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Test Valley Local Plan Review
Sites 111 & 112 Bargain Farm
Hillyfields Nursling Hampshire

Agricultural Land Classification
ALC Map and Report

April 1997

Resource Planning Team
Eastern Region
FRCA Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

TEST VALLEY BOROUGH LOCAL PLAN REVIEW
SITES 111 & 112 BARGAIN FARM HILLYFIELDS
NURSLING HAMPSHIRE

INTRODUCTION

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 14 1 hectares of land located either side of Redbridge Lane between Brownhill Way and the settlement of Hillyfields to the south of Nursling near Romsey in Hampshire The survey was carried out during December 1996

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 Test Valley Borough Local Plan Review The results of this survey supersede any previous ALC information for this land

3 Prior to 1 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 Conservation Agency (FRCA) based in 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 majority of the agricultural land to the east of Redbridge Lane forms a horticultural enterprise The remaining area is in permanent grass The land to the north of this area mapped as Other Land comprises farm buildings To the west of Redbridge Lane the land was in grass A significant proportion of this land has been disturbed due to mineral extraction The land has been reinstated and is currently in an aftercare scheme which commenced in September 1994 Due to the recent date of restoration this part of the site was not assessed as physical conditions may not have stabilised This area is therefore shown as agricultural land not surveyed

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 overleaf

7 The fieldwork was conducted at an average density of 1 boring per hectare A total of 11 borings and two soil pits were described on the surveyed agricultural land

Table 1 Area of grades and other land

Grade/Other land	Area (hectares)	/ surveyed area	/ site area
1	7 8	77 2	55 3
3a	1 3	12 9	9 2
3b	1 0	9 9	7 1
Agricultural Land Not Surveyed	3 2	N/A	22 7
Other land	0 8	N/A	5 7
Total surveyed area	10 1	100	71 6
Total site area	14 1		100

8 The agricultural land on this site has been classified as Grade 1 (excellent quality) Subgrade 3a (good quality) and Subgrade 3b (moderate quality) Where limitations to land quality exist they include soil droughtiness and soil wetness

9 Grade 1 (excellent quality) land extends across both sections of the site to the east and west of Redbridge Lane In this area soils were found to comprise well drained light loam and medium silty topsoils and subsoils In the local climate these soils have sufficient water retaining capabilities to give good yields of a wide variety of agricultural and horticultural crops The very slight soil wetness observed in many cases is due to fluctuating groundwater levels and is not sufficient to downgrade this area, given the workable nature of the topsoils

10 Subgrade 3a (good quality) land has been mapped to the east of this site and is principally limited by soil droughtiness In this area the soils comprise light loamy topsoils and upper subsoils which become progressively more stony with depth until gravel is encountered at moderate depth (c 60cm) In the local climate this combination of stone content and textures restricts the moisture holding capacity such that Subgrade 3a is appropriate Soil droughtiness will affect crop growth and yield especially in drier years

11 The small area of Subgrade 3b (moderate quality land) to the south of the site is defined by the topography of the site and is principally limited by soil wetness The soils in this area comprise medium silt topsoils and upper subsoils overlying clay exhibiting significant evidence of soil wetness sufficient for this classification in the local climate Soil wetness restricts land utilisation by restricting the number of days when fieldwork and/or grazing may occur without causing damage to the soil

FACTORS INFLUENCING ALC GRADE

Climate

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

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

14 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

Table 2 Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SU 376 152	SU 373 153
Altitude	m AOD	10	10
Accumulated Temperature	day°C (Jan June)	1545	1545
Average Annual Rainfall	mm	818	820
Field Capacity Days	days	170	171
Moisture Deficit, Wheat	mm	110	110
Moisture Deficit, Potatoes	mm	105	105
Overall climatic grade	N/A	Grade 1	Grade 1

15 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

16 The combination of rainfall and temperature at this site mean that there is no overall climatic limitation Local climatic factors such as exposure and frost risk are not believed to significantly affect this area The site is climatically Grade 1

Site

17 The site lies at approximately 10m AOD sloping very slightly from the north towards the south Towards the west of the site an area has been restored and is slightly domed None of the slopes on the site are of sufficient gradient to adversely affect land quality

