Reading

ADAS Reference: 3304/165/95
MAFF Reference: EL 33/00127
LUPU Commission: 02220

This survey has been superseded by the results of the adjacent survey 3304/021/99 which found that the Grade 2 in the north of the site was not as extensive as previously thought. The grades mapped in 1995 at individual borings were correct but without data from the fields to the east the boundary of the Grade 2 area was extrapolated too far to the west. The 1999 survey to the west showed that the Subgrade 3b land was the dominant grade in this part of the site.

Likewise the area of Subgrade 3a in the south of the site was shown not to extend to the south, by the 1999 survey, as originally thought in 1995.

The results presented in this original 1995 report should therefore be read in conjunction with the report for 3304/021/99. The 1995 map has been annotated to show the revised boundaries. The soils data and grading for individual borings remain valid.

AGRICULTURAL LAND CLASSIFICATION REPORT

VALE OF THE WHITE HORSE LOCAL PLAN
SITE H1: LAND TO THE WEST OF COXWELL ROAD, FARINGDON, OXFORDSHIRE

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 16.3 ha of land to the west of Coxwell Road, at Faringdon, Oxfordshire. The specific Local Plan site (the most south-easterly field) totals 3.8 ha. Land to the west of this area plus to the north of Highworth Road may also eventually be under pressure from further development. Consequently, these areas were also surveyed in order to provide a context for appraising the current Local Plan site. The survey was carried out during November 1995.

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 Vale of White Horse Local Plan. The results of this survey supersede 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, the land use on the Local Plan site was rough grazing. Land immediately south of Highworth Road was growing cereals; the remaining land was permanent grass.

Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000; 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 Local Plan site are summarised in Table 1. These figures for the entire area surveyed are summarised in Table 2.

Table 1: Area of grades for Local Plan site

Grade	Area (hectares)	% agricultural area
3a	3.7	97.4
3b	0.1	2.6
Total survey area	3.8	100.0

Table 2: Area of grades for total area surveyed

Grade	Area (hectares)	% agricultural area
2	3.6	22.1
3a	3.8	23.3
3b	8.9	54.6
Total survey area	16.3	100.0

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 16 borings and three soil pits were described.

8. The majority of the Local Plan site has been classified as Subgrade 3a, good quality. A very small area has been classified as Subgrade 3b, moderate quality. Land classified as Subgrade 3a is limited by soil droughtiness. Sandy textured soils interact with the local climate to impart a moderate soil droughtiness limitation, which may lead to the soil available water being insufficient to fully meet crop needs. Consequently this land may suffer from reduced and less consistent crop yields. Land classified as Subgrade 3b is limited by soil wetness and workability limitations. Heavy clay loam topsoils directly overlie slowly permeable clay subsoils. These subsoils act to impede soil drainage, and thus reduce the flexibility of cropping, stocking and cultivations.

9. Across the entire area surveyed, land classified as Subgrade 3b is limited by soil wetness and workability. A small area to the north of Highworth Road can be classified as no better than Subgrade 3b because of slope limitations. Gradients within the range 7°-11° act to restrict the range of agricultural machinery that may be safely and efficiently used. The land classified as Grade 2 is restricted by soil workability limitations. Heavy clay loam topsoils overlie freely draining calcareous clay subsoils. The interaction between the heavy topsoils and the prevailing climate results in slight restrictions to the flexibility of cropping, stocking and cultivations.

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 in Table 3 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.

Table 3: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SU 281 945
Altitude	m, AOD	125
Accumulated Temperature	day°C	1381
Average Annual Rainfall	mm	690
Field Capacity Days	days	144
Moisture Deficit, Wheat	mm	102
Moisture Deficit, Potatoes	mm	92

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.

14. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Local climatic factors such as exposure and frost risk are not believed to adversely affect the site. The site is climatically Grade 1. However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. The field capacity days at this locality are slightly below the regional average, thus partially offsetting the likelihood of soil wetness limitations.

Site

15. To the south of the B4019 the land falls gently from 135 m AOD, through gradients of 1°-3°, to lie at approximately 125 m AOD. Most of the land to the north of the B4019 occupies either gentle or moderate slopes of 2°-6°. The land falls from 120 m AOD immediately north of the road to 90 m AOD in the extreme north of the site. Immediately north of the road, gradients of 7°-11° act to restrict the safe and efficient use of agricultural machinery.

