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BASINGSTOKE AND DEANE LOCAL PLAN  
SITE 18 : LAND EAST OF ST JOHN'S ROAD,  
OAKLEY  
AGRICULTURAL LAND CLASSIFICATION  
ALC MAP & REPORT  
DECEMBER 1993

**BASINGSTOKE AND DEANE LOCAL PLAN  
SITE 18 : LAND EAST OF ST JOHN'S ROAD, OAKLEY  
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 an area of land at Oakley, Hampshire. The work forms part of MAFF's statutory input to the Basingstoke and Deane Local Plan.

1.2 Approximately 19 hectares of land was surveyed in December 1993. The survey was undertaken at a detailed level of approximately one boring per hectare. A total of 16 soil auger borings and 2 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 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 had been recently ploughed.

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 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	11.6	60.8	73.0
3a	4.3	22.5	27.0
Non-Agricultural	0.5	2.6	100 (15.9 ha)
Urban	0.1	0.5	
Woodland	2.6	13.6	
Total area of site	19.1	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 Land on the site has been classified as Grade 2 and Subgrade 3a, with soil workability being the key limitation. Grade 2 land is limited by slight soil workability, arising from the interaction of medium clay loam topsoils and the relatively wet local climatic regime. In the south and north-east parts of the site, topsoils comprise heavy clay loams. This land is downgraded to Subgrade 3a because of moderate soil workability. Soil workability imposes restrictions on cultivations, trafficking by machinery and grazing by livestock.

**2.0 Climate**

2.1 The climatic criteria are considered first when classifying land since 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 Estimates of climatic variables relevant to the assessment of land quality were obtained by

interpolation from a 5 km grid point database, (Met Office, 1989) for a representative location in the survey area.

Table 2 : Climatic Interpolation

Grid Reference :	SU 583 504
Altitude (m) :	122
Accumulated Temperature: (degree days, Jan-June)	1397
Average Annual Rainfall (mm) :	821
Field Capacity (days) :	178
Moisture Deficit, Wheat (mm) :	95
Moisture Deficit, Potatoes (mm) :	83

2.3 The main parameters used in the assessment of an overall climatic limitation are, average annual rainfall, a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality. In this instance, climate does not represent an overall limitation to agricultural land quality. In addition, no local climatic factors such as exposure or frost risk are significant.

2.4 However, there is an interaction between the relatively high (in a regional context) field capacity level and soil factors which influences soil workability.

### **3.0 Relief**

3.1 The majority of the site slightly undulates and lies at approximately 122m AOD. Along the northern boundary the land gently dips to approximately 115m AOD. Nowhere on the site does relief or gradient impose any restriction on agricultural land quality.

### **4.0 Geology and Soil**

4.1 British Geological Survey, Sheet 284, Basingstoke (1981) shows most of the site to be underlain by Upper Chalk. An area along the northern boundary and an area in the north-east of the site are shown to be underlain by Clay-with-flints deposits.

4.2 The published soils information for this site, as shown on the Soil Survey map of South East England (SSEW, 1983, 1:250,000) shows two soil types. The majority of the site is shown as the Andover 1 Association. These soils are described as being 'shallow well drained calcareous silty soils over chalk on slopes and crests. Deep calcareous and non-calcareous fine silty soils in valley bottoms, striped soil patterns locally' (SSEW, 1983). Along the northern boundary of the site, soils are shown to comprise the Coombe 1 Association. These soils are described as 'well drained calcareous fine silty soils, deep in valley bottoms, shallow to chalk on valley sides in places' (SSEW, 1983).

4.3 Detailed field examination generally found deep clay loam and clay profiles, occasionally over chalk.

## 5.0 Agricultural Land Classification

5.1 Table 1 provides details of the area and extent of each grade. The distribution of ALC grades is shown on the attached ALC map.

5.2 The location of the soil observation points are shown on the attached auger boring map.

### Grade 2

5.3 Agricultural land of very good quality, Grade 2, has been assigned across most of the site. The key limitation is soil workability. Topsoils comprise stoneless or very slightly stony (0-5% total flints by volume) medium clay loams and, occasionally, medium silty clay loams. These are underlain by heavy clay loam or clay upper subsoils to a depth of approximately 45-50cm. These upper subsoils range from being stoneless to slightly stony (0-10% total flints by volume). Lower subsoils generally comprise clay which extends to depth, though lighter textures are also present. Lower subsoils tend to be very slightly stony (2-5% total flints by volume), though profiles with moderately stony (20% total flints by volume) lower subsoils were observed along the northern boundary. Pit 2, dug within this mapping unit, typifies most profiles. Within this pit there was no evidence of impeded drainage, (Wetness Class I is thereby assigned), nor of restricted rooting. However, the combination of the medium clay loam topsoils and the relatively wet local climatic regime (as shown by the high field capacity days and annual average rainfall associated with the site) means that the soil may be prone to workability restrictions. This is a factor in determining the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock. Thus this land is classed as Grade 2 to reflect this slight soil workability limitation.

