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Eastleigh District Local Plan
Land at Stocks Farm, Fair Oak.
Agricultural Land Classification
ALC Map and Report
June 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

EASTLEIGH DISTRICT LOCAL PLAN
LAND AT STOCKS FARM, FAIR OAK, HAMPSHIRE

Introduction

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 vicinity of Eastleigh . This work was in connection with the Eastleigh District Local Plan.

1.2 The total site surveyed comprises approximately 41.4 ha of land on the north eastern side of Fair Oak. A detailed Agricultural Land Classification (ALC) survey was carried out over the central part of the area which comprises the 6.8 ha objector site at Stocks Farm and the areas of the individual grades are shown in Table 1 below. In addition a semi-detailed survey was carried out over the remaining land to the north and southeast of the objector site and a table showing the areas of the individual grades for the whole site is given as Table 2. The fieldwork was conducted during June 1995 and a total of 7 borings were made on the objector site at a density of approximately 1 boring per hectare, with a further 11 borings and 1 soil inspection pit made on the neighbouring land at a density of approximately 1 boring per 3 hectares. The borings 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. A map and report covering the whole of the site has now been produced.

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

1.4 At the time of survey, all the agricultural land was all in grass

1.5 The distribution of the grades and subgrades is shown on the attached ALC map and the areas are given in the tables 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. This map supersedes any previous survey information for this site.

Table 1 : Distribution of Grades and Subgrades on the Objector Site

Grade	Area (ha)	% of Site	% of Agricultural Area
2	1.8	26.5	26.5
3b	3.5	51.5	51.5
4	1.5	22.0	22.0
Total	**6.8ha**	**100%**	**100%**

Table 2 : Distribution of Grades and Subgrades on the Total Survey Area

Grade	Area (ha)	% of Site	% of Agricultural Area
2	11.2	27.1	27.2
3a	16.6	40.1	40.3
3b	11.9	28.7	28.9
4	1.5	3.6	3.6
Woodland	0.2	0.5	**100% (41.2ha)**
Total	**41.4ha**	**100%**	

1.6 A general description of the grades, subgrades and land use categories is provided in Appendix I. 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 Objector site has been mapped as predominantly subgrade 3b, moderate quality agricultural land, with an area of poor quality land , grade 4 in the valley bottom. A small area of very good quality agricultural land, grade 2, has been mapped on the eastern edge of this site. Two major limitations occur on this site, wetness and gradient. On the lower slopes and in the valley bottom, the soils are predominantly fine silty over clayey and have a wetness limitation, the severity of which is governed by the position in the landscape, restricting land quality to subgrade 3b and 4. On the steeper slopes (8-10°), which occur over the northern part of the site, the land is restricted to subgrade 3b. On the more gently sloping land the soils have a minor wetness limitation restricting the area to grade 2.

1.8 On the neighbouring area, all the land to the southeast has been classified as grade 2, very good quality agricultural. The soils in this area generally have a minor wetness limitation, although some slightly droughty soils were also observed. To the north of the objector site the soils are principally fine silty over clayey and wetness is the overriding limitation. The severity of this limitation is related to the position in the landscape, with the poorer quality land confined to the lower slopes.

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 (day °C 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. The climate at this location is relatively warm and moist in a regional context, therefore the likelihood of a soil wetness limitation may be increased. It

should be noted that the site straddles the 175 FCD isohyt, a potentially important cut - off in the ALC wetness assessment. Since only land at the highest elevations on the site are potentially affected by this, a single overall value of 175 FCD has been used for the ALC wetness assessment of the whole site.

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

Table 2 : Climatic Interpolation

Grid Reference	SU494188	SU495193	SU499190
Altitude (m)	35	45	55
Accumulated Temperature (Day °C, Jan-June)	1512	1500	1489
Average Annual Rainfall (mm)	814	820	827
Field Capacity (days)	174	175	176
Moisture Deficit, Wheat (mm)	107	105	104
Moisture Deficit, Potatoes (mm)	100	98	96
Overall Climatic Grade	1	1	1

3. Relief

3.1 The survey area comprises land on either side of a small valley feature which runs from the northeast to the southwest. Altitude ranges from approximately 50-55 m AOD on the northern and southern side of the area, to approximately 35 m AOD in the valley bottom. Land over the northern part of the survey area falls very gently to the south toward the low lying valley on the northwestern side of the objector site. The land then rises moderately steeply across the objector site, with slopes of 8-10°, before more gently sloping land is encountered on the southern part of the survey area. Where gradients in excess of 7° are found this constitutes a limitation due to restrictions in the safety and effeciency of mechanised farming operations. As a result, this land can be graded no higher than subgrade 3b.