Geology and soils

16. The published geological information (BGS, 1971) maps most of the Local Plan site as Faringdon Sponge Gravels. The remainder of the site is mapped as Corallian Beds (clay immediately east of the Sponge Gravels; limestone either side of the B4019; sand and silt on the flatter lower lying land to the north of the B4019). The extreme north of the site is mapped as Oxford Clay.

17. The published soils information (SSEW, 1973) maps a number of soil series on the site. In conjunction with the Faringdon Sponge Gravels most of the Local Plan site is mapped as the Fyfield series. These are described as brown earths which are 'coarse loamy; loose sands or sandstone' (SSEW, 1973). Soils of the Sherborne series are mapped in conjunction with the Corallian Beds (limestone). These are described as 'fine loamy over clayey; over

limestone' (SSEW, 1973). Soils of the Kingston series are mapped over the Corallian Beds (sand and silt). These are described as 'loamy or loamy over clayey; interbedded clays with loams' (SSEW, 1973). Elsewhere on the site soils of the Denchworth and Shippon series, plus the Kingston-Holwell complex are mapped. These are described as 'clayey; clay', 'clayey; over limestone', and 'loamy; drift over clay' (SSEW, 1973), respectively.

Agricultural Land Classification

18. The details of the classification of the Local Plan site and the entire site are shown on the attached ALC map. The area statistics of each grade are given in Table 1, page 1, and, Table 2, 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. The gently sloping land to the north of the B4019 has been classified as Grade 2, very good quality. This land is limited by soil workability, arising from heavy textured but well drained soils derived from the Corallian Beds (sand and silt). Slightly calcareous and calcareous heavy clay loam topsoils overlie similarly calcareous clay subsoils. Although of a pale matrix colour, the clays are not gleyed. Pit 3, which typifies such soils, found the subsoils to be permeable and well drained. These profiles are thus assigned to Wetness Class I (see Appendix II). Some of these profiles pass into slowly permeable clay lower subsoils. However, because such subsoils do not occur within 80 cm depth, these profiles are still eligible to be placed into Wetness Class I. The interaction between the heavy topsoils and the prevailing local climate may result in slight restrictions to the flexibility of cropping, stocking and cultivations.

Subgrade 3a

21. Most of the Local Plan site has been classified as Subgrade 3a, good quality. The key limitation is soil droughtiness, arising from well drained (Wetness Class I) sandy textured soils. Such profiles are derived from the underlying Faringdon Sponge Gravels. Profiles typically comprise non-calcareous medium and coarse sandy loam topsoils. These generally overlie loamy coarse sand subsoils which either extend to depth, or pass back into a sandy loam horizon at depth. Topsoils and subsoils are typically very slightly stony, containing 2-5% total flints by volume. Pit 2, which represents such profiles, found the subsoils to be moderately structured and permeable. The interaction between these soil characteristics and the prevailing climate acts to impart a moderate soil droughtiness limitation. This may result in the soil available water being insufficient to fully meet crop needs. Consequently this land may suffer from reduced and less consistent crop yields.

22. Some of the profiles within this mapping unit comprise medium, rather than coarse, sandy textures. In comparison to the coarser textured soils, these profiles contain more available water. These profiles thus give rise to land of better quality, Grades 1 and 2. However, due to its limited extent such land has not been delineated as a separate mapping unit.

Subgrade 3b

23. Just over half of the land at Faringdon has been classified as Subgrade 3b, moderate quality. This land is subject to significant soil wetness and workability limitations, arising from poorly drained heavy textured soils. These soils are mostly derived from the underlying Corallian Beds (clay and limestone) and the Oxford Clay. Profiles typically comprise non-calcareous heavy clay loams which directly overlie clay subsoils. As shown by Pit 1, which represents such soils, the clay is slowly permeable. The presence of this clay at shallow depths within the soil profile acts to cause poor soil drainage conditions, as indicated by gleying within 40 cm depth. Consequently, these profiles are assessed as Wetness Class IV. The interaction between the heavy topsoils and soil drainage status with the prevailing climate means that this land is subject to significant restrictions on the flexibility of cropping, stocking and cultivations.

24. The land immediately north of the B4019 cannot be classified as any higher than Subgrade 3b because of a gradient limitation. Slopes of 7°-11° act to restrict the range of agricultural machinery which may be safely and efficiently used.

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SOURCES OF REFERENCE

British Geological Survey (1971) *Sheet No. 253, Abingdon, 1:63,360 (drift edition).*
BGS: London.

