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NEWBURY LOCAL PLAN
SITE 41 : ENBORNE GATE FARM
NEWBURY
AGRICULTURAL LAND CLASSIFICATION
ALC MAP & REPORT
FEBRUARY 1994

**NEWBURY LOCAL PLAN
SITE 41 : ENBORNE GATE FARM, NEWBURY
AGRICULTURAL LAND CLASSIFICATION REPORT**

1.0 Summary

1.1 ADAS was commissioned by MAFF's Land Use Planning Unit to provide information on land quality on a number of sites in the Newbury District in Berkshire. The work forms part of MAFF's statutory input to the preparation of the Newbury Local Plan.

1.2 Approximately 13 hectares of land relating to site 41, Land at Enborne Gate Farm in Newbury was surveyed in February 1994. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 13 soil auger borings and three soil inspection pits were assessed in accordance with MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its use for agriculture.

1.3 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.

1.4 At the time of the survey the land use on the site was what appeared to be set-aside and permanent grass.

1.5 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in the table below. The map has been drawn at a scale of 1:5,000. It is accurate at this scale, but any enlargement would be misleading. This map supersedes any previous survey information for this site.

Table 1 : Distribution of Grades and Subgrades

<u>Grade</u>	<u>Area (ha)</u>	<u>% of Site</u>	<u>% of Agricultural Area</u>
2	11.3	87.6	95.0
3b	0.6	4.6	5.0
Urban	1.0	7.8	100% (11.9 ha)
Total area of site	12.9	100%	

1.6 Appendix 1 gives a general description of the grades, subgrades and land use categories identified in the survey. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

1.7 The majority of land on the site is classified as grade 2 with slight soil wetness and/or soil droughtiness being the main limitations. Profiles comprise topsoils of medium clay loam over subsoils which become heavier with depth, often passing to poorly structured slowly permeable clay in the lower subsoil. Very slight to moderate stone volumes, mainly in the upper subsoil produce a slight restriction to available water reserves in the profile and land is thereby limited by slight soil droughtiness. Additionally the presence of slowly permeable clay lower subsoils causes soil drainage to be slightly impaired and some land is limited to grade 2 due to a slight soil wetness limitation. A small area of land to the south is classified as subgrade 3b. Here similarly textured soils to those across the rest of the site experience significant soil droughtiness due to the presence of moderate to very stony subsoils which restrict available water reserves and also reduce effective rooting in the profile.

2.0 Climate

2.1 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.

2.2 The main parameters used in the assessment of an overall climatic limitation are annual average rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5km gridpoint dataset (Met. Office 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

2.4 No local climatic factors such as exposure or frost risk affect the site. However it should be noted that climatic characteristics such as rainfall and field capacity days interact with soil properties to influence soil wetness as do moisture deficits to affect soil droughtiness.

Table 2 : Climatic Interpolation

Grid Reference :	SU 458 668
Altitude (m) :	80
Accumulated Temperature (days) :	1441
Average Annual Rainfall (mm) :	715
Field Capacity (days) :	160
Moisture Deficit, Wheat (mm) :	106
Moisture Deficit, Potatoes (mm) :	97
Overall Climatic Grade :	1

3.0 Relief

3.1 The site lies at an altitude of approximately 80-85 metres with land rising in altitude to the south. Nowhere on the site does relief or gradient affect agricultural land quality. To the north the site borders the Kennet and Avon Canal. However, the land lies about 2 metres above the level of the canal and is not susceptible to flooding.

4.0 Geology and Soil

4.1 The published geological sheet for the site, Sheet 267 (BGS, 1971) shows the underlying geology to be River and Valley Gravel.

