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CHERWELL DISTRICT LOCAL PLAN
Upper Heyford Airfield Oxfordshire

Agricultural Land Classification
ALC Map and Report

Reconnaissance Survey

February 1999

Resource Planning Team
Eastern Region
FRCA Reading

RPT Job Number 3301/050/98
MAFF Reference EL33/01084

AGRICULTURAL LAND CLASSIFICATION SUMMARY REPORT

CHERWELL DISTRICT LOCAL PLAN
UPPER HEYFORD AIRFIELD

RECONNAISSANCE SURVEY

INTRODUCTION

1 This report presents the findings of a reconnaissance Agricultural Land Classification (ALC) survey of approximately 165 ha of land at RAF Upper Heyford Oxfordshire The survey was carried out during February 1999

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) The survey was carried out in connection with MAFF s statutory input to the Cherwell District Local Plan This survey supersedes 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 all of the agricultural land on the site was under permanent grassland The areas mapped as Other land include the main runway of the airfield taxiways and associated buildings storage areas

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map The map has been drawn at a scale of 1 25 000 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
3a	6 8	6 3	4 1
3b	101 7	93 7	61 6
Other land	56 6		34 3
Total surveyed area	108 5	100	65 7
Total site area	165 1		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 3 hectares of agricultural land A total of 36 borings and 5 soil pits was described

8 The majority of the agricultural land on this site has been classified as Subgrade 3b (moderate quality land) with an area on the west of the site classified as Subgrade 3a (good quality land)

9 The land classified as Subgrade 3b generally consists of calcareous medium or heavy clay loams or clays overlying limestone at shallow depths The shallow nature of the soil resource restricts the amount of water available for crops thereby affecting the level and consistency of crop yields especially in drier years The small area of Subgrade 3a land consists of similar soils but with a slightly greater depth over the limestone which therefore experience a less significant droughtiness limitation

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

Table 2 Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SP 512 279	SP 508 226
Altitude	m AOD	130	130
Accumulated Temperature	day C (Jan June)	1356	1357
Average Annual Rainfall	mm	699	702
Field Capacity Days	days	152	152
Moisture Deficit Wheat	mm	97	97
Moisture Deficit Potatoes	mm	86	86
Overall climatic grade	N/A	Grade 1	Grade 1

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

14 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation Local climatic factors such as exposure or frost do not significantly affect land quality at this location The site is climatically Grade 1 However climatic factors do interact

with soil properties to influence soil droughtiness and soil wetness At this locality the climate is average in regional terms

Site

15 The area surveyed lies in the range 110–130m AOD with the majority of the land being flat Nowhere on the site does gradient microrelief or flooding affect the land quality

Geology and soils

16 The most detailed published geological information for the site (BGS 1968) shows the area to be underlain by Great Oolitic Limestone

17 According to the most detailed published information for this area (SSEW 1983) the soils present belong to the Aberford association Soils within this association are described as Shallow locally brashy well drained calcareous fine loamy soils over limestone with some deeper calcareous soils in colluvium Soils consistent with this description were found across the site

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

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 II

Subgrade 3a

20 Land of good quality has been mapped in one unit in the west of the site where the land begins to fall away at the end of the airstrip The principal limitation to land quality is soil droughtiness The soils are well drained (Wetness Class I) and comprise heavy clay loam topsoils overlying in some instances heavy clay loam upper subsoils (but mostly clay) merging to clay lower subsoils over limestone at approximately 60 cm Soils were impenetrable below this depth The topsoils contain up to 10% limestone fragments by volume with up to 2% of this fraction greater than 2 cm The subsoils contain up to 25% limestone fragments by volume The combination of the relatively shallow soil resource and the prevailing local climate leads to a moderate soil droughtiness limitation No soil pit was located in this relatively small map unit as the soils have been treated as deeper variants of those mapped as Subgrade 3b