Geology and soils

18 The published geological information for the site (BGS 1987) shows the entire site to be underlain by valley gravels a drift deposit comprising almost exclusively flints with some pebbles of Sarsen (silicified sandstone)

19 The most detailed published soils information for the site (SSEW 1983 and 1984) shows the site to comprise soils of the Hurst association These are described as Coarse and fine loamy permeable soils mainly over gravel variably affected by groundwater (SSEW 1983) Soils of the types described above were found on the undisturbed areas at this site In addition, towards the south of the site an area of more clayey soils was also encountered

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 details of the soils data are presented in Appendix II

Grade 1

22 Land of excellent quality has been mapped over the majority of the undisturbed agricultural land at this site

23 Soils in this area are of a single type and are characterised by the soil pit 1P The topsoils commonly comprise either medium sandy silt loam or medium silty clay loam, which were commonly very slightly stony (up to 5% v/v flints) The subsoils comprise either medium sandy silt loam or medium (occasionally heavy) silty clay loam These were either stone free or very slightly stony and permeable though usually gleyed especially in the lower subsoil due to groundwater effects These well drained (Wetness Class I) soil profiles in the local climate have good reserves of available water for plant growth and although groundwater may rise into the lower profile the light nature of the majority of the topsoils means that this land is appropriately placed in Grade 1 Excellent quality land is highly versatile being capable of supporting a wide range of arable and horticultural crops with cultivations possible throughout the majority of the year

Subgrade 3a

24 Land of good quality has been mapped in a single unit towards the east of the site The principal limitation is soil droughtiness

25 Soils in this area are of a single type and are characterised by the soil pit 2P The topsoils commonly comprise a slightly stony (up to 10% v/v total flints) medium sandy silt loam or medium silty clay loam This passes to slightly or moderately stony (up to 35% v/v total flints) gleyed medium sandy silt loam, medium clay loam or medium silty clay loam subsoil horizons to between 60 and 75cm These pass to gravel which, at the time of survey was saturated from approximately 68cm These soils are assessed as Wetness Class II due to fluctuating groundwater However the combination of the depth to gravel and the soil textures and stoniness in the horizons described above in the local climate lead this area to be appropriately placed in Subgrade 3a on the basis of a soil droughtiness limitation This can adversely affect plant growth, development and yield especially in drier years

Subgrade 3b

26 Land of moderate quality has been mapped towards the south east of the site The principal limitation in this area is soil wetness

27 In this slightly lower area of the site the soils were distinctly different from elsewhere The topsoil comprises a slightly stony medium silty clay loam passing to a moderately stony similarly textured shallow medium silty clay loam upper subsoil From approximately 38cm

the lower subsoil is distinctly different from others on the site comprising a gleyed and slowly permeable slightly to moderately stony clay The clay has the effect of impeding drainage to the extent that in the local climate Wetness Class IV and hence Subgrade 3b is the appropriate classification Soil wetness restricts land utilisation by reducing the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock as well as adversely affecting crop growth and development

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SOURCES OF REFERENCE

British Geological Survey (1987) *Sheet 315 Southampton Solid and Drift Edition 1 50 000 Scale*
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

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

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

Soil Survey of England and Wales (1984) *Soils of South East England. Bulletin No 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 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 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	**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 **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	**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 **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	**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	**FM** firm	**EH** extremely hard
VF very friable	**VM** very firm	
FR friable	**EM** extremely firm	

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 TEST LP 111/112 ROMSEY Pit Numbe 1P

G id Reference SU37601520 Ave ge A nu l R inf ll 818 mm
Accumul ted Tempe ature 1545 degree days
Field Capacity Level 170 days
L nd Use
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 31	MSZL	10YR42 00	1		5	HR					
31 53	MZCL	10YR44 00	0		0			MDCSAB	FR	M	
53- 58	MZCL	10YR54 00	0		0		C	MDCSAB	FR	M	
58- 82	MZCL	10YR53 63	0		3	HR	M	MDCSAB	FR	M	
82 120	MCL	25Y 62 61	0		0		M	MDCSAB	FM	M	