### Subgrade 3a

5.4 Land of good agricultural quality has been mapped in the north-east and south-west corners of the site. This land is also restricted by soil workability. Topsoils comprise very slightly stony (2% total flints by volume) heavy clay loams and heavy silty clay loams. In the south-west corner, these are underlain by stoneless clay upper subsoils which pass into chalk at approximately 55cm. Subsoils in the north-east corner comprise clay loams and clays but chalk was not encountered. The pit dug within this mapping unit, Pit 1, was over chalk. Within this profile there was no evidence of impeded drainage and Wetness Class I is thereby assigned. Roots were observed to 86cm, at which depth the chalk became more compact. Due to the low soil moisture deficits at this locality soil droughtiness is not a problem. However, the combination of the heavy clay loam topsoils and the relatively wet local climatic regime (as shown by the high field capacity days and annual average rainfall associated with the site) means that the soil may be prone to workability restrictions. This is a factor in determining the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock. This land is classed as Subgrade 3a as a result and may be more prone to structural damage than the Grade 2 land due to the heavier topsoil textures.

## 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 (1981), Sheet No. 284, Basingstoke, 1:50,000.
- \* 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 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. **GLEY/SPL** : 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 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    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 : BASINGSTOKELP (2) SITE18 Pit Number : 1P

Grid Reference: SU58305030 Average Annual Rainfall : 821 mm  
Accumulated Temperature : 1397 degree days  
Field Capacity Level : 178 days  
Land Use : Bare Soil  
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 28	HCL	10YR43 00	0	2		
28- 57	C	05Y 46 00	0	0		MDMSAB
57- 86	CH	10YR71 00	0	0		

Wetness Grade : 3A Wetness Class : I  
Gleying : cm  
SPL : No SPL

Drought Grade : 1 APW : 126mm MBW : 31 mm  
APP : 123mm MBP : 40 mm

FINAL ALC GRADE : 3A  
MAIN LIMITATION : Workability

SOIL PIT DESCRIPTION

Site Name : BASINGSTOKELP (2) SITE18 Pit Number : 2P

Grid Reference: SU58375054 Average Annual Rainfall : 821 mm  
Accumulated Temperature : 1397 degree days  
Field Capacity Level : 178 days  
Land Use : Bare Soil  
Slope and Aspect : 01 degrees E

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 26	MCL	10YR43 00	0	2		
26- 70	C	75YR58 00	0	2	C	MDMSAB
70-120	C	75YR46 00	0	5	C	

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

Drought Grade : 1 APW : 196mm MBW : 101 mm  
APP : 137mm MBP : 54 mm

FINAL ALC GRADE : 2  
MAIN LIMITATION : Workability

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	
1P	SU58305030	PLO			1	3A	126	31	123	40	1			WK 3A	CHALK AT 57
2P	SU58375054	PLO	E	01	1	2	196	101	137	54	1			WK 2	
4	SU58205060	PLO			1	2	134	39	112	29	1			WK 2	
5	SU58305060	PLO			1	2	141	46	117	34	1			WK 2	
6	SU58405060	PLO			1	2	103	8	108	25	2			WK 2	
7	SU58505060	PLO			1	2	95	0	105	22	3A			WK 2	IMPEN 70
8	SU58605060	PLO			1	3A	149	54	111	28	1			WK 3A	
9	SU58705060	PLO			1	3A	98	3	114	31	3A			WK 3A	
10	SU58205050	PLO			1	2	114	19	113	30	2			WK 2	
11	SU58305050	PLO	E	01	1	2	140	45	116	33	1			WK 2	
12	SU58405050	PLO	E	01	1	2	139	44	116	33	1			WK 2	
13	SU58505050	PLO	E	01	1	2	91	-4	99	16	3A			WK 2	IMPEN 60
14	SU58605050	PLO			1	2	140	45	112	29	1			WK 2	
15	SU58205040	PLO			1	2	136	41	114	31	1			WK 2	
16	SU58305040	PLO			1	3A	89	-6	95	12	3A			WK 3A	ROOTS AT 70
17	SU58405040	PLO	E	01	1	2	99	4	114	31	3A			WK 2	IMPEN 70
18	SU58205030	PLO			1	3A	138	43	119	36	1			WK 3A	CHALK AT 70
19	SU58305030	PLO			1	3A	136	41	109	26	1			WK 3A	CHALK AT 55

