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**Maidstone Borough Local Plan  
Site 54 Land at Church Farm, Marden  
Agricultural Land Classification  
ALC Map and Report  
September 1994**

# AGRICULTURAL LAND CLASSIFICATION REPORT

## MAIDSTONE BOROUGH LOCAL PLAN SITE 54 LAND AT CHURCH FARM, MARDEN

### 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 Maidstone Borough of Kent. The work forms part of MAFF's statutory input to the Maidstone Borough Local Plan.
- 1.2 Site 54 comprises 30.4 hectares of land to the north of Marden in Kent. An Agricultural Land Classification (ALC) survey was carried out during August 1994. The survey was undertaken at a detailed level with a total of 32 borings and two soil inspection pits being 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. The work was undertaken by members of the Resource Planning Team in the Guildford Statutory Group of ADAS.
- 1.3 At the time of survey the agricultural land was under a mixture of uses including arable, orchard and grass which was being prepared for turf stripping. The non agricultural land mapped includes unmetalled tracks and an area of banking around a new irrigation pond. There is also a smaller older pond to the north these are shown as open water. The area mapped as urban includes metalled tracks and a dwelling with associated garden. The agricultural buildings include assorted covered machinery and crop storage areas.
- 1.4 The distribution of grades and subgrades is shown on the attached ALC map and the areas are given in Table 1 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 ALC survey information for this site.

**Table 1 Distribution of Grades and Subgrades**

Grade	Area (ha)	% of Site	% of Agricultural Land
2	7.2	23.7	24.8
3a	17.6	57.9	60.7
3b	4.2	13.8	14.5
Open Water	0.3	1.0	<u>100%</u> (29.0ha)
Non- Agricultural	0.5	1.6	
Urban	0.3	1.0	
Agricultural Buildings	0.3	1.0	
Total area of site	<u>30.4ha</u>	<u>100%</u>	

1 5 The agricultural land at this site has been classified very good (Grade 2) to moderate quality (Subgrade 3b) with a substantial proportion of good quality (Subgrade 3a) Principal limitations include soil wetness and soil droughtiness The majority of the site is affected by soil wetness This is due to the presence of poorly structured slowly permeable clay horizons at various depths in the profile leading to slight moderate and severe soil wetness restrictions resulting in effects on the number of days when stocking and/or cultivations are possible without causing structural damage to the soil Soil wetness also affects crop growth and development Within the area of very good quality some land is limited by soil droughtiness due to the presence of hard stones within the profile These restrict the available water capacity of the soil such that there is a slight risk of drought stress affecting plant growth and yield

## 2 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 average annual 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 are believed to affect the site However climatic and soil factors interact to influence soil wetness and droughtiness limitations

**Table 2 Climatic Interpolations**

Grid Reference	TQ747453	TQ747449
Altitude (m AOD)	20	25
Accumulated Temperature (°days Jan June)	1489	1483
Average Annual Rainfall (mm)	657	660
Field Capacity Days	135	136
Moisture deficit wheat (mm)	126	125
Moisture deficit potatoes (mm)	123	122
Overall Climatic Grade	1	1

## 3 Relief

3 1 The site lies between 20 and 25m AOD The site is overall relatively flat sloping very slightly from south east to north west Nowhere on the site does relief or gradient affect agricultural land quality

#### **4 Geology and Soils**

4 1 The published geological information (BGS 1976) shows the majority of the site to be underlain by Cretaceous Weald Clay describing it as clay and silty clay with minor beds of sand and limestone (BGS 1976) The remaining area, in the south east of the site is underlain by Second Terrace River Gravels as a drift deposit

4 2 The published soils information (SSEW 1980 1983 and 1984) shows the site to be underlain by soils of the Wickham 1 Association They are described as slowly permeable seasonally waterlogged fine silty over clayey fine loamy over clayey and clayey soils (SSEW 1983) Soils on the site were typically found to comprise fine loamy topsoils and upper subsoils which overlie slowly permeable clay at various depths in the profile