Wetness Grade 1 Wetne s Class I
Gleying 53 cm
SPL cm

Drought Grade 1 APW 158mm MBW 48 mm
APP 122mm MBP 17 mm

FINAL ALC GRADE 1
MAIN LIMITATION

SOIL PIT DESCRIPTION

Site Name TEST LP 111/112 ROMSEY Pit Number 2P

G id Reference SU37701520 Ave age A n al Rai fall 818 mm
Accumulated Tempe ature 1545 degree days
Field Capacity Level 170 days
L nd Use
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 30	MSZL	10YR41 00	1		8	HR					
30 42	MSZL	25Y 62 00	0		15	HR	C	MDCSAB	VF	M	
42 60	MSZL	25Y 61 62	0		35	HR	C	WKCSAB	VF	G	
60 80	GH	25Y 62 00	0		0		C			P	

Wetness G ade 1 Wetness Class II
Gleying 30 cm
SPL cm

Drought G ade 3A APW 91 mm MBW 19 mm
APP 95 mm MBP 10 mm

FINAL ALC GRADE 3A
MAIN LIMITATION Droughtiness

SAMPLE NO	GRID REF	ASPECT USE	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	SU37441526	FLW	47			1	1	154	44	118	13	1					1	
1P	SU37601520	HOR	53			1	1	158	48	122	17	1					1	PIT 90 AUG 120
2	SU37651529	BRA	27			2	2	134	24	116	11	2				WE	2	IMP FLINTS 105
2P	SU37701520	HOR	30			2	1	91	19	95	10	3A				DR	3A	PIT 70 IAUG 80
3	SU37501520	HOR	55			1	1	155	45	119	14	1					1	
4	SU37601520	BRA	50			1	1	155	45	119	14	1					1	SEE 1P
5	SU37701520	BRA	30			2	1	86	24	90	15	38				DR	3A	IMP 60 SEE 2P
6	SU37401510	BRA	100			1	1	152	42	116	11	1					1	
7	SU37501510	BRA	38			2	2	151	41	116	11	1				WE	2	
8	SU37601510	PGR	38	38		4	38	105	5	100	5	3A				WE	38	SPL 38
9	SU37701510	HOR	35			2	2	103	7	106	1	3A				DR	3A	IMP FLINTS 80
11	SU37401530	RGR	30			1	1	151	41	125	20	1					1	
14	SU37201510	PGR				1	1	158	48	122	17	1					1	
15	SU37301510	RGR				1	1	157	47	121	16	1					1	