Subgrade 3b

21 The majority of the surveyed area has been mapped as Subgrade 3b The principal limitation is again soil droughtiness The soils are well drained (Wetness Class I) and comprise heavy clay loam and heavy silty clay loam topsoils which overly stony heavy clay loam or clay subsoils passing to limestone The pit observations 2P and 4P are particularly representative of these soils Both were impenetrable at depths in the range 44–56cm with stone contents in the range 45–65% above this depth In both instances stone contents were increasing at the

base of the pit and it has been assumed that >70% stone contents would be encountered either at or just below the impenetrable layer Given the textures and stone contents involved together with the overall shallow nature of the soil resource and the prevailing climate there is a restriction on the amount of water available for crops The level and consistency of yields are both affected particularly in the drier years and this land cannot therefore be classified higher than Subgrade 3b In places deeper soil resources were encountered unit as typified by the pit observations 1P and 3P but these illustrate the range of soils that were encountered rather than the presence of a significant area of land which could be classified separately as Subgrade 3a at this scale In contrast more shallow soils were also encountered at some locations and these are typified by the pit observation 5P This observation is actually classified as Grade 4 given the presence of >70% stone from just beneath the topsoil and illustrates the potential severity of the soil droughtiness limitation which affects parts of the site These soils could also be described as experiencing a soil depth limitation However it was not possible to map out these shallower soils at this scale

22 The significant soil droughtiness limitation that affects this Subgrade 3b land will manifest itself in the limited range of crops that can tolerate such conditions The level and consistency of yields will be affected and this will be particularly marked in drier seasons

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SOURCES OF REFERENCE

British Geological Survey (1968) *Sheet No 218 Chipping Norton*
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) *Sheet 6 Soils of South East England 1 250 000*
SSEW Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England*
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 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	**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. **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	**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. **GLEY**: 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	**FM**: firm	**EH**: extremely hard
VF: very friable	**VM**: very firm	
FR: friable	**EM**: extremely firm	

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	USE	ASPECT	GRDNT	GLEY	SPL	-WETNESS CLASS	-WETNESS GRADE	-WHEAT AP	-WHEAT MB	POTS AP	POTS MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
45	SP52102710	PGR					1	2	66	31	66	20	3B				DR	3B	IMP 42
48	SP52402708	PGR					1	2	44	53	44	-42	3B				DR	3B	IMP 30
50	SP52602710	PGR					1	2	81	16	81	5	3A				DR	3A	IMP 50
52	SP52802714	PGR					1	2	85	12	95	9	3A				DR	3A	IMP 65
54	SP30302715	PGR					1	2	71	26	71	15	3B				DR	3B	IMP 50
56	SP53202718	PGR					1	2	46	51	46	-40	3B				DR	3B	IMP 60
62	SP51402696	PGR			25		2	3A	62	35	62	24	3B				DR	3B	IMP 40
65	SP51692702	PGR					1	1	59	38	59	27	3B				DR	3B	IMP 35
68	SP52002700	PGR					1	2	57	-40	57	29	3B				DR	3B	IMP 35
78	SP52932695	PGR					1	2	48	-49	48	38	3B				DR	3B	IMP 30
83	SP51162691	PGR					1	2	80	17	80	6	3A				DR	3A	IMP 50
88	SP51702687	PGR			40	50	3	3A	100	3	112	26	3A				WE	3A	
96	SP52542687	PGR					1	2	45	52	45	41	4				DR	3B	I30 Q DEPTH
98	SP52702690	PGR					1	2	72	25	72	14	3B				DR	3B	IMP 48
102	SP50362678	PGR					1	2	41	56	41	45	4				DR	3B	I25 Q DEPTH
107	SP50902680	PGR					1	1	63	34	63	23	3B				DR	3B	IMP 37
111	SP51302680	PGR					1	2	38	59	38	48	4				DR	4	I22 Q DEPTH
113	SP51492684	PGR	E	1			1	2	57	40	57	29	3B				DR	3B	IMP 35
119	SP52122682	PGR					1	2	63	34	63	23	3B				DR	3B	IMP 50
121	SP52402684	PGR					1	2	63	34	63	23	3B				DR	3B	IMP 50
127	SP50102670	PGR	W	2			1	2	89	8	97	11	3A				DR	3A	
132	SP50602670	PGR					1	1	49	48	49	37	3B				DR	3B	IMP 30
134	SP50802670	PGR					1	1	51	46	51	35	3B				DR	3B	IMP 30
143	SP51752667	PGR					1	2	71	26	71	15	3B				DR	3B	IMP 45
145	SP51902670	PGR					1	2	58	39	58	28	3B				DR	3B	IMP 35
146	SP52032676	PGR					1	2	69	28	69	17	3B				DR	3B	27CM WTHEDLST
160	SP51192656	PGR					1	2	70	27	70	16	3B				DR	3B	IMP 45
162	SP51402660	PGR					1	2	78	19	78	8	3A				DR	3A	IMP 47
164	SP51592664	PGR			26		2	3A	95	2	103	17	3A				WD	3A	
171	SP50282647	PGR					1	2	85	12	93	7	3A				DR	3A	
173	SP50522650	PGR					1	2	66	31	66	20	3B				DR	3B	IMP 45
175	SP50702650	PGR			35		1	2	80	17	83	3	3A				DR	3A	IMP 55
177	SP50902650	PGR					1	2	55	42	55	31	3B				DR	3B	IMP 35
191	SP50662640	PGR					4	3B	68	29	68	18	3B				WD	3B	IMP 45
193	SP50802640	PGR					1	2	45	52	45	41	4				DR	4	IMP30 SEE5P
196	SP51702642	PGR					1	1	91	-6	96	10	3A				DR	3A	IMP 60
1P	SP52032676	PGR			22		2	3A	80	17	81	5	3A				WD	3A	DR70 RTS VISSO
2P	SP52402708	PGR					1	2	48	49	48	38	3B				DR	3B	ROCK44 PIT@48
3P	SP50802670	PGR					1	1	77	20	86	0	3A				DR	3A	IMP ROCK
4P	SP51102676	PGR					1	2	72	25	74	12	3B				DR	3B	IMP ROCK
5P	SP50802640	PGR					1	2	34	63	34	52	4				DR	4	IMP38(SPADE)