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

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

Soil Survey of England and Wales (1973) *Soils of the Wantage and Abingdon District and accompanying map, Sheet 253 Abingdon, 1:63,360.*
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:

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. **GLEY/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	**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				

8. **STRUCT**: the degree of development, size and shape of soil peds are described using the following notation:

degree of development	**WK**: weakly developed **ST**: strongly developed	**MD**: moderately developed
ped size	**F**: fine **C**: coarse	**M**: medium **VC**: very coarse
ped shape	**S** : single grain **GR**: granular **SAB**: sub-angular blocky **PL**: platy	**M**: massive **AB**: angular blocky **PR**: prismatic

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 : VALE OF WH H11 FARINGDON Pit Number : 1P

Grid Reference: SU27909460
Average Annual Rainfall : 690 mm
Accumulated Temperature : 1381 degree days
Field Capacity Level : 143 days
Land Use : Permanent Grass
Slope and Aspect : 02 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	HCL	10YR51 00	0	2	HR	C				
28- 55	C	05Y 61 63	0	0		M	WDCPR	VM	P	

Wetness Grade : 3B
Wetness Class : IV
Gleying : 0 cm
SPL :028 cm

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

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : VALE OF WH H11 FARINGDON Pit Number : 2P

Grid Reference: SU28009460
Average Annual Rainfall : 690 mm
Accumulated Temperature : 1381 degree days
Field Capacity Level : 143 days
Land Use : Rough Grazing
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	CSL	10YR36 00	0	2	HR					
25- 70	LCS	10YR34 00	0	2	HR		WKMSAB	VF	M	
70-120	LCS	10YR68 44	0	2	HR		WKCSAB	VF	M	

Wetness Grade : 1
Wetness Class : I
Gleying : cm
SPL : No SPL

Drought Grade : 3A
APW : 90 mm MBW : -12 mm
APP : 70 mm MBP : -22 mm

FINAL ALC GRADE : 3A
MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : VALE OF WH H11 FARINGDON Pit Number : 3P

Grid Reference: SU28109510
Average Annual Rainfall : 690 mm
Accumulated Temperature : 1381 degree days
Field Capacity Level : 143 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	HCL	10YR42 00	0	0						Y
28-120	C	10YR53 00	0	2	HR		MDCSAB	FR	M	Y

Wetness Grade : 2
Wetness Class : I
Gleying : cm
SPL : No SPL

Drought Grade : 1
APW : 140mm MBW : 38 mm
APP : 116mm MBP : 24 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Workability

LIST OF BORINGS HEADERS 09/01/96 VALE OF WH H11 FARINGDON

SAMPLE NO.	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	DRT	M.REL FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU28109527	PGR	SE	03	028	046	3	3B		0		0					WE	3B	
1P	SU27909460	PGR	S	02	0	028	4	3B		0		0					WE	3B	
2	SU28109520	PGR	NW	03	090	090	1	2	139	37	118	26	1				WK	2	
2P	SU28009460	RGR					1	1	90	-12	70	-22	3A				DR	3A	
3	SU28109510	PGR	NW	04			1	2	140	38	116	24	1				WK	2	
3P	SU28109510	PGR					1	2	140	38	116	24	1				WK	2	
4	SU28009500	PGR	NE	06	042	042	3	3B		0		0					WE	3B	
6	SU27959494	CER	N	02			1	2	83	-19	85	-7	3A				DR	3A	Impen 52
7	SU27909480	CER	N	02	028	028	4	3B		0		0					WE	3B	
8	SU27809470	CER	N	02	028	028	4	3B		0		0					WE	3B	
9	SU27909470	CER	E	02	028	028	4	3B		0		0					WE	3B	
10	SU28009470	PGR	E	01	0	028	4	3B		0		0					WE	3B	
11	SU27809460	CER	S	02	0	018	4	3B		0		0					WE	3B	Plastic 18
12	SU27909460	PGR	S	02	0	028	4	3B		0		0					WE	3B	Plastic 28
13	SU28009460	RGR					1	1	90	-12	70	-22	3A				DR	3A	
14	SU28109460	RGR					1	1	157	55	115	23	1					1	
15	SU28209460	PGR					1	1	122	20	106	14	2				DR	2	
16	SU28009450	RGR	S	02	060	060	2	2	130	28	106	14	2				WD	2	Sl. gleyed 45
17	SU28109450	RGR	S	03			1	1	112	10	73	-19	3A				DR	3A	