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6	LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
1	0 25	msz1	10YR41 00						2	0	HR	10							PSD BORDER MCL
	25-47	mzcl	10YR44 54						0	0	HR	5		M					
	47 60	mzcl	10YR61 00	10YR56 00	C		00MN00 00	Y	0	0		0		M					
	60 120	mzcl	25Y 61 00	10YR58 00	M		00MN00 00	Y	0	0		0		M					
1P	0 31	msz1	10YR42 00						1	0	HR	5							PSD HAND TEX MZCL
	31 53	mzcl	10YR44 00						0	0		0	MDCSAB	FR M					
	53-58	mzcl	10YR54 00	10YR56 00	C			S	0	0		0	MDCSAB	FR M					
	58-82	mzcl	10YR53 63	10YR58 00	M			Y	0	0	HR	3	MDCSAB	FR M					
	82 120	mcl	25Y 62 61	10YR58 00	M			Y	0	0		0	MDCSAB	FM M					
2	0 27	mzcl	10YR42 00						2	0	HR	10							BORDER MSZL
	27-45	mzcl	10YR54 52	10YR56 00	C			Y	0	0	HR	5		M					
	45-70	mzcl	25Y 53 52	10YR56 00	C		00MN00 00	Y	0	0	HR	5		M					
	70 95	hzcl	25Y 52 00	10YR58 00	M		00MN00 00	Y	0	0	HR	5		M					
	95-105	hzcl	25Y 52 00	10YR58 00	M			Y	0	0	HR	30		M					IMP FLINTS 105cm
2P	0 30	ms 1	10YR41 00						1	0	HR	8							PSD HAND TEX MCL
	30 42	ms 1	25Y 62 00	10YR58 00	C			Y	0	0	HR	15	MDCSAB	VF M					PSD HAND TEX FSZL
	42 60	msz1	25Y 61 62	10YR56 00	C			Y	0	0	HR	35	WKCSAB	VF G					
	60 80	gh	25Y 62 00	000C00 00	C			Y	0	0		0		P					WATER TABLE 68cm
3	0 35	mzcl	10YR42 00						2	0	HR	10							
	35 55	mzcl	10YR44 54						0	0	HR	2		M					
	55 70	mzcl	25Y 52 00	10YR58 00	C			Y	0	0		0		M					
	70 120	hzcl	25Y 52 00	10YR58 00	M			Y	0	0		0		M					
4	0 30	msz1	10YR42 43						1	0	HR	8							PSD 1P LOCATION
	30 50	mzcl	10YR44 54	10YR56 00	F		00MN00 00		0	0	HR	5		M					
	50 60	mzcl	10YR54 52	10YR56 00	C			Y	0	0		0		M					
	60 120	hzcl	25Y 52 00	10YR58 00	M			Y	0	0		0		M					
5	0 30	ms 1	10YR41 00						2	0	HR	10							PSD 2P LOCATION
	30 45	ms 1	25Y 61 00	10YR68 00	C			Y	0	0	HR	15		M					PSD SEE 2P
	45 60	mcl	25Y 61 00	10YR68 00	C			Y	0	0	HR	35		M					IMP GRAVEL 60cm
6	0 30	ms 1	10YR42 00						2	0	HR	10							PSD HAND TEX MZCL
	30 60	ms 1	10YR44 00	00MN00 00	F				0	0	HR	5		M					BORDER MZCL
	60 100	hzcl	10YR44 54	10YR56 00	F				0	0	HR	5		M					
	100 120	hzcl	10YR52 53	10YR58 00	C			Y	0	0	HR	5		M					
7	0 30	mzcl	10YR42 00						2	0	HR	10							
	30 38	mzcl	10YR43 00						0	0	HR	5		M					
	38 80	mzcl	10YR53 52	10YR56 00	C			Y	0	0	HR	5		M					
	80 120	hz 1	25Y 51 53	10YR58 00	M			Y	0	0	HR	5		M					
8	0 30	mzcl	10YR41 00						3	0	HR	10							BORDER MSZL
	30 38	mzcl	10YR42 00						0	0	HR	20		M					BORDER MSZL
	38 70	c	25Y 41 42	10YR58 68	M		00MN00 00	Y	0	0	HR	10		P			Y		
	70 100	c	25Y 51 00	10YR58 68	M			Y	0	0	HR	30		P			Y		

SAMPLE	DEPTH	TEXTURE	COLOUR	-MOTTLES COL	ABUN	CONT	PED COL	GLEY	STONES 2	6 LITH	TOT	STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
9	0 35	mzcl	10YR41 42						2	0 HR	10							
	35-60	mzcl	25Y 51 52	10YR68 00	C		00MN00 00	Y	0	0 HR	20		M					
	60 75	mcl	25Y 51 52	10YR68 00	C		00MN00 00	Y	0	0 HR	30		M					SLIGHTLY SANDY
	75-80	mcl	25Y 52 00	75YR58 00	C		00MN00 00	Y	0	0 HR	40		M					SL SANDY IFLINTS80
11	0 30	ms 1	10YR43 00						0	0	0							
	30-40	msz1	10YR53 00	75YR56 00	C			Y	0	0	0		M					
	40 50	mzcl	75YR54 00						0	0	0		M					
	50 90	hzcl	75YR54 00						0	0	0		M					
	90 110	mzcl	75YR54 00	000C00 00	C	F		S	0	0	0		M					
14	0 23	msz1	10YR43 42						0	0 HR	1							
	23-120	mzcl	10YR43 00						0	0 HR	1		M					
15	0 23	ms 1	10YR41 42						2	0 HR	4							
	23 60	mzcl	10YR43 00						0	0 HR	1		M					
	60 120	hzcl	75YR54 00						0	0 HR	1		M					