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**New Forest District Local Plan
Objector Site 73
Land East of Alderholt Road, Sandleheath
Hampshire**

**Agricultural Land Classification
ALC Map and Report**

February 1997

**Resource Planning Team
Eastern Region
FRCA Reading**

**RPT Job Number 1508/026/97
MAFF Reference EL 15/00315
LURET Job Number 02768**

AGRICULTURAL LAND CLASSIFICATION REPORT

NEW FOREST DISTRICT LOCAL PLAN OBJECTOR SITE 73

LAND EAST OF ALDERHOLT ROAD, SANDLEHEATH, HANTS

INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 9 hectares of land to the east of Alderholt Road Sandleheath Hampshire. The survey was carried out during February 1997.

2 The survey was commissioned by the Ministry of Agriculture Fisheries and Food (MAFF) from its Land Use Planning Unit in Reading in connection with the New Forest District Local Plan. The site is one of a number of objector sites. The results of this survey supersede any previous ALC information for this land.

3 Prior to the 1st April 1997 the work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS. After this date the work was completed by the same team as part of the Farming and Rural Conservation Agency (FRCA) Reading. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF 1988). A description of the ALC grades and subgrades is given in Appendix I.

4 At the time of survey the agricultural land on this site was in permanent grassland. The areas of the site shown as Other Land consists of a residential dwelling and a gravel track.

SUMMARY

5 The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. It is accurate at this scale but any enlargement would be misleading.

6 The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1 below.

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	% Total survey area	% Total site area
3a	5.8	67.4	63.0
3b	2.8	32.6	30.4
Other land	0.6		6.6
Total surveyed area	8.6	100	
Total site area	9.2		100

7 The fieldwork was conducted at an average density of 1 boring every hectare. A total of 10 borings and 2 soil pits were described.

8 The land at this site has been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality) on the basis of soil wetness and/or soil droughtiness.

9 The majority of profiles are poorly drained comprising silty clay loam topsoils overlying similar upper subsoils which in many cases rest over poorly structured clay or silty clay. The depth to these clayey horizons will determine the final ALC grade; the shallower, the more severe the resulting soil wetness restriction. These clayey soils cause drainage to be impeded so that land utilisation is restricted.

10 Occasional borings were sandy or gravelly at depth and suffered from variable degrees of soil droughtiness and wetness. The combination of soil properties and local climatic factors results in restricted profile available water giving rise to drought-prone soils. In addition, the nature of the underlying geological deposits together with the high rainfall restricts the drainage of water across the lower parts of the site and causes seasonal waterlogging to occur at moderate depths in the profile.

FACTORS INFLUENCING ALC GRADE

Climate

11 Climate affects the grading of the land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12 The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met Office 1989).

Table 2 Climatic and altitude data

Factor	Units	Values	Values
Grid reference	N/A	SU 123 147	SU 122 143
Altitude	m AOD	50	35
Accumulated Temperature	day°C	1506	1523
Average Annual Rainfall	mm	881	874
Field Capacity Days	days	183	182
Moisture Deficit, Wheat	mm	105	107
Moisture Deficit, Potatoes	mm	97	100

13 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.

14 The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR) as a measure of overall wetness and accumulated temperature (ATO January to June) as a measure of the relative warmth of a locality.

15 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Other local climatic factors such as exposure and frost risk are not believed to have an adverse effect on the site. FCD figures are higher than average in regional terms. Due to the sites proximity to the coast the warm, moist climate may enhance the likelihood of soil wetness/workability restrictions. Despite this the site is climatically Grade 1.

Site

16 The agricultural land at this site lies at an altitude of 35-55m AOD. The majority of the land at the site is flat or very gently sloping with slight undulations. Nowhere does gradient or microrelief affect agricultural land quality.

Geology and soils

17 The published geological information (BGS 1976) shows the majority of the survey area to be underlain by London Clay with the possibility of alluvium occurring along the southern boundary of the site.

18 The most recently published soil information (SSEW 1983) shows the Wickham 3 association to be mapped across the entire survey area. These soils are described as slowly permeable seasonally waterlogged fine loamy over clayey and coarse loamy over clayey soils and similar more permeable soil with slight waterlogging. Some deep coarse loamy soils affected by groundwater. Landslips with irregular terrain locally (SSEW 1983).