#### **5 Agricultural Land Classification**

5 1 Paragraph 1 4 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 Land of very good quality has been mapped towards the north and centre of the site The principal limitation is soil wetness although soil droughtiness is equally limiting in a number of cases Soil profiles are typified by 1p (see Appendix III) and comprise a stoneless medium clay loam or fine sandy silt loam topsoil which passes to a gleyed stoneless medium silty clay loam medium or heavy clay loam upper subsoil This overlies a similar though more mottled horizon before passing to gleyed and slowly permeable poorly structured clay between 66 and 85cm Within local climatic parameters the depth to the gleyed and slowly permeable horizons taken as evidence of drainage imperfections leads to Wetness Class II (see Appendix II) being applied This in combination with the medium workability status of the topsoils leads to Grade 2 being appropriate Consequently there is a light restriction on the number of days when cultivations and/or stocking may occur without causing structural damage to the soil The moisture retentive nature of these soils also leads to Grade 2 being applied on the basis of a slight soil droughtiness limitation when local climatic factors are taken into account This leads to the possibility of plant growth and yield being affected by plants suffering minor drought stress

##### **Subgrade 3a**

5 4 Land of good quality is shown over the majority of the site Principal limitations include soil wetness and soil droughtiness Where soil wetness is limiting profiles typically comprise a stoneless occasionally gleyed medium silty clay loam or medium clay loam topsoil over a stoneless gleyed heavy silty clay loam or heavy clay loam upper subsoil This passes to stoneless gleyed and slowly permeable

poorly structured (see 2p Appendix III) clay between 40 and 60cm. Within the prevailing local climate the drainage impedance that the clay causes is sufficient to restrict this land to Wetness Class III and subsequently Subgrade 3a when the medium workability status of the topsoils is taken into account. This causes moderate restriction on the timings of cultivations and stocking if structural damage to the soil is to be avoided. The small area of land in this subgrade restricted by soil droughtiness occurs where gleyed stoneless medium clay loam topsoils overlie similar subsoils becoming impenetrable to the soil auger around 55cm due to a stony horizon beneath those recorded. The stones in the profile cause available water to be restricted such that within the local climatic parameters there is a moderate risk of drought stress affecting plant growth and yield.

### **Subgrade 3b**

- 5.5 Land of moderate quality is shown towards the west of the site. The principal limitation is soil wetness due to shallow poorly structured clays impeding soil drainage. Profiles typically comprise stoneless medium and heavy clay loam topsoils over gleyed heavy clay loam or clay upper subsoils. These pass to gleyed and slowly permeable clay similar to that found at 2p (see Appendix III) except at shallower depths i.e. 28-40cm. A slowly permeable horizon at these depths when considered within the local climatic parameters leads to Wetness Class IV being appropriate (see Appendix II) on the basis of severely impeded drainage when the medium workability status of the topsoils are taken into account. The poor drainage status of this area of the site means that there is a severe risk of cultivations and/or stocking damaging the structure of the soil if carried out during wet periods. Excessive soil wetness will also affect crop growth and development.

ADAS Ref 2007/184/94  
MAFF Ref EL20/328

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

## **SOURCES OF REFERENCE**

British Geological Survey (1976) Sheet 288 Maidstone 1 50 000 Solid & 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) Climatic datasets for Agricultural Land Classification

Soil Survey of England and Wales (1980) Soils of Kent Bulletin No 15 Map scale 1 250 000

Soil Survey of England and Wales (1983) Sheet No 6 Soils of South-East England 1 250 000 and Accompanying Legend

Soil Survey of England and Wales (1984) Soils and their use in South East England Bulletin No 15

## 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 (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.

**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 (e.g. 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 e.g. 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

### DEFINITION OF SOIL WETNESS CLASS

#### Wetness Class I

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

#### Wetness Class 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 180 days but only wet within 40 cm depth for 31-90 days in most years