4.2 The published soils information for the area, Sheet 6 (SSEW, 1983) shows the majority of the site to be mapped as soils of the Hucklesbrook association - "Well drained coarse loamy and some sandy soils, commonly over gravel. Some similar permeable soils affected by groundwater. Usually on flat land". (SSEW, 1983). To the south in the vicinity of Enborne Gate Farm is mapped soils of the Wickham 3 association - "Slowly permeable seasonally waterlogged fine loamy over clayey and coarse loamy over clayey soils and similar more permeable soils with slight waterlogging. Some deep coarse loamy soils affected by groundwater". (SSEW, 1983). A detailed inspection of soils on the site revealed the presence of deep fine loamy and fine loamy over clayey soils, stony in places and exhibiting slight wetness imperfections.

5.0 Agricultural Land Classification

5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached sample point map.

Grade 2

5.3 The majority of land on the site is classified as grade 2, very good quality land. Soils consist of medium clay loam topsoils which are occasionally calcareous and contain 2-9% total flints. Of this there are 3-6% > 2 cm in diameter which limits some land to grade 2 due to a topsoil stoniness limitation. Upper subsoils comprise medium or heavy clay loam, occasionally calcareous with 1-40% (commonly 1-12%) total small flints or soft loose limestones. Lower subsoils typically consist of slowly permeable clay containing 0-5% total flints which is occasionally calcareous. Soil Pit 1 is typical of these soils confirming a slowly permeable structure for the clay. Profiles show signs of wetness imperfections in the form of gleying in the upper and lower subsoils caused by slowly permeable clay present from 60-70 cm depth. Consequently soils are assigned to wetness class II. This combined with a medium topsoil texture and climatic factors such as field capacity days results in a grade of 2 due to a slight wetness limitation.

Together with a wetness limitation some profiles are also limited to grade 2 due to a slight droughtiness limitation. The interaction of soil properties and climatic factors (see paragraph 2.4) results in a slight restriction on available water reserves for crop growth.

The topsoil stoniness limitation mentioned previously limits areas of this mapping unit to grade 2 also. Stone volumes > 2 cm diameter were measured at auger borings and elsewhere over the site. Where volumes of 5-6% were encountered land is limited to grade 2. Stoniness in the topsoil can have a detrimental effect on crop establishment and cause wear and tear to farm machinery.

Finally some profiles of better or poorer quality were found within this mapping unit but were not mapped separately due to their limited number and extent.

Subgrade 3b

5.4 Moderate quality land is mapped to the south of the site which reflects a marked change in soil types. Profiles comprise topsoils of medium clay loam containing 5-10% total flints of which 6% > 2 cm in diameter. Upper subsoils consist of a similar texture with 10-30% total flints/gravel. This passes to a very stony lower subsoil of medium clay loam with 50% gravel. Soil Pit 3 found plant rooting to be evident to a depth of 70 cm, becoming rare or non-existent thereafter. These soils are well drained, wetness class I but experience a soil droughtiness limitation due to the combination of high stone volumes, restricted rooting depth and climatic factors such as moisture deficits which reduce water in the profile available to crops. As a result land is classified as subgrade 3b due to a significant droughtiness limitation.

ADAS REFERENCE : 0202/008/94
MAFF REFERENCE : EL 02/0297

Resource Planning Team
Guildford Statutory Group
ADAS Reading

APPENDIX I

DESCRIPTION OF THE GRADES AND SUB-GRADES

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 on the 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.

Grade 3 : Good To Moderate Quality Agricultural Land

Land with moderate limitations which affect the choice of crops, 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.

Sub-grade 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.

Sub-grade 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 (eg. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. the grade also includes very droughty arable land.

Grade 5 : Very Poor Quality Agricultural Land

Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops. }

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture : housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including : private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland.

Agricultural Buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. polythene tunnels erected for lambing) may be ignored.

Open Water

Includes lakes, ponds and rivers as map scale permits.

Land Not Surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

APPENDIX II

REFERENCES

- * BRITISH GEOLOGICAL SURVEY (1971), Sheet No.267, Hungerford, 1:63,360 scale.
- * MAFF (1988), Agricultural Land Classification of England And Wales : Revised guidelines and criteria for grading the quality of agricultural land.
- * METEOROLOGICAL OFFICE (1989), Climatological Data for Agricultural Land Classification.
- * SOIL SURVEY OF ENGLAND AND WALES (1983), Sheet No.6, "Soils of South East England", 1:250,000 scale and accompanying legend.