COMPLETE LIST OF PROFILES 09/01/96 VALE OF WH H11 FARINGDON

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
1	0-28	hcl	10YR32 00						0	0		0						
	28-46	hcl	10YR61 00	75YR46 00	C			Y	0	0		0		M				
	46-90	c	10YR61 00	75YR56 00	M			Y	0	0		0		P			Y	
1P	0-28	hcl	10YR51 00	75YR46 00	C			Y	0	0	HR	2						
	28-55	c	05Y 61 63	10YR58 00	M			Y	0	0		0	WDCPR	VM	P	Y		Y
2	0-28	hcl	10YR33 00						0	0		0						
	28-90	c	10YR53 00						0	0		0		M				
	90-120	c	10YR62 00	75YR58 00	C			Y	0	0		0		P			Y	
2P	0-25	csl	10YR36 00						0	0	HR	2						
	25-70	lcs	10YR34 00						0	0	HR	2	WKMSAB	VF	M			
	70-120	lcs	10YR68 44						0	0	HR	2	WKCSAB	VF	M			
3	0-28	hcl	10YR33 00						0	0		0						Y
	28-120	c	10YR53 00						0	0	HR	2		M				Y
3P	0-28	hcl	10YR42 00						0	0		0						Y
	28-120	c	10YR53 00						0	0	HR	2	MDCSAB	FR	M			Y
4	0-28	hcl	10YR33 00						0	0	HR	2						Y
	28-42	c	10YR53 00						0	0	HR	2		M				Y
	42-100	c	10YR61 00	75YR58 00	C			Y	0	0	HR	5		P			Y	Y
6	0-30	hcl	10YR33 00						0	0	HR	5						Y
	30-40	c	10YR54 00						0	0	HR	5		M				Y
	40-52	c	10YR58 00						0	0	HR	5		M				Y
7	0-28	hcl	10YR32 00						0	0		0						
	28-60	c	10YR61 00	75YR58 00	M			Y	0	0		0		P			Y	
8	0-28	hcl	10YR32 00						0	0		0						
	28-45	c	10YR52 00	75YR58 00	C			Y	0	0		0		P			Y	
	45-80	c	25Y 72 00	75YR58 00	M			Y	0	0		0		P			Y	
9	0-28	hcl	10YR32 00						0	0		0						
	28-80	c	10YR61 00	75YR58 00	M			Y	0	0		0		P			Y	
10	0-28	hcl	10YR42 41	75YR46 00	M			Y	0	0	HR	2						
	28-55	c	05Y 63 61	75YR58 00	M	00MN00	00	Y	0	0		0		P			Y	
11	0-18	c	25Y 42 00	10YR56 00	C			Y	0	0		0						
	18-55	c	05Y 61 63	10YR58 00	M			Y	0	0		0		P			Y	
12	0-28	hcl	10YR42 00	10YR56 00	C			Y	0	0	HR	2						
	28-55	c	05Y 61 63	10YR58 00	M			Y	0	0		0		P			Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	PED GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
13	0-25	csl	10YR36 00						0	0	HR	2						
	25-70	lcs	10YR46 00						0	0	HR	2		M				
	70-120	lcs	10YR58 00						0	0	HR	2		M				
14	0-30	mcl	10YR34 00						0	0	HR	3						
	30-50	mcl	10YR34 00						0	0	HR	2		M				
	50-70	mcl	10YR33 00						0	0	HR	2		M				
	70-120	msl	10YR46 56						0	0	HR	2		M				
15	0-28	mcl	10YR43 00						0	0	HR	5						
	28-50	scl	10YR44 56						0	0	HR	2		M				
	50-70	msl	10YR56 00						0	0	MSST	20		M				
	70-120	lms	75YR46 00						0	0	HR	2		M				
16	0-25	scl	10YR36 00						0	0	HR	2						
	25-45	scl	10YR46 00						0	0	HR	2		M				
	45-60	scl	10YR58 00	75YR68 00	C		00MN00 00	S	0	0	HR	2		M				
	60-120	c	05Y 61 63	10YR58 00	M			Y	0	0		0		P		Y		
17	0-28	msl	10YR36 00						0	0	HR	2						Q csl
	28-75	lcs	10YR46 00						0	0	HR	2		M				
	75-90	lcs	10YR58 00						0	0	HR	2		M				
	90-120	csl	10YR58 00						0	0	HR	2		M				