19 Upon detailed field examination soils generally consistent with the above description were found to exist across the site although occasional soils which were coarser textured were observed in places.

AGRICULTURAL LAND CLASSIFICATION

20 The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1.

21 The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II.

Subgrade 3a

22 Two areas of very good quality agricultural land have been mapped to the extreme north and extreme south of the survey area. The land is affected mainly by wetness with soil droughtiness being equally or more restricting on occasions. Generally soils within this mapping unit fall into two variants.

23 The first group of soils are affected by soil wetness caused by slowly permeable subsoil horizons occurring at moderate depths giving rise to workability restrictions affecting the timing of cultivations and trafficking. The majority of profiles within this unit comprise stoneless or very slightly stony (0-2% total flints by volume) medium silty clay loam topsoils over stoneless or slightly stony (0-4% total flints by volume) heavy clay loam or heavy silty clay loam subsoils. The soils are either gleyed or slightly gleyed between 0 and 45cm depth. Poorly

structured slowly permeable clay or silty clay horizons occur at depths between 55 and 82cm. These act to impede soil drainage such that a wetness class of II or III has been assigned to these soils accordingly. Given the prevailing climatic conditions these soils equate to Subgrade 3a. Soil pit 2 is representative of these soil types. Occasional borings of slightly better quality are also found within this mapping unit but were too limited in extent to be mapped separately.

25 The second group of soils within this mapping unit are affected by soil droughtiness. These profiles consist of very slightly stony (3-4% v/v flints) medium silty clay loam topsoils over medium clay loam subsoils which become slightly to moderately stony at depth (2-20% v/v flints). The borings become impenetrable to the auger between 45 and 65cm depth. Pit 1 is representative of these soil types. The pit observation shows that medium sandy loam occurs at depth containing approximately 60% total flints. The profile was waterlogged at the time of survey with the water level resting at approximately 45cm depth. Generally the subsoils are gleyed between 30 and 50 cm depth which is evidence of this seasonal waterlogging. It was observed that the land could be drained adequately so the soils have been assigned to wetness class I. On the whole the combination of soil texture and flinty subsoils with the prevailing climate restricts the water available to crops such that there is a slight risk of drought stress to the plants in most years restricting the land to Subgrade 3a on the basis of soil droughtiness.

Subgrade 3b

26 Moderate quality agricultural land has been mapped in the central area of the site. Within this unit profiles encountered had impeded drainage arising from the occurrence of slowly permeable clay horizons at shallow depths (less than 40cm). The profiles consist of stoneless or very slightly stony (0.2% total flints) medium silty clay loam topsoils which are often gleyed, sometimes lying over heavy silty clay loam upper subsoil horizons with similar characteristics to the topsoils. Profiles pass to slowly permeable clay at shallow depth. This has the effect of slowing water flow through the profile to the extent that air is excluded from the soil by water for long periods leading to anaerobic conditions, poor root development and plant growth. Excessive soil wetness also leads to a reduction in the opportunities for cultivation and/or grazing such that within the prevailing local climatic regime wetness class IV. Subgrade 3b is appropriate for this land.

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SOURCES OF REFERENCE

British Geological Survey (1976) Sheet No 314 Ringwood 1 50 000 scale (Drift Edition)
BGS London

Ministry of Agriculture Fisheries and Food (1988) *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land*
MAFF London

Met Office (1989) *Climatological Data for Agricultural Land Classification*
Met Office Bracknell

Soil Survey of England and Wales (1983) *Sheet 6 Soils of South East England* 1 250 000
scale SSEW Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England.* Bulletin
15 SSEW Harpenden

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 most 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 DATA

Contents

Sample location map

Soil abbreviations - explanatory note

Soil pit descriptions

Soil boring descriptions (boring and horizon levels)

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	OTH	Other
DCW	Deciduous woodland	BOG	Bog or marsh	SAS	Set Aside
HTH	Heathland	HRT	Horticultural crops	PLO	Ploughed

3 **GRDNT** Gradient as estimated or measured by a hand held optical clinometer

4 **GLEYS/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	ST	Topsoil Stoniness
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
EX	Exposure				