APPENDIX III

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

The soil profile is not wet within 70cm depth for more than 30 days in most years.

Wetness Class II

The soil profile is wet within 70cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 90 days, but not wet within 40cm depth for more than 30 days in most years.

Wetness Class III

The soil profile is wet within 70cm depth for 91-180 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 70cm for more than 180 days, but only wet within 40cm depth for 31-90 days in most years.

Wetness Class IV

The soil profile is wet within 70cm depth for more than 180 days but not wet within 40cm depth for more than 210 days in most years or, if there is no slowly permeable layer within 80cm depth, it is wet within 40cm depth for 91-210 days in most years.

Wetness Class V

The soil profile is wet within 40cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40cm depth for more than 335 days in most years.

(The number of days is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years.)

APPENDIX IV

SOIL PIT AND SOIL BORING DESCRIPTIONS

- Contents :
- * Soil Abbreviations : Explanatory Note
 - * Soil Pit Descriptions
 - * Database Printout : Boring Level Information
 - * Database Printout : Horizon Level Information

SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used notations and abbreviations as set out below.

Boring Header Information

1. **GRID REF** : national 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 **HRT** : Horticultural Crops **PGR** : Permanent Pasture **LEY** : Ley Grass **RGR** : Rough Grazing
SCR : Scrub **CFW** : Coniferous Woodland **DCW** : Deciduous Woodland **HTH** : Heathland **BOG** : Bog or Marsh
FLW : Fallow **PLO** : Ploughed **SAS** : Set aside **OTH** : Other

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

4. **GLEYSPL** : Depth in cm to gleying or slowly permeable layers.

5. **AP (WHEAT/POTS)** : Crop-adjusted available water capacity.

6. **MB (WHEAT/POTS)** : Moisture Balance.

7. **DRT** : Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, an entry of 'Y' will be entered in the relevant column.

MREL : Microrelief limitation **FLOOD** : Flood risk **EROSN** : Soil erosion risk **EXP** : Exposure limitation **FROST** : Frost
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** : Soil Erosion Risk **WD** : Combined 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
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 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

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

6. **STONE LITH** : One of the following is used.

HR : all hard rocks and stones MSST : soft, medium or coarse grained sandstone

SI : soft weathered igneous or metamorphic SLST : soft oolitic or dolimitic limestone

FSST : soft, fine grained sandstone ZR : soft, argillaceous, or silty rocks CH : chalk

GH : gravel with non-porous (hard) stones GS : gravel with porous (soft) stones

Stone contents (> 2cm, > 6cm and total) are given in percentages (by volume).

7. **STRUCT** : the degree of development, size and shape of soil pedes 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

8. **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

9. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G : good M : moderate P : poor

10. **POR** : Soil porosity. If a soil horizon has less than 0.5% biopores > 0.5 mm, a 'Y' will appear in this column.

11. **IMP** : If the profile is impenetrable a 'Y' will appear in this column at the appropriate horizon.

12. **SPL** : Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

13. **CALC** : If the soil horizon is calcareous, a 'Y' will appear in this column.

14. 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 : NEWBURY LP SITE 41

Pit Number : 1P

Grid Reference: SU45706677 Average Annual Rainfall : 715 mm
 Accumulated Temperature : 1441 degree days
 Field Capacity Level : 160 days
 Land Use :
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	MCL	10YR42 00	3	7		
28- 48	MCL	10YR54 00	0	12		WKCSAB
48- 70	C	10YR54 00	0	20	C	
70- 80	C	10YR53 00	0	1	C	WKCSAB
80-120	C	10YR54 00	0	1	C	MDCSAB

Wetness Grade : 1 Wetness Class : I
 Gleying : 070 cm
 SPL : No SPL

Drought Grade : 2 APW : 130mm MBW : 24 mm
 APP : 104mm MBP : 7 mm

FINAL ALC GRADE : 2
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP SITE 41 Pit Number : 2P