#### Wetness Class 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

#### Wetness Class 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

#### Wetness Class V

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

#### Wetness Class VI

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

## **APPENDIX III**

### **SOIL PIT AND SOIL BORING DESCRIPTIONS**

#### **Contents**

**Sample Point Map**

**Soil Abbreviations - explanatory note**

**Database Printout - soil pit information**

**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:

<b>ARA</b> Arable	<b>WHT</b> Wheat	<b>BAR</b> Barley
<b>CER</b> Cereals	<b>OAT</b> Oats	<b>MZE</b> Maize
<b>OSR</b> Oilseed rape	<b>BEN</b> Field Beans	<b>BRA</b> Brassicae
<b>POT</b> Potatoes	<b>SBT</b> Sugar Beet	<b>FCD</b> Fodder Crops
<b>LIN</b> Linseed	<b>FRT</b> Soft and Top Fruit	<b>FLW</b> Fallow
<b>PGR</b> Permanent Pasture	<b>LEY</b> Ley Grass	<b>RGR</b> Rough Grazing
<b>SCR</b> Scrub	<b>CFW</b> Coniferous Woodland	<b>DCW</b> Deciduous Wood
<b>HTH</b> Heathland	<b>BOG</b> Bog or Marsh	<b>FLW</b> Fallow
<b>PLO</b> Ploughed	<b>SAS</b> Set aside	<b>OTH</b> Other
<b>HRT</b> Horticultural Crops		
- 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:

<b>MREL</b> Microrelief limitation	<b>FLOOD</b> Flood risk	<b>EROSN</b> Soil erosion risk
<b>EXP</b> Exposure limitation	<b>FROST</b> Frost	<b>DIST</b> Disturbed land
<b>CHEM</b> Chemical limitation		
- 9 **LIMIT** The main limitation to land quality. The following abbreviations are used:

<b>OC</b> Overall Climate	<b>AE</b> Aspect	<b>EX</b> Exposure	
<b>FR</b> Frost Risk	<b>GR</b> Gradient	<b>MR</b> Microrelief	
<b>FL</b> Flood Risk	<b>TX</b> Topsoil Texture	<b>DP</b> Soil Depth	<b>ST</b> Topsoil Stones
<b>CH</b> Chemical	<b>WE</b> Wetness	<b>WK</b> Workability	
<b>DR</b> Drought	<b>ER</b> Erosion Risk	<b>WD</b> Soil Wetness/Droughtiness	

## Soil Pits and Auger Borings

- 1 **TEXTURE** soil texture classes are denoted by the following abbreviations

<b>S</b> Sand	<b>LS</b> Loamy Sand	<b>SL</b> Sandy Loam
<b>SZL</b> Sandy Silt Loam	<b>CL</b> Clay Loam	
<b>ZCL</b> Silty Clay Loam	<b>SCL</b> Sandy Clay Loam	
<b>C</b> Clay	<b>SC</b> Sandy Clay	<b>ZC</b> Silty Clay
<b>OL</b> Organic Loam	<b>P</b> Peat	<b>SP</b> Sandy Peat
<b>LP</b> Loamy Peat	<b>PL</b> Peaty Loam	<b>PS</b> Peaty Sand
<b>MZ</b> 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

<b>HR</b> all hard rocks and stones	<b>SLST</b> soft oolitic or dolimitic limestone
<b>CH</b> chalk	<b>FSST</b> soft fine grained sandstone
<b>ZR</b> soft argillaceous or silty rocks	<b>GH</b> gravel with non porous (hard) stones
<b>MSST</b> soft medium grained sandstone	<b>GH</b> gravel with non porous (hard) stones
<b>SI</b> soft weathered igneous/metamorphic rock	

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 MAIDSTONE LP SITE 54 Pit Number 1P

Grid Reference TQ74704520 Average Annual Rainfall 657 mm  
 Accumulated Temperature 1489 degree days  
 Field Capacity Level 135 days  
 Land Use Arable  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 27	MCL	10YR42 00	0	0						
27- 53	HCL	10YR53 00	0	0		C	MDCSAB	FM	M	
53- 66	HCL	10YR53 00	0	0		M	MDCSAB	FM	M	
66-120	C	05B 71 00	0	0		M	WKCSAB	FM	P	