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

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	MD	moderately developed
	ST	strongly developed		
Ped size	F	fine	M	medium
	C	coarse		
Ped shape	S	single grain	M	massive
	GR	granular	AB	angular blocky
	SAB	sub angular blocky	PR	prismatic
	PL	platy		

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 NEW FOREST LP SITE 73 Pit Number 1P

Grid Reference SU12201430 Average Annual Rainfall 874 mm
 Accumulated Temperature 1523 degree days
 Field Capacity Level 183 days
 Land Use Rough Grazing
 Slope and Aspect 02 degrees SW

HORIZON	TEXTURE	COLOUR	STONES >2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	MZCL	10YR43 00	0	4	HR					
30- 45	MCL	10YR43 44	0	6	HR	F	MDCSAB	FR	M	
45- 60	MCL	10YR53 00	0	20	HR	M	MDMSAB	FR	M	
60-100	MSL	10YR53 00	0	60	HR	M			M	

Wetness Grade 2 Wetness Class I
 Gleying 045 cm
 SPL cm

Drought Grade 3A APW 111mm MBW 4 mm
 APP 104mm MBP 4 mm

FINAL ALC GRADE 3A
 MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name NEW FOREST LP SITE 73 Pit Number 2P

Grid Reference SU12321460 Average Annual Rainfall 874 mm
 Accumulated Temperature 1523 degree days
 Field Capacity Level 183 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- 25	MZCL	10YR44 00	0	1	HR	C				
25- 45	MZCL	25Y 63 62	0	0		C	MDCSAB	FR	M	
45- 60	MZCL	10YR53 00	0	0		M	MDCSAB	FM	M	
60-120	ZC	25Y 61 62	0	0		M	MDCAB	FM	P	

Wetness Grade 3A Wetness Class III
 Gleying cm
 SPL 060 cm

Drought Grade 1 APW 142mm MBW 35 mm
 APP 119mm MBP 19 mm

FINAL ALC GRADE 3A
 MAIN LIMITATION Wetness

SAMPLE NO	GRID REF	ASPECT USE	--WETNESS--				-WHEAT-		-POTS-		M REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEYS	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1	SU12301470	PGR S	02		055	3	3A	000	0	000	0				WE 3A	SL GL38 SEE 2P	
1P	SU12201430	RGR SW	02	045		1	2	111	4	104	4	3A			DR 3A	WET	
2	SU12381465	PGR S	02	030	078	2	2	180	73	141	41	1			WE 2	ALMOST 3A	
2P	SU12321460	PGR S	02	0	060	3	3A	142	35	119	19	1			WE 3A	PIT TO 80CM	
3	SU12321460	PGR S	02	0	065	3	3A	000	0	000	0				WE 3A	SEE PIT 2	
4	SU12401460	PGR S	03		045	3	3A	000	0	000	0				WE 3A	SL GL32 SEE 2P	
5	SU12201450	PGR		0	040	4	3B	000	0	000	0				WE 3B	SEE PIT 2	
6	SU12301450	PGR		0	038	4	3B	000	0	000	0				WE 3B	SEE PIT 2	
7	SU12101440	RGR S	02	0	082	2	3A	146	44	120	20	1			WE 3A	SEE PIT 2	
8	SU12201440	PGR S	01	0	080	2	3A	133	26	120	20	2			WE 3A	SEE PIT 2	
9	SU12101320	RGR S	02	035		2	3A	079	-23	079	-21	3B			WD 3A	I45 SEE PIT 1	
10	SU12201430	RGR S	02	050		1	2	097	-5	105	5	3A			DR 3A	I60 SEE PIT 1	