Grid Reference: SU45806690 Average Annual Rainfall : 715 mm
 Accumulated Temperature : 1441 degree days
 Field Capacity Level : 160 days
 Land Use :
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR42 00	3	6		
30- 65	MCL	10YR53 00	0	2		WKCSAB
65-110	MCL	10YR53 00	0	20		WKCSAB
110-120	C	10YR31 00	0	0		

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

Drought Grade : 1 APW : 144mm MBW : 38 mm
 APP : 113mm MBP : 16 mm

FINAL ALC GRADE : 1
 MAIN LIMITATION :

SOIL PIT DESCRIPTION

Site Name : NEWBURY LP SITE 41 Pit Number : 3P

Grid Reference: SU45966631 Average Annual Rainfall : 715 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 160 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 30	MCL	10YR32 00	6	10		
30- 50	MCL	10YR42 00	0	30		
50- 70	MCL	10YR43 00	0	50		

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

Drought Grade : 3B APW : 082mm MBW : -24 mm
APP : 089mm MBP : -8 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Droughtiness

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SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB					
1	SU45606690	SAS			1	1	153	47	115	18	1			1	
1P	SU45706677	SAS	070		1	1	130	24	104	7	2		DR	2	SLI GLEY 4B
2	SU45706690	SAS	045		1	1	107	1	112	15	3A		DR	3A	IMP80 2TSST
2P	SU45806690	SAS			1	1	144	38	113	16	1			1	
3	SU45806690	SAS			1	1	145	39	110	13	1			1	
3P	SU45966631	PGR			1	1	082	-24	089	-8	3B		DR	3B	PIT80 ROOTS70
4	SU45906690	SAS	070		1	1	151	45	113	16	1			1	
5	SU46006690	SAS	070	070	2	2	135	29	113	16	2		WE	2	WEDR
6	SU45706680	SAS	065	065	2	2	102	-4	98	1	3A		DR	3A	IMP90Q2
7	SU45806680	SAS			1	1	67	-39	67	-30	3B		DR	3B	IMP45Q3A
8	SU45906680	SAS	060	060	2	2	134	28	111	14	2		WE	2	SLI GLEY 60
9	SU46006680	SAS	045	045	3	3A	92	-14	101	4	3A		WE	3A	IMP65
10	SU45706670	SAS			1	1	97	-9	105	8	3A		DR	3A	IMP70Q2
11	SU45906660	SAS	045	060	2	2	136	30	114	17	1		WE	2	
12	SU45906650	SAS	045	065	2	2	138	32	115	18	1		WE	2	
13	SU45956634	SAS			1	1	75	-31	75	-22	3B		DR	3B	AS 3P
14	SU45966627	SAS			1	1	81	-25	81	-16	3B		DR	3B	AS 3P

