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Test Valley Local Plan Review
Site 113
Romsey Hampshire
Agricultural Land Classification
ALC Map and Report
December 1996

Resource Planning Team
Guildford Statutory Group
ADAS Reading

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AGRICULTURAL LAND CLASSIFICATION REPORT

TEST VALLEY LOCAL PLAN REVIEW
SITE 113
ROMSEY HAMPSHIRE

Introduction

1 This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of approximately 27 hectares of land at Adanac Farm Nursling to the south of Romsey 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 Local Plan Review The results of this survey supersede any previous ALC information for this land

3 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS 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 grassland The areas of the site shown as Other Land consist of woodland and farm buildings Part of the site in the south west corner was not surveyed as this was only recently restored back to agricultural land use

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)	/ Agricultural area	/ Total site area
2	14 9	86 1	56 2
3b	2 4	13 9	9 1
Agricultural land not surveyed	4 1	N/A	15 5
Other land	5 1	N/A	19 2
Total survey area	17 3	100	65 3
Total site area	26 5		100

7 The fieldwork was conducted at an average density of 1 boring per hectare A total of 18 borings and 3 soil pits were described

8 The land at this site has been classified as Grade 2 (very good quality) and Subgrade 3b (moderate quality) The key limitation is soil droughtiness with topsoil stoniness being equally restricting in places Some of the soils on the site are also affected by fluctuating groundwater which may not be adequately controlled due to the flat low lying nature of the site and as such may cause the land to suffer from soil wetness problems

9 Within the Grade 2 area topsoils commonly comprise sandy silt loam, silty clay loam or clay loam textures which overlie similar subsoils The soil profiles comprise two main types Some are deep and well drained with very little stone throughout whilst others become heavier at depth are stonier or impenetrable to the auger As a consequence borings of slightly worse or better quality are found within this unit The combination of these soil properties and the prevailing climate results in a minor soil droughtiness limitation

10 The area to the south east of this site has been classified as Subgrade 3b (moderate quality) the key limitation again being soil droughtiness The soil profiles comprise similar topsoil and upper subsoil textures to the Grade 2 soils but contain much higher stone contents and overlie gravel at depth As a consequence soil droughtiness restrictions are more severe

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

	Units	Values
Grid reference	N/A	SU 372 159
Altitude	m AOD	15
Accumulated Temperature	day°C	1539
Average Annual Rainfall	mm	823
Field Capacity Days	days	172
Moisture Deficit Wheat	mm	109
Moisture Deficit Potatoes	mm	104

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 (AT0 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 a significant adverse effect on the site The site is climatically Grade 1

Site

16 The agricultural land at this site lies at an altitude of 10 20m 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 for the site (BGS 1973) shows the site to be underlain completely by Valley Gravel

18 The most recently published soil information for the site shows the Hurst association to cover the entire area These soils are described as coarse and fine loamy permeable soils mainly over gravel variably affected by groundwater (SSEW 1983)

19 Upon detailed field examination soils consistent with the above description were found to exist across the site

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 page 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 III

Grade 2

22 The majority of the site in the central and northern areas has been mapped as very good quality agricultural land The land is affected mainly by droughtiness restrictions with topsoil stone limitations being equally restricting in places Some of the soil profiles within this mapping unit are of excellent quality but these are not mapped separately due to the fact that the whole site may not be adequately drained The water table was noted at varying depths within each of the pits The surrounding land is of higher altitude and the occurrence of the road construction to the west as well as an area of disturbed land to the south will disrupt the natural pattern of groundwater Generally the soil falls into two variants

23 Firstly those profiles which comprise slightly to moderately stony (c 6 24% total flints by volume 0 8% flints > 2 cm diameter) medium clay loam or sandy silt loam topsoils over slightly stony to very stony (c 8 41% total flints by volume) medium clay loam in the subsoil Many of the borings become impenetrable (to the auger) between 25 and 50 cm due to the high

volume of stone in the upper soil horizons Pit 1 (see Appendix III) indicates that the lower subsoil horizons are less stony (ie 2 5% total flints by volume) and are gleyed at about 45 cm depths and are moderately structured At depth (i e 70cm +) poorly structured slowly permeable clay occurs These soils are imperfectly drained as a result of a combination of surface water and ground water movement Wetness class II (see Appendix II) has been assigned therefore Despite this some profiles were found to be well drained and thus assigned to wetness class I accordingly The combination of soil texture and hard stone restricts the water available to crops such that there is a slight risk of drought stress to the plants in most years Despite this land of this quality is expected to produce very good yields of a wide range of crops but with less consistency than Grade 1 land