4. Geology and Soils

4.1 The published geological map (BGS, 1987) shows the land within the valley and on its northern side to be underlain by London Clay, whilst to the south on the higher ground the area is underlain by Bagshot Sands.

4.2 The published reconnaissance scale Soil Survey map (SSEW, 1983) shows the soils on the northern part of the site to comprise those of the Windsor association, which are described as 'slowly permeable seasonally waterlogged clayey soils mostly with brown subsoils. Some fine loamy over clayey and fine silty over clayey soils and, locally on slopes, clayey soils with only slight seasonal waterlogging' (SSEW 1983). On the upper slopes on the southern side of the area, are mapped soils of the Bursledon association, which are described as 'deep fine loamy soils with slowly permeable subsoils with seasonal waterlogging, associated with deep coarse loamy soils variably affected by groundwater' (SSEW, 1983). A more detailed soil map for the area (SSLRC, 1989) shows the area to comprise Wickham and Kings Newton series on the northern part of the site, with Bursledon series on the high ground to the south. Wickham series are described as

medium loamy or silty over clayey with slowly permeable subsoils, whilst Kings Newton soils are described as light loamy over clayey soils developed in thin flinty drift over clay.

4.3 Detailed field examination found the soils correlated reasonably well with the published soils information. The soils on the lower valley slopes and on the higher ground on the northern side of the site comprised medium and fine silty over clayey soils with slowly permeable subsoils. The soils on the higher ground to the south of the site comprised medium and fine loamy soils with slightly impeded drainage, together with some associated coarse loamy profiles.

5. Agricultural Land Classification

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

Grade 2

5.2 Grade 2 land has been mapped on the higher ground to the south of the area. Soils in this area are of two types; firstly are medium clay loam topsoils over a similar textured subsoil with ochreous mottling at depth. These soils have been assessed as wetness class II restricting the land to grade 2 due to a minor wetness limitation. Secondly, are coarse loamy profiles with loamy medium sand lower subsoil horizons. These soils have moderate available water capacities and consequently are considered to be slightly droughty restricting the land to this grade.

Subgrade 3a

5.3 Land over the northern part of the survey area has been mapped as subgrade 3a due to a wetness limitation. These soils have medium silty clay loam topsoils overlying mottled medium or heavy silty clay loam upper subsoils. Below 55-65 cm depth the soil texture becomes a clay or silty clay with distinct ochreous and grey mottling. These soils have been assessed as wetness class III which under the climatic conditions that prevail on this site restrict the land to subgrade 3a.

Subgrade 3b

5.4 Subgrade 3b has been mapped on either side of the central valley feature and corellates with the poorly drained fine silty over clayey soils and the steeper sloping land on the southern side of the valley. The soils on the lower lying land typically have medium silty clay loam topsoils overlying a strongly mottled medium silty clay loam upper subsoil. Below approximately 35-40 cm depth soil texture becomes a silty clay and the structure is coarse prismatic breaking to coarse angular blocky. These soils are therefore assessed as wetness class IV restricting the land quality to subgrade 3b. On the southern side of the valley the land rises moderately steeply (8-10°) and consequently this area is restricted to subgrade 3b due to a gradient limitation which will restrict the safety and effeciency of certain farming operations.

Grade 4

5.4 A small area of grade 4 has been mapped in the valley bottom where very poorly drained soils have been mapped. These soils are similar to those described for the subgrade 3b land described above, but due to the lowlying nature of this area and the presence of a small stream the watertable will remain high for much of the year restricting the soils to wetness class V.

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Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1987), Sheet No. 315, Southampton, 1:50,000 Series (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.

Soil Survey and Land Research Centre (1989), Applied Soil Mapping in the Southampton Area.