				MOTTLES			PED		STONES			STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT CONSIST	STR	POR	IMP	SPL	CALC	
45	0 25	HCL	10YR53						2	0	HR	5						
	25-42	C	10YR54						0	0	HR	15		M				IMP 42
48	0 20	HCL	10YR44						2	0	HR	10					Y	
	20 28	HCL	10YR54						0	0	HR	20		M			Y	
	28 30	HCL	10YR64						0	0	HR	50		M			Y	IMP 30
50	0-30	HCL	10YR43						1	0	HR	5					Y	
	30-48	C	75YR46				COM MN		0	0	HR	5		M			Y	
	48-50	C	10YR46						0	0	HR	30		M			Y	IMP 50
52	0 20	HCL	10YR44						0	0	HR	5					Y	
	20 60	C	10YR46 56						0	0	HR	15		M			Y	
	60 65	C	10YR46 56						0	0	HR	30		M			Y	IMP 65
54	0 30	HCL	10YR46						0	0	HR	5					Y	
	30-40	HCL	10YR66						0	0	HR	20		M			Y	
	40 50	C	10YR68	10YR58	C	D		S	0	0	HR	30		M			Y	IMP 50
56	0 21	HCL	10YR46						0	0	HR	5					Y	
	21 30	C	10YR58						0	0	HR	35		M			Y	IMP 30
62	0 25	HCL	10YR43						3	0	HR	5						
	25 40	C	10YR42	10YR56	C	D		Y	0	0	HR	2		P				IMP 40
65	0 22	MZCL	10YR43						2	0	HR	5						
	22 35	HCL	10YR53						0	0	HR	10		M				IMP 35
68	0 25	HCL	10YR43						2	0	HR	5						
	25-35	C	10YR54						0	0	HR	10		M				IMP 35
78	0 20	HZCL	10YR43						2	0	HR	5					Y	
	20 30	C	10YR54						0	0	HR	25		M			Y	IMP 30
83	0 22	HCL	10YR43						2	0	HR	5						
	22 50	C	10YR54						0	0	HR	5		M				IMP 50
88	0 30	MZCL	10YR43						2	0	HR	5						
	30 40	MCL	10YR56						0	0		0		M				
	40 50	C	10YR42	10YR56	C			Y	0	0		0		M				
	50 70	C	10YR42	10YR56	C			Y	0	0		0		P		Y		
96	0 21	HCL	10YR43						3	0	HR	10					Y	
	21 30	HCL	10YR54						0	0	HR	30		M			Y	IMP 30
98	0 25	HCL	10YR42						2	0	HR	10					Y	
	25-48	C	10YR56			R			0	0	HR	15		M			Y	IMP 48