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL	GLEYS	>2	>6	LITH		TOT	STR	POR	IMP	SPL
1	0-30	mzc1	10YR42 00						0	0	0						
	30-38	hzc1	10YR43 00	10YR58 00	F			0	0	0			M				
	38-55	zc	10YR46 56	75YR58 00	C	10YR61 00	S	0	0	0			M				
	55-80	zc	10YR54 00	75YR58 00	C	10YR61 00	S	0	0	0			P			Y	
1P	0-30	mzc1	10YR43 00						0	0	HR	4					
	30-45	mc1	10YR43 44	75YR58 00	F			0	0	HR	6	MDCSAB	FR	M			
	45-60	mc1	10YR53 00	75YR58 00	M	00MN00 00	Y	0	0	HR	20	MDMSAB	FR	M			
	60-100	ms1	10YR53 00	75YR58 00	M	00MN00 00	Y	0	0	HR	60			M			
2	0-30	fsz1	10YR42 00	10YR56 00	F			0	0	0							
	30-40	fsz1	10YR53 00	10YR58 00	C			Y	0	0	0		M				
	40-70	fs1	10YR53 00	10YR58 00	C			Y	0	0	0		M				
	70-78	sc1	10YR53 00	10YR58 00	C			Y	0	0	0		M				
	78-100	c	10YR71 00	75YR58 68	M			Y	0	0	0		P			Y	
	100-120	fs1	10YR71 00	75YR58 00	M			Y	0	0	0		M			sandy	
2P	0-25	mzc1	10YR44 00	75YR46 00	C			Y	0	0	HR	1					
	25-45	mzc1	25Y 63 62	10YR58 00	C			Y	0	0	0	MDCSAB	FR	M			
	45-60	mzc1	10YR53 00	25Y 62 00	M	00MN00 00	Y	0	0	0	0	MDCSAB	FM	M			
	60-120	zc	25Y 61 62	75YR58 00	M	00MN00 00	Y	0	0	0	0	MDCAB	FM	P	Y	Y	
3	0-30	mzc1	10YR52 00	10YR58 00	C			Y	0	0	0						
	30-65	hzc1	10YR53 00	75YR46 00	C	10YR61 00	Y	0	0	0			M				
	65-80	zc	10YR53 00	75YR58 00	C	10YR61 00	Y	0	0	0			P			Y	
4	0-32	mzc1	10YR43 00	10YR58 00	F			0	0	0							
	32-45	hzc1	10YR54 00	10YR58 00	C			S	0	0	0		M				
	45-70	zc	10YR56 00	75YR58 00	C	10YR62 00	S	0	0	0			P			Y	
5	0-30	mzc1	25 Y53 00	75YR56 00	C			Y	0	0	0						
	30-40	hzc1	25 Y53 63	10YR56 00	M			Y	0	0	HR	2		M			
	40-70	c	25 Y61 63	10YR58 00	C			Y	0	0	HR	10		P		Y	
6	0-38	mzc1	10YR52 54	10YR58 00	C			Y	0	0	HR	2					
	38-60	c	10YR61 66	75YR58 00	M			Y	0	0	HR	2		P		Y	
7	0-36	mzc1	10YR42 00	10YR46 00	C			Y	0	0	HR	2					
	36-45	mc1	10YR42 63	10YR56 00	C	00MN00 00	Y	0	0	HR	1		M				
	45-82	hc1	10YR61 62	75YR58 00	M	00MN00 00	Y	0	0	HR	4		M				
	82-120	c	25Y 61 62	75YR58 00	M	00MN00 00	Y	0	0	0			P			Y	
8	0-30	mzc1	10YR53 00	10YR56 00	C			Y	0	0	HR	1					
	30-45	hc1	25 Y62 63	10YR56 00	M			Y	0	0	0		M				
	45-80	c	25 Y71 00	10YR56 00	M			Y	0	0	0		M				
	80-110	c	25 Y71 00	10YR58 00	M			Y	0	0	0		P			Y	
9	0-35	mzc1	10YR42 00	10YR46 00	F			0	0	HR	3						
	35-40	mc1	10YR42 53	10YR56 58	C	00MN00 00	Y	0	0	HR	2		M				
	40-45	mc1	10YR42 53	10YR56 58	C			Y	0	0	HR	15		M		Imp flints	

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES-----			STRUCT/	SUBS	SPL	CALC
				COL	ABUN	CONT	COL	GLE	>2	>6	LITH				
10	0-30	mzc1	10YR42 00						0	0	HR	3			
	30-50	mc1	10YR52 00						0	0	HR	5	M		
	50-65	mc1	10YR53 00	10YR58 00 C			00M00 00 Y		0	0	HR	10	M		Imp flints