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Horsham District Local Plan
Land at Thistleworth Farm,
Dial Post.
Agricultural Land Classification
ALC Map and Report
March 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

HORSHAM DISTRICT LOCAL PLAN.
LAND AT THISTLEWORTH FARM, DIAL POST.

1. Summary

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

1.2 The site comprises approximately 16 hectares of land around Thistleworth Farm, east of the A24 at Dial Post in West Sussex. An Agricultural Land Classification (ALC) survey was carried out in March 1995. The survey was undertaken at a detailed level of approximately one boring per hectare of agricultural land surveyed. A total of 14 borings and two soil inspection pits were described 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 a long term limitation on its use for agriculture.

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

1.4 At the time of the survey the agricultural land on the site comprised wheat and permanent grassland. Areas marked as non-agricultural include scrubland and soil heaps. An area of woodland has also been marked on the map. Areas of urban comprise building foundations and a tarmac road, and derelict farm buildings have been mapped around Thistleworth Farm.

1.5 The distribution of grades and subgrades is shown on the attached ALC map, and the areas and extent are given in the table below. The map has been drawn at a scale of 1:10,000. It is accurate at this scale, but any enlargement would be misleading.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
3b	13.2	81.5	91.0
4	1.3	8.0	9.0
Non-agricultural	0.4	2.5	100% (14.5)
Woodland	0.3	1.8	
Urban	0.6	3.7	
Farm buildings	0.4	2.5	
Total area of site	16.2	100%	

1.6 Appendix I 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 the agricultural land on the site has been classified as Subgrade 3b, moderate quality land, with soil wetness as the main limitation. Soil profiles typically comprise medium clay loam topsoils resting upon clay subsoils. Profiles are commonly gleyed from the topsoil, and the clay subsoils are slowly permeable and significantly impede drainage, such that a classification of Subgrade 3b is appropriate. Poorly drained wet soils restrict plant growth and development and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock.
An area of land towards the middle of the site has been classified as Grade 4, poor quality land, due to the fact that it is likely to have been disturbed disturbed. Soil disturbance and the deposit of foreign materials, such as rubble, into the soil may severely restrict the agricultural use of this land.

2. Climate

2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe climatic 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 average annual rainfall, as a measure of overall wetness, and accumulated temperature (degree days Jan-June), 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 However, climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations. At this locality the climate is relatively warm and moist, therefore the likelihood of soil wetness problems may be increased.

2.5 No local climatic factors such as exposure or frost risk are believed to affect the site.

Table 2 : Climatic Interpolation

Grid Reference	SU 766 645
Altitude (m)	60
Accumulated Temperature (degree days, Jan-June)	1457
Average Annual Rainfall (mm)	675
Field Capacity (days)	138
Moisture Deficit, Wheat (mm)	112
Moisture Deficit, Potatoes (mm)	106
Overall Climatic Grade	1

3. Relief

3.1 The site is gently undulating, lying at an altitude of approximately 25-30m AOD.

4. Geology and Soils

4.1 The published geological map (BGS, 1984) shows the site to be underlain by Weald Clay.

4.2 The published Soil Survey map (SSEW, 1983) shows the soils on the site to comprise those of the Wickham 1 association. These are described as 'slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils' (SSEW 1983).

4.3 Detailed field examination found the majority of the soils on the site to be silty and clayey with slowly permeable subsoils.

5. Agricultural Land Classification

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

Subgrade 3b

5.2 The majority of the agricultural land on the site has been classified as Subgrade 3b due to a significant soil wetness limitation. Soil profiles were found to typically comprise medium clay loam topsoils commonly resting directly upon clay subsoils. Profiles show evidence of drainage imperfections in the form of gleying, usually from the topsoils. Two soil inspection pits dug on the site indicated the clay subsoils to be poorly structured with low porosity, and therefore classified as slowly permeable layers which significantly impede drainage. The presence of gleying and the relatively shallow depth to these slowly permeable layers means that these soils are assigned to Wetness Class IV, with a resultant classification of Subgrade 3b given the prevailing climatic conditions. Poorly drained wet soils can inhibit plant and root development, and may be more susceptible to structural damage through trafficking by agricultural machinery or poaching by grazing livestock. This can in turn affect the frequency and timing of such operations.