Wetness Grade 2 Wetness Class II  
 Gleying 27 cm  
 SPL 66 cm

Drought Grade 2 APW 139mm MBW 13 mm  
 APP 116mm MBP -7 mm

FINAL ALC GRADE 2

MAIN LIMITATION Soil Wetness/Droughtiness

SOIL PIT DESCRIPTION

Site Name MAIDSTONE LP SITE 54 Pit Number 2P

Grid Reference TQ74404490 Average Annual Rainfall 657 mm  
 Accumulated Temperature 1489 degree days  
 Field Capacity Level 135 days  
 Land Use  
 Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 25	MZCL	10YR52 42	0	2	HR	C				
25- 40	HZCL	10YR53 00	0	0		C	MDCSAB	FM	M	
40- 70	C	05Y 62 00	0	0		M	MDCAB	VM	P	

Wetness Grade 3A Wetness Class III  
 Gleying 0 cm  
 SPL 40 cm

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

FINAL ALC GRADE 3A  
 MAIN LIMITATION Wetness

SAMPLE NO	GRID REF	ASPECT USE	- WETNESS--		-WHEAT-		-POTS		M REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS	
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP						MB
1	TQ74604540	PGR	30	75	2	2	157	31	121	2	2			WD	2	SPL 75 1P
1P	TQ74704520	ARA	27	66	2	2	139	13	116	7	2			WD	2	PIT 90 AUG 120
2	TQ74704540	ARA	33	45	3	3A		0		0				WE	3A	SPL 45 2P
2P	TQ74404490	ORC	0	40	3	3A		0		0				WE	3A	SPL 40 PIT 70
3	TQ74804540	ARA	35	35	4	3B		0		0				WE	3B	SPL 35 2P
4	TQ74904540	ARA	28	85	2	2	145	19	118	-5	2			WD	2	1P
5	TQ74304530	ORC	32	32	4	3B		0		0				WE	3B	SPL 32 2P
6	TQ74404530	ORC	30	50	3	3A		0		0				WE	3A	SL GLEY 22 1P
7	TQ74504530	ORC	30		2	2	155	29	117	-6	2			WD	2	SEE 1P
8	TQ74604530	PGR	30	75	2	1	167	41	128	5	2			DR	2	SPL 75 1P
9	TQ74704530	ARA	27	45	3	3A		0		0				WE	3A	SPL 45 2P
10	TQ74804530	ARA	30	40	3	3A		0		0				WE	3A	SPL 40 2P
11	TQ74904530	ARA	23		2	2	106	-20	120	3	3A			WD	2	IMP 70 DRY
12	TQ74304520	ORC	27	36	4	3B		0		0				WE	3B	SPL 36 2P/1P
13	TQ74404520	ORC	27	40	3	3A		0		0				WE	3A	SPL 40 1P
14	TQ74504520	ORC	0		2	2	091	-35	094	-29	3B			DR	3A	IMPST 56
15	TQ74604520	PGR	32		2	1	176	50	140	17	1					1
16	TQ74704520	ARA	30	55	3	3A		0		0				WE	3A	SPL 55 1P
17	TQ74804521	ARA	30	55	3	3A		0		0				WE	3A	SPL 30 1P/2P
18	TQ74304510	PGR	0	28	4	3B		0		0				WE	3B	SPL 28 1P/2P
19	TQ74404510	PGR	0	30	4	3B		0		0				WE	3B	SPL 30 2P
20	TQ74504510	PGR			1	1		0		0				DR	3A	IMP 30 DRY
21	TQ74604510	PGR	30		2	2	193	67	130	7	2			WD	2	
22	TQ74704510	ORC	0		2	2	139	13	123	0	2			WD	2	
23	TQ74804510	ORC	25	50	3	3A		0		0				WE	3A	SPL 50 2P/1P
24	TQ74404500	PGR	0	29	4	3B		0		0				WE	3B	SPL 29 2P
25	TQ74504500	PGR	0	60	3	3A		0		0				WE	3A	SPL 60 1P
26	TQ74604500	ORC	0	21	4	3B		0		0				WE	3B	SPL 21 2P
27	TQ74404490	ORC	0	41	3	3A		0		0				WE	3A	SPL 41 2P
28	TQ74504490	ORC	0	40	3	3A		0		0				WE	3A	SPL 40 2P
29	TQ74604490	ARA	26		2	2	159	33	123	0	2			WD	2	
30	TQ74704490	ORC	0	46	3	3A		0		0				WE	3A	SPL 46 2P
31	TQ74404480	ORC	0	45	3	3A		0		0				WE	3A	SPL 45 2P
32	TQ74504480	ORC	0		2	2	132	6	134	11	2			WD	2	IMP 80