				-MOTTLES			PED		STONES				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
102	0 26	HCL	10YR43						2	0	HR	10						IMP 25
107	0 22	MZCL	10YR43						2	0	HR	5						
	22 37	HCL	10YR54						0	0	HR	5		M				IMP 37
111	0 22	HCL	10YR43						2	0	HR	5						IMP 22
113	0 25	HCL	10YR43						2	0	HR	5						
	25-35	HCL	10YR54						0	0	HR	10		M				IMP 35
119	0 23	HCL	10YR43						1	0	HR	5					Y	
	23-40	HCL	10YR54						0	0	HR	15		M			Y	IMP 40
121	0 23	HCL	10YR43						1	0	HR	5					Y	
	23-40	HCL	10YR54						0	0	HR	15		M				IMP 40
127	0 22	HCL	10YR42						2	0	HR	8						
	22 60	C	10YR53						0	0		0						
132	0 20	MZCL	10YR43						2	0	HR	5						
	20 30	HCL	10YR54						0	0	HR	20		M				IMP 30
134	0 22	MZCL	10YR43						2	0	HR	5						
	22 30	C	10YR54						0	0	HR	10		M				IMP 30
143	0 22	HZCL	10YR43						0	0	HR	5					Y	
	22 45	C	10YR53						0	0	HR	15		M			Y	IMP 45
145	0 24	HZCL	10YR43						0	0	HR	5					Y	
	24 35	C	10YR54						0	0	HR	20		M			Y	IMP 35
146	0 27	HZCL	10YR43						0	0	HR	5					Y	
	27 40	C	25Y 64						0	0	HR	5		M			Y	IMP 40
160	0 25	HCL	10YR43						0	0	HR	5					Y	
	25-40	HCL	10YR44						0	0	HR	10		M			Y	
	40 45	C	10YR54						0	0	SLST	20		M			Y	IMP 45
162	0 26	HZCL	10YR43						0	0	HR	5					Y	
	26 47	C	10YR54	10YR58	F	D	FEW MN		0	0	HR	10		M			Y	IMP 47
164	0 26	HZCL	10YR43						0	0	HR	2					Y	
	26 60	C	25Y 64	10YR58	C	D		Y	0	0		0		M				
171	0 20	HCL	10YR42						2	0	HR	10						
	20 30	HCL	10YR53	10YR58	C	D		Y	0	0	HR	25		M				
	30 60	C	10YR53	10YR58	C	D		Y	0	0		0		M				

				-MOTTLES-			PED		STONES-				STRUCT/	SUBS				
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL	GLEY	2	6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC	
173	0-25	HCL	10YR44						0	0	HR	5					Y		
	25-40	C	10YR54						0	0	HR	15			M		Y		
	40-45	C	10YR54						0	0	HR	40			M		Y	IMP 45	
175	0-28	HCL	10YR44						0	0	HR	5					Y		
	28-35	C	10YR64						0	0	HR	15			M		Y		
	35-55	C	25Y 71	10YR58	C	D		Y	0	0	SLST	20			M		Y	IMP 55	
177	0 30	HCL	10YR44						2	0	HR	8					Y		
	30 35	C	10YR54						0	0	HR	30			M		Y	IMP35	10%SLST
191	0 20	HCL	10YR43						2	0	HR	8					Y		
	20-45	HCL	10YR54						0	0	HR	15			M		Y	IMP 45	
193	0 25	HCL	10YR43						2	0	HR	10					Y		
	25-30	HCL	10YR46						0	0	HR	45			M		Y	IMP 30	
196	0 25	MCL	10YR42						0	0	HR	5					N		
	25-60	HCL	75YR56						0	0	HR	5			M		N	IMP 60	
1P	0 22	HZCL	10YR43						6	2	HR	8					Y		
	22-41	C	25Y 73	10YR68	C	D	25Y 72	Y	0	0	HR	10	MDCSAB	FM	M		Y		
	41 50	HCL	10YR44						0	0	HR	10	MDCSAB	FR	M				
	50 70	HR	10YR44						0	0	HR	0			M		Y	ROOTS VIS 50	
2P	0 20	HZCL	10YR43						7	4	HR	14					Y		
	20-44	HCL	10YR54 56						0	0	HR	65		FR	M		Y	IMP 44	
3P	0 25	HCL	10YR43						1	0	HR	3							
	25-38	HCL	10YR54						0	0	HR	39			M				
	38-68	C	10YR42						0	0	HR	25			P				
4P	0 22	HCL	10YR43						2	0	HR	5							
	22 38	C	10YR54						0	0	HR	25			M				
	38 56	HCL	10YR66						0	0	HR	45			M				
5P	0 22	HCL	10YR43						3	0	HR	23		FR			Y		
	22 38	HR	10YR46						0	0	HR	0		FR	M		Y	IMP 38	