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				

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 sandston	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 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 : EASTLEIGH DLP STOCKS FM Pit Number : 1P

Grid Reference: SU49381920
Average Annual Rainfall : 820 mm
Accumulated Temperature : 1500 degree days
Field Capacity Level : 175 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- 12	MZCL	10YR43 00	0	0		C				
12- 35	MZCL	10YR53 00	0	0		C	MDCOSB	FM	M	
35-120	ZC	10YR63 64	0	0		M	MDCOPR	FM	P	

Wetness Grade : 3B
Wetness Class : IV
Gleying :000 cm
SPL :035 cm

Drought Grade : 2
APW : 129mm MBW : 31 mm
APP : 104mm MBP : -1 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	SU49601910	PGR	NW	04	000	045	4	3B	137	39	112	7	2				WE	3B	
1P	SU49381920	PGR	S	02	000	035	4	3B	129	31	104	-1	2				WE	3B	
2	SU49701910	PGR	NW	08	075		1	1	156	58	118	13	1				GR	3B	
3	SU49501900	PGR	NE	02	000	035	4	3B	139	41	111	6	2				WE	3B	
4	SU49601900	PGR	NW	09	120		1	1	151	53	113	8	2				GR	3B	
5	SU49401890	RGR			000	045	5	4	107	9	119	14	2				WE	4	
6	SU49501890	PGR	SW	05	025	055	3	3A	133	35	108	3	2				WE	3A	
7	SU49501880	PGR	SW	04	026	045	4	3B	137	39	114	9	2				WE	3B	
8	SU49801900	PGR	SW	01	075	095	1	1	149	51	116	11	1					1	1/2 DR
9	SU49701888	PGR	SW	04	050	080	2	2	145	47	119	14	1				WE	2	
10	SU49681973	PGR	SW		085		1	1	104	6	98	-7	2				DR	2	IMP 100CM
11	SU49621868	PGR	S	04	080		1	1	134	36	108	3	2				DR	2	VWET 50
12	SU49501910	PGR	SE	02	000	037	4	3B	134	36	111	6	2				WE	3B	
13	SU49381920	PGR	S	02	012	035	4	3B	129	31	104	-1	2				WE	3B	
14	SU49311940	PGR	S	02	055	055	3	3A	142	44	118	13	1				WE	3A	
15	SU49501940	PGR	S	02	040	060	3	3A	142	44	119	14	1				WE	3A	
16	SU49681945	PGR	S	01	030	065	3	3A	143	45	120	15	1				WE	3A	
17	SU49851935	LEY	SW	02	050	070	2	2	146	48	123	18	1				WE	2	
18	SU49671924	PGR	S	02	030	030	4	3B	130	32	105	0	2				WE	3B	