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- PED			----STONES-----			STRUCT/ CONSIST	SUBS STR POR IMP SPL CALC			
				COL	ABUN	CONT	COL.	GLE	>2			>6	LITH	TOT
1	0-27	mc1	10YR42 00					0	0	HR	3			
	27-120	mc1	10YR53 00					0	0	HR	1	M		Y
1P	0-28	mc1	10YR42 00					3	0	HR	7			
	28-48	mc1	10YR54 00					0	0	HR	12	WKCSAB FR M		
	48-70	c	10YR54 00	10YR56 00 C				S	0	HR	20	M		SLI GLEY
	70-80	c	10YR53 00	10YR56 00 C				Y	0	HR	1	WKCSAB FM P		
	80-120	c	10YR54 00	10YR56 00 C				S	0	HR	1	MDCSAB FM M		SLI GLEY
2	0-28	mc1	10YR42 00					6	0	HR	9			
	28-45	mc1	10YR53 00					0	0	HR	2	M		Y
	45-55	mc1	10YR53 00	10YR56 00 C				Y	0	HR	1	M		Y
	55-68	hc1	10YR53 00	10YR56 00 C				Y	0	HR	2	M		
	68-80	c	10YR53 00	75YR56 00 M				Y	0	HR	2	P		
2P	0-30	mc1	10YR42 00					3	0	HR	6			
	30-65	mc1	10YR53 00					0	0	HR	2	WKCSAB FR M		Y
	65-110	mc1	10YR53 00					0	0	SLST	20	WKCSAB FR M		Y
	110-120	c	10YR31 00					0	0		0	M		
3	0-28	mc1	10YR42 00					3	0	HR	6			Y
	28-120	mc1	10YR53 54					0	0	SLST	10	M		Y
3P	0-30	mc1	10YR32 00					6	0	HR	10			
	30-50	mc1	10YR42 00					0	0	HR	30	M		
	50-70	mc1	10YR43 00					0	0	HR	50	M		ROOTS TO 70CM
4	0-27	mc1	10YR42 00					4	0	HR	6			Y
	27-45	mc1	10YR53 00					0	0	HR	2	M		Y
	45-70	hc1	10YR53 54					0	0	SLST	5	M		Y
	70-110	mc1	25Y 62 63	75YR56 00 C				Y	0		0	M		Y
	110-120	hc1	25Y 63 00	75YR56 00 C				Y	0		0	M		
5	0-30	mc1	10YR42 00					0	0	HR	3			Y
	30-70	mc1	10YR53 00					0	0	HR	5	M		Y
	70-120	c	25Y 62 63	10YR56 00 C				Y	0	HR	5	P	Y	Y
6	0-29	mc1	10YR42 00					0	0	HR	3			
	29-65	mc1	10YR54 00					0	0	HR	30	M		
	65-90	c	10YR53 00	75YR56 00 M				Y	0	HR	5	P	Y	
7	0-30	mc1	10YR42 00					5	0	HR	8			
	30-45	mc1	10YR53 00					0	0	HR	30	M		
8	0-30	mc1	10YR42 00					0	0	HR	4			
	30-60	hc1	10YR53 00					0	0	HR	4	M		
	60-120	c	10YR54 00	75YR56 00 C				S	0	HR	1	P	Y	SLI GLEY

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED COL.	-----STONES-----			STRUCT/ CONSIST	SUBS					
				COL	ABUN	CONT		GLY	>2	>6		LITH	TOT	STR	POR	IMP	SPL
9	0-28	mc1	10YR42 00					0	0	HR	4						
	28-45	c	10YR53 00					0	0	HR	2		M				Y
	45-65	c	10YR53 00	10YR56 00	C			Y	0	0	HR	2		P			Y
10	0-36	mc1	10YR42 00					0	0	HR	2						
	36-45	mc1	10YR53 52					0	0	HR	2		M				
	45-55	mc1	10YR53 00					0	0	HR	25		M				
	55-70	mc1	10YR53 00					0	0	HR	40		M				
11	0-30	mc1	10YR42 00					0	0	HR	1						
	30-45	mc1	10YR53 00					0	0	HR	2		M				
	45-55	hc1	10YR53 00	10YR56 00	C			Y	0	0	HR	1		M			
	55-60	c	10YR53 00	10YR56 00	C			Y	0	0		0		M			
	60-120	c	10YR53 54	75YR56 00	M			Y	0	0		0		P			Y
12	0-30	mc1	10YR42 00					0	0	HR	2						
	30-45	mc1	10YR53 00					0	0	HR	1		M				
	45-58	mc1	10YR53 00	10YR56 00	C			Y	0	0	HR	1		M			
	58-65	hc1	10YR53 54	75YR56 00	C			Y	0	0		0		M			
	65-120	c	10YR53 54	75YR56 00	M			Y	0	0		0		P			Y
13	0-35	mc1	10YR42 00					0	0	HR	5						
	35-45	mc1	10YR43 00					0	0	HR	10		M				
14	0-35	mc1	10YR42 00					0	0	HR	5						
	35-50	mc1	10YR43 00					0	0	HR	15		M				