Grade 4

5.3 A small area of land on the site has been classified as Grade 4, poor quality land. The soils within this area of the site are judged to have been disturbed. This is evidenced by relatively large amounts of foreign material, such as tarmac and concrete rubble, which can be seen in the topsoil. Furthermore, the fact that this area is the only piece of agricultural land on the site not to have been cultivated suggests that its suitability for agricultural operations is severely reduced.

SOURCES OF REFERENCE

British Geological Survey (1984), Sheet No. 318/333, Brighton and Worthing, 1:50,000 Series (solid and drift edition).

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 6, Soils of South East England, 1:250,000 and accompanying legend.

APPENDIX I

DESCRIPTION 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 (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 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 including: 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. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Woodland

Includes commercial and non-commercial woodland. A distinction may be made as necessary between farm and non-farm 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

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

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.

Definition of Soil Wetness Classes

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.

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics, site and climatic factors. Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field. The method adopted here is common to ADAS and the SSLRC.

[1]The number of days specified is not necessarily a continuous period.
[2]'In most years' is defined as more than 10 out of 20 years.

APPENDIX III

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 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		

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	**SLST** :	soft oolitic or dolimitic limestone
CH :	chalk	**FSST** :	soft, fine grained sandstone
ZR :	soft, argillaceous, or silty rocks	**GH** :	gravel with non-porous (hard) stones
MSST :	soft, medium grained sandstone	**GS** :	gravel with porous (soft) stones
SI :	soft weathered igneous/metamorphic rock		

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

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

degree of development	**WK** : weakly developed **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 appropiate 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 : HORSHAM DLP,THISTLEWORTH Pit Number : 1P

Grid Reference: TQ15661912
Average Annual Rainfall : 808 mm
Accumulated Temperature : 1503 degree days
Field Capacity Level : 172 days
Land Use : Wheat
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MCL	10YR53 00	1	2	HR	F				
25- 42	C	10YR64 00	0	5	HR	C	WKCSAB	FM	P	
42- 75	C	10YR72 00	0	10	HR	M	WKCSAB	FM	P	

Wetness Grade : 3B
Wetness Class : IV
Gleying :025 cm
SPL :025 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 : HORSHAM DLP,THISTLEWORTH Pit Number : 2P

Grid Reference: TQ15401880 Average Annual Rainfall : 808 mm
Accumulated Temperature : 1503 degree days
Field Capacity Level : 172 days
Land Use : Wheat
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MCL	10YR53 00	1	2	HR	F				
28- 70	C	10YR63 00	0	5	HR	M	WKCSAB	FM	P	