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	0-25	mzcl	25Y 52 00	05YR46 00	M			Y	0	0		0						
	25-45	mzcl	10YR63 00	05YR58 00	M			Y	0	0		0		M				
	45-120	hcl	10YR64 00	10YR68 00	C			Y	0	0		0		P			Y	
1P	0-12	mzcl	10YR43 00	05YR46 00	C			S	0	0		0						
	12-35	mzcl	10YR53 00	75YR56 00	C			Y	0	0		0	MDCOSB FM	M				
	35-120	zc	10YR63 64	75YR68 62	M			Y	0	0		0	MDCOPR FM	P			Y	
2	0-27	mszl	10YR54 00	75YR56 00	C				2	0	HR	3						
	27-50	mcl	10YR55 00	00MN00 00	F				0	0	HR	2		M				
	50-75	mcl	10YR65 00	10YR66 00	F			S	0	0		0		M				
	75-120	mcl	10YR64 00	10YR66 00	C			Y	0	0		0		M				
3	0-35	mzcl	10YR43 52	75YR56 00	M			Y	2	0	HR	2						
	35-65	c	10YR64 00	75YR68 00	M			Y	0	0		0		P			Y	
	65-120	sc	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	
4	0-25	mszl	75YR44 00	75YR56 00	F				3	0	HR	4						
	25-55	mcl	10YR54 00	75YR56 00	F			S	0	0	HR	10		M				
	55-90	mcl	10YR55 00	00MN00 00	F			S	0	0		0		M				
	90-120	mcl	75YR55 65	75YR66 00	F			S	0	0		0		M				
5	0-12	mzcl	10YR43 00	75YR58 00	M			Y	0	0		0						
	12-45	mzcl	10YR63 00	05YR56 46	M			Y	0	0		0		M				
	45-70	hcl	10YR63 00	75YR68 72	M			Y	0	0		0		M				
	70-75	gh	10YR00 00					Y	0	0		0		P				
6	0-25	mcl	10YR44 00	75YR56 00	C				3	0	HR	5						
	25-55	hcl	10YR54 00	75YR56 00	C			S	0	0	HR	5		M				
	55-75	sc	10YR63 00	75YR58 00	C			Y	0	0		0		P			Y	
	75-120	c	10YR64 00	75YR56 72	C			Y	0	0		0		P			Y	
7	0-26	mzcl	10YR44 00	05YR46 00	C				0	0		0						
	26-45	mzcl	25Y 73 00	10YR66 00	C			Y	0	0		0		M				
	45-120	c	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	
8	0-28	mszl	10YR44 00						0	0	HR	1						
	28-50	msl	10YR65 00						0	0		0		M				
	50-75	msl	10YR65 00	10YR68 00	F				0	0		0		M				
	75-95	scl	10YR65 00	75YR58 00	C			Y	0	0		0		P				
	95-120	scl	05Y 73 00	10YR68 00	C			Y	0	0		0		P			Y	
9	0-28	mszl	10YR43 00	75YR46 00	C				0	0	HR	1						
	28-50	mcl	10YR56 00						0	0	HR	2		M				
	50-80	hcl	10YR64 00	10YR68 00	C			Y	0	0		0		M				
	80-120	hcl	10YR64 00	10YR68 72	C			Y	0	0		0		P			Y	
10	0-25	msl	10YR44 00						5	0	HR	5						
	25-60	msl	10YR66 00						0	0	HR	5		M				
	60-85	lms	10YR68 00						0	0	HR	2		M				
	85-95	lms	10YR65 00	10YR68 00	C			S	0	0	HR	2		M				
	95-100	msst	10YR65 00					S	0	0		0		P				

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
11	0-30	msl	10YR33 00						3	0	HR	3						
	30-50	msl	10YR53 00						0	0	HR	3		M				
	50-80	msl	10YR32 00	05YR46 00	F			S	0	0	HR	3		M				
	80-90	scl	25Y 63 00	10YR68 00	C			Y	0	0	HR	8		M				
	90-120	lms	25Y 62 00					S	0	0		0		M				
12	0-25	mzcl	10YR53 00	75YR56 00	C			S	0	0		0						
	25-37	mzcl	10YR54 64	10YR66 00	C			S	0	0		0		M				
	37-120	c	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	
13	0-12	mzcl	10YR43 00	05YR46 00	C				0	0		0						
	12-35	mzcl	10YR53 00	75YR56 00	C			Y	0	0		0		M				
	35-120	zc	10YR63 64	75YR68 62	M			Y	0	0		0		P			Y	
14	0-30	mzcl	10YR44 00	75YR46 00	C			S	0	0		0						
	30-55	hzcl	10YR54 00	75YR66 00	C			S	0	0		0		M				
	55-120	zc	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	
15	0-28	mzcl	10YR53 00	75YR56 00	C			S	0	0		0						
	28-40	mzcl	10YR54 00	75YR56 00	F			S	0	0		0		M				
	40-60	mcl	10YR64 00	10YR68 00	C			Y	0	0		0		M				
	60-120	c	10YR64 63	10YR68 72	M			Y	0	0		0		P			Y	
16	0-30	mzcl	10YR54 00	75YR56 00	C			S	0	0		0						
	30-65	mcl	25Y 63 73	10YR66 00	C			Y	0	0		0		M				
	65-120	c	10YR64 00	10YR68 72	M			Y	0	0		0		P			Y	
17	0-28	mzcl	75YR44 00						0	0		0						
	28-50	mzcl	10YR56 00						0	0		0		M				
	50-70	hcl	10YR65 00	75YR68 00	C			S	0	0		0		M				
	70-120	hcl	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	
18	0-30	mzcl	10YR44 00	75YR56 00	C			S	0	0		0						
	30-55	hcl	10YR64 73	75YR68 00	M			Y	0	0		0		P			Y	
	55-120	hcl	10YR64 00	75YR68 72	M			Y	0	0		0		P			Y	