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED COL	----STONES----			STRUCT/ CONSIST	SUBS			SPL	CALC
				COL	ABUN	CONT		GLE	>2	>6		LITH	TOT	STR		
1	0-30	mc1	10YR43 00 10YR58 00 F					0	0	0						
	30-40	mc1	10YR53 00 10YR68 00 C					Y	0	0		M				
	40-65	mzc1	05Y 82 00 10YR78 00 M					Y	0	0		M				
	65-75	mc1	25Y 53 72 75YR68 00 M					Y	0	0		M				
	75-120	zc	05G 71 00 75YR68 00 M					Y	0	0		M			Y	
1P	0-27	mc1	10YR42 00						0	0						
	27-53	hc1	10YR53 00 10YR56 00 C					Y	0	0		MDCSAB	FM	M	Y	
	53-66	hc1	10YR53 00 10YR56 51 M					Y	0	0		MDCSAB	FM	M	Y	
	66-120	c	05B 71 00 10YR66 56 M					Y	0	0		WKCSAB	FM	P	Y	Y
2	0-33	mc1	10YR43 53 10YR58 00 F						0	0						
	33-45	hc1	25Y 53 72 75YR68 00 C				00MN00	00	Y	0	0	HR	3		M	
	45-80	c	05GY71 00 75YR68 00 M					Y	0	0				P		Y
2P	0-25	mzc1	10YR52 42 10YR58 61 C					Y	0	0	HR	2				
	25-40	hzc1	10YR53 00 10YR58 61 C				00MN00	00	Y	0	0		MDCSAB	FM	M	
	40-70	c	05Y 62 00 10YR78 00 M					Y	0	0		MDCAB	VM	P	Y	Y
3	0-35	mc1	10YR43 00						0	0						
	35-80	zc	05Y 71 00 75YR68 00 M					Y	0	0				P		Y
4	0-28	mc1	10YR43 00						0	0						
	28-50	mc1	10YR53 00 10YR58 00 M				00MN00	00	Y	0	0			M		
	50-75	mc1	10YR53 00 00MN00 58 M					Y	0	0				M		
	75-85	mc1	10YR53 00 00MN00 58 M					Y	0	0	HR	2		M		
	85-120	c	10YR72 00 75YR56 00 M					Y	0	0				P		Y
5	0-22	mc1	10YR43 00						0	0						
	22-32	hc1	10YR53 00 10YR56 00 F						0	0				M		
	32-47	c	10YR53 64 10YR56 00 C				00MN00	00	Y	0	0			P		Y
	47-65	c	10YR72 00 75YR56 00 M					Y	0	0				P		Y
6	0-22	mc1	10YR43 00 10YR52 00 F						0	0						
	22-30	mc1	10YR43 00 75YR46 52 C					S	0	0				M		
	30-39	mc1	10YR64 00 10YR56 00 C					Y	0	0				M		
	39-50	mc1	10YR64 72 10YR56 00 C					Y	0	0				M		
	50-75	hc1	10YR72 00 10YR56 58 M					Y	0	0				P		Y
	75-90	c	25Y 72 00 75YR56 00 C					Y	0	0				P		Y
7	0-30	mc1	10YR43 44						0	0	HR	1				
	30-38	hc1	10YR53 00 00MN00 00 M				10YR56	00	Y	0	0			M		
	38-70	mc1	10YR63 72 75YR56 00 M					Y	0	0				M		
	70-120	mc1	10YR72 00 75YR56 00 M					Y	0	0				M		
8	0-30	fsz1	10YR44 54 10YR58 00 F						0	0						
	30-55	ms1	25Y 53 00 75YR58 00 M				00MN00	00	Y	0	0			M		
	55-75	mc1	25Y 63 72 75YR68 00 M					Y	0	0				M		