24 Within this unit very occasional observations were equally limited to grade 2 on the basis of topsoil stone content having greater than 5% v/v flints > 2 cm in the top 25 cm of the soil profile This has the effect of in addition to reducing available water impeding cultivation, harvesting and crop growth and increasing the cost of cropping in terms of machinery wear and tear and yield reduction

25 The second group of soils are deep and generally well drained Typically these soils consist mainly of stoneless or very slightly stony (c 0 5% v/v flints) fine and medium sandy silt loams as well as medium clay loam topsoils over similar subsoils The subsoils are often gleyed at variable depths (30 68 cm) but are porous In the majority of cases the lower subsoils become heavier at depth comprising heavy silty clay loam or heavy clay loam textures Soil pit 2 is typical of these soils The depth to gleying is evidence of seasonal waterlogging These soils are therefore assigned to wetness class I and II depending on depth to gleying The combination of soil textures together with local climate leads to Grade 1 being applicable to this land but it was felt that Grade 2 was more appropriate given that the watertable obviously fluctuates and may not be adequately controlled due to the low lying nature of the site

Subgrade 3b

26 To the south east corner of the site a small area of moderate quality agricultural land has been mapped This land is limited by soil droughtiness

27 Soils typically comprise slightly to moderately stony (6 18% total flints by volume 2 8% >2 cm 0 4% > 6 cm diameter) medium sandy silt loam or medium silty clay loam topsoils These lie over slightly up to very stony (10 60% v/v flints) fine or medium sandy silt loam upper subsoils These are impenetrable to the auger between 32 and 45 cm depth In the pit (3P see Appendix III) the lower subsoil was found to consist of gravel with a medium sand matrix that was mottled from 55cm The occurrence of the water table was noted at a depth of 55 cm in the profile at the time of survey which was equal to the depth of rooting observed Despite the slight wetness limitation which this implies the high stone volumes in the soil combined with restricted rooting act to significantly reduce water availability to crops such that within the local climatic regime Subgrade 3b is appropriate on the basis of a soil droughtiness limitation

28 A small area to the southwest of the site was not surveyed as it had been disturbed during the construction of the adjacent motorway Here the land has been in aftercare for less than 5 years As a result it has not been surveyed

Sharron Cauldwell
Resource Planning Team,
Guildford Statutory Centre
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1973) Sheet No 315 Southampton 1 63 360 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* SSEW Harpenden.

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

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 that 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 that restricts 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 is 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 **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 ROMSEY SITE 113 Pit Numbe 1P

Grid Reference SU37201610 Ave age Annu l Rainfall 823 mm
Accumulated Temperature 1539 degree days
Field Capacity Level 172 days
Land Use Permanent G ass
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 29	MSZL	10YR42 00	8	24	HR					
29- 45	MCL	10YR43 00	0	41	HR				M	
45- 55	MCL	10YR63 64	0	5	HR	C	WKCSAB	FR	M	
55- 70	HCL	10YR63 00	0	2	HR	C	WKCSAB	FR	M	
70 120	C	10YR71 00	0	2	HR	M	MDCOPL	FM	P	

Wetness Grade 1 Wetness Cl ss II
Gleying 045 cm
SPL 070 cm

Drought Grade 2 APW 118mm MBW 18 mm
APP 096mm MBP 1 mm

FINAL ALC GRADE 2
MAIN LIMITATION Droughtiness

SOIL PIT DESCRIPTION

Site Name ROMSEY SITE 113 Pit Numbe 2P

G id Ref rence SU37201590 Average Annual Rai fall 823 mm
Accumul ted Temperature 1539 degree days
Field Capacity Level 172 days
Land Use Permanent G a
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	FSZL	10YR43 53	0		3	HR					
30 38	MZCL	10YR52 00	0		2	HR	C	MDCSAB	FR	M	
38-110	MZCL	10YR54 63	0		2	HR	M	MDCSAB	FR	M	

Wetness G ade 1 Wetness Class II
Gleying 030 cm
SPL cm

Drought G ade 1 APW 156mm MBW 47 mm
APP 131mm MBP 27 mm

FINAL ALC GRADE 1
MAIN LIMITATION

SOIL PIT DESCRIPTION

Site Name ROMSEY SITE 113 Pit Number 3P

Grid Reference SU37391560 Ave age A nual Rainfall 823 mm
Accumul ted Temperature 1539 degree days
Field Capacity Level 172 days
Land Use Permanent Grass
Slope and Aspect degrees

HORIZON	TEXTURE	COLOUR	STONES 2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0 28	MSZL	10YR32 00	8	18	HR					
28- 55	FSZL	10YR42 00	0	60	HR				M	