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES-----				STRUCT/ CONSIST	SUBS			
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT		STR	POR	IMP	SPL
1P	0-28	hc1	10YR43 00						0	0	HR	2					
	28-57	c	05Y 46 00						0	0		0	MDMSAB	FM	G	Y	
	57-86	ch	10YR71 00						0	0		0			M		
2P	0-26	mc1	10YR43 00						0	0	HR	2					
	26-70	c	75YR58 00	00MN00	00	C			0	0	HR	2	MDMSAB	FM	G	Y	
	70-120	c	75YR46 00	00MN00	00	C			0	0	HR	5			G		
4	0-25	mc1	10YR42 00						0	0		0					
	25-50	hc1	10YR54 00						0	0	HR	5			M		
	50-120	c	75YR56 00						0	0	HR	10			M		
5	0-30	mc1	10YR42 00						0	0	HR	2					
	30-45	hc1	10YR54 00						0	0		0			M		
	45-70	c	10YR53 00	10YR58	00	C			0	0		0			M		
	70-120	c	10YR53 00	10YR58	00	M			0	0		0			M	Y	
6	0-20	mc1	10YR43 00						0	0	HR	5					
	20-45	mc1	75YR44 00						0	0	HR	5			M		
	45-65	hc1	75YR54 00						0	0	HR	10			M		
	65-80	c	75YR43 00	75YR68	00	C			0	0	HR	20			M	Y	
7	0-25	mc1	10YR42 00						0	0	HR	5					
	25-45	hc1	75YR54 00						0	0	HR	8			M		
	45-70	hc1	75YR54 00						0	0	HR	20			M		
8	0-25	hc1	10YR42 00						0	0	HR	5					
	25-50	hc1	75YR44 00						0	0	HR	10			M		
	50-120	mc1	75YR54 00						0	0		0			M		
9	0-20	hc1	10YR42 00						0	0	HR	5					
	20-70	c	10YR42 54	10YR58	61	C			0	0		0			M	Y	
10	0-25	mzc1	10YR43 00						0	0	HR	2					
	25-50	hzc1	75YR46 00	00MN00	00	F			0	0	HR	8			M		
	50-80	c	75YR46 00	00MN00	00	C			0	0	HR	15			M		
	80-90	c	75YR46 00						0	0	CH	25			M		
11	0-29	mc1	10YR43 00						0	0	HR	1					
	29-120	c	75YR56 00	00MN00	00	C			0	0	HR	2			M		
12	0-28	mc1	10YR43 00						0	0	HR	1					
	28-120	c	75YR56 46	00MN00	00	C			0	0	HR	2			M		
13	0-27	mc1	10YR43 00						0	0	HR	2					
	27-45	hc1	75YR46 00						0	0	HR	5			M		
	45-60	c	75YR56 00	00MN00	00	C			0	0	HR	2			M		

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	----STONES----			STRUCT/ CONSIST	SUBS						
				COL	ABUN	CONT		COL.	GLE	>2		>6	LITH	TOT	STR	POR	IMP	SPL
14	0-27	mc1	10YR43 00					0	0	HR	5							
	27-80	hc1	75YR46 00	00MNO0	00	F		0	0	HR	5			M				
	80-120	c	75YR56 00	00MNO0	00	F		0	0	HR	5			M				
15	0-25	mzc1	10YR43 00					0	0	HR	2							
	25-40	hzc1	75YR56 00					0	0	HR	5			M				
	40-120	c	75YR46 00	00MNO0	00	C		0	0	HR	10			M				
16	0-30	hc1	10YR44 00					0	0	HR	2							
	30-35	c	75YR46 00					0	0	CH	60			M				Y
	35-70	c	75YR46 00					0	0	CH	95			M				Y
17	0-28	mc1	10YR43 00					0	0	HR	2							
	28-45	hc1	10YR44 54					0	0	HR	2			M				
	45-70	c	10YR54 00	00MNO0	00	F		0	0	HR	5			M				
18	0-25	hzc1	75YR43 00					0	0	HR	2							
	25-50	c	75YR46 00	00MNO0	00	F		0	0		0			M				
	50-70	c	75YR46 00	00MNO0	00	C		0	0		0			M				Y
	70-120	ch	10YR81 00					0	0		0			M				
19	0-25	hzc1	75YR43 00					0	0	HR	2							
	25-55	c	75YR46 00	00MNO0	00	M		0	0	HR	1			M				Y
	55-120	ch	10YR81 00					0	0		0			M				