	75-120	zc	05G 61 00 75YR68 00 M					Y	0	0				M		Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES---			PED		-- STONES----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
9	0-27	mc1	10YR43 53						0	0	HR	2					
	27-45	hc1	10YR53 00 00MN00 00 M				10YR68 00	Y	0	0		0	M				
	45-80	c	25Y 53 62 75YR68 00 M					Y	0	0		0	P			Y	
10	0-30	mc1	25Y 43 00						0	0		0					
	30-40	c	25Y 53 72 75YR58 00 C				00MN00 00	Y	0	0		0	M				
	40-80	c	10YR63 00 75YR68 00 M				05Y 71 00	Y	0	0		0	P			Y	
11	0-23	mc1	10YR43 00						0	0		0					
	23-35	mc1	10YR52 00 10YR58 00 C					Y	0	0		0	M				
	35-70	hzc1	10YR71 00 75YR56 00 M					Y	0	0		0	M				
12	0-27	mc1	10YR43 00						0	0		0					
	27-36	mc1	10YR62 53 75YR46 00 C				00MN00 00	Y	0	0		0	M				
	36-67	c	10YR62 53 00MN00 00 M				10YR58 00	Y	0	0		0	M			Y	
	67-90	c	05Y 71 00 75YR58 00 M					Y	0	0		0	P			Y	
13	0-27	mc1	10YR43 00						0	0		0					
	27-40	hc1	10YR64 00 75YR46 62 M					Y	0	0		0	M				
	40-60	c	05Y 72 00 10YR58 00 M					Y	0	0		0	P			Y	
14	0-24	mc1	10YR53 00 10YR56 00 C				00MN00 00	Y	0	0		0					
	24-45	hc1	10YR63 53 10YR72 56 C				00MN00 00	Y	0	0		0	M				
	45-56	hc1	10YR63 73 00MN00 00 M				10YR56 00	Y	0	0		0	M				
15	0-32	fsz1	10YR44 54						0	0		0					
	32-45	fsz1	10YR53 62 75YR68 00 M				00MN00 00	Y	0	0		0	M				
	45-55	mzc1	05Y 71 81 10YR68 78 M				00MN00 00	Y	0	0		0	M				
	55-75	mzc1	05Y 71 73 10YR68 78 M				00MN00 00	Y	0	0		0	M				
	75-120	hzc1	05Y 71 00 75YR68 00 M					Y	0	0		0	M				
16	0-30	mc1	10YR42 43						0	0		0					
	30-55	mc1	25Y 53 54 10YR68 00 C				00MN00 00	Y	0	0		0	M				
	55-80	c	25Y 53 62 00MN00 00 M				75YR58 00	Y	0	0		0	P			Y	
	80-120	c	05GY71 00 75YR68 00 M					Y	0	0		0	P			Y	
17	0-30	mc1	10YR53 43 10YR46 00 F						0	0		0					
	30-55	c	25Y 63 73 10YR68 00 C				00MN00 00	Y	0	0		0	M				
	55-90	c	05G 71 00 75YR68 00 M					Y	0	0		0	P			Y	
18	0-28	mc1	10YR53 00 75YR46 00 M				00MN00 00	Y	0	0		0					
	28-60	c	10YR72 00 10YR58 00 M					Y	0	0		0	P			Y	
19	0-30	mc1	10YR53 00 10YR56 00 C				00MN00 00	Y	0	0		0					
	30-60	c	10YR64 72 10YR58 00 M					Y	0	0		0	P			Y	
20	0-26	mzc1	10YR43 00 10YR56 00 F						0	0	HR	1					
	26-30	mzc1	10YR54 00						0	0	HR	2	M				