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

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

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	USE	ASPECT GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ15701940	WHT		0	020	4	3B		0		0					WE	3B	
1P	TQ15661912	WHT		025	025	4	3B		0		0					WE	3B	
2	TQ15701940	WHT		022	038	4	3B		0		0					WE	3B	
2P	TQ15401880	WHT		028	028	4	3B		0		0					WE	3B	
3	TQ15601930	WHT		028	028	4	3B		0		0					WE	3B	
5	TQ15741931	WHT		0	022	4	3B		0		0					WE	3B	
6	TQ15661912	WHT		025	025	4	3B		0		0					WE	3B	
7	TQ15701920	WHT		030	030	4	3B		0		0					WE	3B	
8	TQ15501910	WHT		0	023	4	3B		0		0					WE	3B	
9	TQ15621908	WHT		028	045	4	3B		0		0					WE	3B	
10	TQ15501900	WHT		S50		1	1	107	-3	115	11	3A				DR	3A	
11	TQ15601900	WHT		S28	045	4	3B		0		0					WE	3B	
12	TQ15401890	WHT		0	025	4	3B		0		0					WE	3B	
14	TQ15401880	WHT		028	028	4	3B		0		0					WE	3B	
15	TQ15501880	WHT		030	030	4	3B		0		0					WE	3B	
16	TQ15401870	WHT		024	024	4	3B		0		0					WE	3B	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
1	0-20	mcl	10YR53 00	10YR58 00	C			Y	0	0	HR	3						
	20-40	c	10YR52 00	10YR58 00	C		00MN00 00	Y	0	0	HR	10		P			Y	
	40-70	c	10YR62 00	10YR68 71	M			Y	0	0	HR	5		P			Y	
1P	0-25	mcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	25-42	c	10YR64 00	10YR58 72	C		00MN00 00	Y	0	0	HR	5	WKCSAB FM	P	Y		Y	
	42-75	c	10YR72 00	75YR58 00	M		00MN00 00	Y	0	0	HR	10	WKCSAB FM	P	Y		Y	
2	0-22	mcl	10YR53 00						0	0		0						
	22-38	hcl	10YR52 00	10YR58 61	C		00MN00 00	Y	0	0		0		M				
	38-70	c	10YR62 00	10YR68 71	M			Y	0	0		0		P			Y	
2P	0-28	mcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	28-70	c	10YR63 00	75YR58 71	M		00MN00 00	Y	0	0	HR	5	WKCSAB FM	P	Y		Y	
3	0-28	hcl	00YR53 00						2	0	HR	5						
	28-75	c	10YR63 00	75YR58 71	C		00MN00 00	Y	0	0	HR	10		P	Y		Y	
5	0-22	mcl	10YR52 53	10YR58 00	C		00MN00 00	Y	0	0	HR	2						
	22-65	c	10YR53 00	10YR58 61	C		00MN00 00	Y	0	0	MSST	5		P			Y	
6	0-25	mcl	10YR53 00						2	0	HR	3						
	25-35	hcl	10YR64 00	75YR58 00	C		00MN00 00	Y	0	0	HR	5		P			Y	
	35-50	c	10YR53 00	75YR58 61	M		00MN00 00	Y	0	0	HR	10		P	Y		Y	
7	0-30	mcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	30-40	c	10YR63 00	75YR58 71	C		00MN00 00	Y	0	0		0		P	Y		Y	
	40-80	c	25Y 72 00	10YR68 00	M			Y	0	0		0		P	Y		Y	
8	0-23	mcl	10YR42 52	10YR58 00	C			Y	0	0	HR	3						
	23-50	c	10YR52 00	05Y 58 00	C		10YR61 00	Y	0	0	HR	10		P			Y	
9	0-28	mcl	10YR53 00						1	0	HR	2						
	28-45	hcl	10YR53 00	75YR58 00	C		00MN00 00	Y	0	0	HR	1		M				
	45-80	c	10YR63 00	75YR58 71	M		00MN00 00	Y	0	0	HR	1		P	Y		Y	
10	0-28	mcl	10YR53 00						2	0	HR	4						
	28-50	hcl	10YR44 00				00MN00 00		0	0	HR	6		M				
	50-80	c	10YR54 00	75YR58 00	C		00MN00 00	S	0	0	HR	6		M				
11	0-28	mcl	10YR58 00	10YR58 00	F				2	0	HR	4						
	28-35	hcl	10YR54 00	10YR58 00	C		00MN00 00	S	0	0	HR	2		M				
	35-45	hcl	10YR53 00	10YR58 61	M		00MN00 00	Y	0	0	HR	2		M				
	45-70	c	10YR58 00	10YR58 00	M		00MN00 00	Y	0	0		0		P	Y			
12	0-25	mcl	10YR53 00	10YR58 00	C			Y	1	0	HR	2						
	25-60	c	10YR63 00	75YR58 00	M			Y	0	0		0		P	Y		Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL.	GLEY	----STONES---- >2	>6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC
14	0-28	hcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	28-58	c	25Y 63 00	10YR68 71	C			Y	0	0	HR	1		P	Y		Y	
	58-75	c	25Y 72 00	10YR68 00	M			Y	0	0		0		P	Y		Y	
15	0-30	hcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	30-60	c	25Y 72 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
16	0-24	mcl	10YR53 00	10YR58 00	F				1	0	HR	2						
	24-60	c	25Y 72 00	10YR68 00	M			Y	0	0		0		P	Y		Y	