SAMPLE	DEPTH	TEXTURE	COLOUR	-- MOTTLES-----			PED		----STONES -			STRUCT/ CONSIST	SUBS			CALC
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH		TOT	STR	POR	
21	0-30	mzc1	10YR44 54						0	0	0					
	30-45	mzc1	10YR53 54 10YR58 00 C					Y	0	0	0		M			
	45-55	mc1	25Y 73 00 10YR68 00 C				00MN00	00	Y	0	0	0		M		
	55-120	fsz1	25Y 71 00 75YR68 00 M					Y	0	0	0		M			
22	0-27	mzc1	10YR52 00 10YR58 00 C					Y	0	0	HR	2				
	27-70	mzc1	10YR52 62 10YR58 61 C					Y	0	0		0		M		
	70-100	hzc1	10YR63 00 10YR58 00 C				00MN00	00	Y	0	0	0		M		
23	0-25	mzc1	10YR52 00						0	0	HR	2				
	25-50	hzc1	10YR52 72 10YR58 00 C				00MN00	00	Y	0	0	0		M		
	50-60	c	10YR63 00 10YR78 00 M				00MN00	00	Y	0	0	0		M		Y
	60-80	c	05Y 62 00 10YR78 00 M				00MN00	00	Y	0	0	0		P		Y
24	0-29	mzc1	10YR52 00 10YR58 00 C					Y	0	0	HR	2				
	29-50	c	10YR62 63 10YR58 71 M					Y	0	0		0		P		Y
	50-70	c	05Y 62 00 10YR78 00 M				00MN00	00	Y	0	0	0		P		Y
25	0-26	mzc1	10YR52 00 10YR58 00 C					Y	0	0		0				
	26-43	hzc1	10YR52 63 10YR58 00 C				00MN00	00	Y	0	0	0		M		
	43 60	hzc1	10YR62 00 10YR58 61 C				00MN00	00	Y	0	0	0		M		
	60 80	c	10YR63 00 10YR58 61 M				00MN00	00	Y	0	0	0		P		Y
	80 100	c	10YR72 71 10YR78 00 M				00MN00	00	Y	0	0	0		P		Y
26	0 21	mzc1	10YR42 00 10YR58 00 C					Y	0	0	HR	2				
	21-39	c	10YR63 73 10YR58 00 C					Y	0	0		0		M		Y
	39-70	c	10YR73 71 10YR78 00 C					Y	0	0		0		P		Y
27	0-26	mzc1	10YR52 00 10YR58 00 C					Y	0	0	HR	2				
	26 41	hzc1	10YR53 00 10YR58 51 C					Y	0	0		0		M		
	41-70	c	05Y 62 00 10YR68 00 M				00MN00	00	Y	0	0	0		P		Y
28	0-27	mzc1	10YR53 00 10YR58 00 C					Y	0	0	HR	2				
	27-40	mzc1	10YR52 72 10YR58 00 C				00MN00	00	Y	0	0	0		M		
	40-70	c	05Y 62 00 10YR68 00 C				00MN00	00	Y	0	0	0		P		Y
29	0 26	mzc1	10YR42 00						0	0	HR	2				
	26 40	hzc1	10YR52 00 10YR58 00 C					Y	0	0		0		M		
	40-70	hzc1	10YR62 00 10YR68 00 C					Y	0	0		0		M		
	70-120	mzc1	10YR53 00 10YR68 72 C				00MN00	00	Y	0	0	0		M		
30	0-24	mzc1	10YR52 00 10YR58 00 C					Y	0	0	HR	2				
	24 46	mzc1	10YR53 00 10YR58 00 C					Y	0	0		0		M		
	46-80	c	10YR52 73 10YR68 71 M				00MN00	00	Y	0	0	0		P		Y
31	0-22	mzc1	10YR52 00 10YR58 00 C					Y	0	0	HR	2				
	22-45	hzc1	10YR53 54 10YR58 00 C				00MN00	00	Y	0	0	0		M		
	45-70	c	05Y 63 71 10YR58 00 C				00MN00	00	Y	0	0	0		P		Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED	-- STONES----			STRUCT/	SUBS	
				COL	ABUN	CONT		COL	GLEY >2	>6			LITH TOT
32	0-28	mzc1	10YR43 00 10YR58 61 C					Y	0	0	HR	2	
	28-50	mzc1	10YR42 00 10YR58 00 M				00MNO0 00	Y	0	0		0	M
	50-80	z1	10YR53 00 10YR58 72 C					Y	0	0		0	M