Wetness Grade 1 Wetnes Class I
Gleying 055 cm
SPL cm

Drought G ade 3B APW 070mm MBW 39 mm
APP 071mm MBP 33 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Droughtiness

SAMPLE NO	GRID REF	USE	ASPECT GRDNT	GLEY	SPL	-WETNESS CLASS	GRADE	-WHEAT AP	MB	POTS- AP	MB	M REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SU37001620	PGR				1	1	049	60	049	55	4				DR	2	IMP30 SEEPIT 1
1P	SU37201610	PGR		045	070	2	1	118	18	096	1	2				DR	2	TOPSOIL STONES
2	SU37101620	PGR				1	1	125	16	113	9	2				DR	2	IMP95 SEEPIT 2
2P	SU37201590	PGR		030		2	1	156	47	131	27	1					1	
3	SU37101610	PGR				1	1	082	27	082	22	3B				DR	2	IMP50 SEEPIT 1
3P	SU37391560	PGR		055		1	1	070	39	071	33	3B				DR	3B	ROOTS TO 55 CM
4	SU37201610	PGR				1	1	055	54	055	-49	4				DR	2	IMP33 SEEPIT 1
5	SU37101600	PGR				1	1	052	57	052	52	4				DR	2	IMP30 SEEPIT 1
6	SU37201600	PGR				1	1	050	59	050	54	4				DR	2	IMP30 SEEPIT 1
7	SU37301600	PGR				1	1	050	59	050	54	4				DR	2	IMP30 SEEPIT 1
8	SU37101590	PGR		045		1	1	163	54	128	24	1					1	SL GLEY 35
9	SU37201590	PGR		040		1	1	165	56	130	26	1					1	SEE PIT 2
10	SU37301590	PGR		040		1	1	150	41	134	30	1					1	SEE PIT 2
11	SU37201580	PGR		028		2	1	168	59	133	29	1					1	SEE PIT 2
12	SU37301580	PGR		068		1	1	159	50	123	19	1					1	
13	SU37201570	PGR		045		1	1	161	52	125	21	1					1	SEE PIT 2
14	SU37321585	PGR		065		1	1	151	42	126	22	1					1	SL GLEY 50
15	SU37423769	PGR		025		2	1	074	35	074	30	3B				DR	3B	IMP30 SEEPIT 3
16	SU37201560	PGR				1	1	161	52	125	21	1					1	SEE PIT 2
17	SU37391560	PGR				1	1	069	40	069	35	3B				DR	3B	IMP40 SEEPIT 3
18	SU37401550	PGR		030		2	2	057	52	057	47	4				DR	3B	IMP32 SEEPIT 3

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 28	mcl	10YR42 00						2	0 HR	8							
	28-30	mcl	10YR44 00						0	0 HR	20		M					Imp-flint
1P	0 29	ms l	10YR42 00						8	0 HR	24							
	29-45	mcl	10YR43 00						0	0 HR	41		M					
	45-55	mcl	10YR63 64	75YR58 00 C			10YR72 00	Y	0	0 HR	5	WKCSAB FR	M					
	55-70	hcl	10YR63 00	75YR58 00 C				Y	0	0 HR	2	WKCSAB FR	M					
	70 120	c	10YR71 00	75YR68 00 M				Y	0	0 HR	2	MDCOPL FM	P	Y		Y		
2	0 30	mcl	10YR42 00						2	0 HR	5							
	30 60	mcl	10YR43 44						0	0 HR	4		M					
	60 75	mcl	10YR54 00	10YR56 58 F			00MN00 00		0	0 HR	3		M					
	75-95	hcl	10YR54 00	10YR56 58 F			00MN00 00		0	0 HR	3		M					Imp-flint
2P	0 30	fszl	10YR43 53						0	0 HR	3							
	30 38	mzcl	10YR52 00	10YR56 00 C			10YR44 54	Y	0	0 HR	2	MDCSAB FR	M					
	38 110	mzcl	10YR54 63	10YR58 00 M			00MN00 00	Y	0	0 HR	2	MDCSAB FR	M					
3	0 32	mcl	10YR43 00						0	0 HR	6							
	32 50	mcl	10YR44 00						0	0 HR	8		M					Imp-fli t
3P	0 28	ms l	10YR32 00						8	4 HR	18							
	28 55	fszl	10YR42 00						0	0 HR	60		M					Imp-g avel
4	0 33	mcl	10YR43 00						0	0 HR	8							Imp-fli t
5	0 25	fs l	10YR42 00						0	0 HR	5							Imp-fli t
6	0 27	mcl	10YR42 00						3	0 HR	6							
	27 30	mcl	10YR44 00						0	0 HR	15		M					Imp-flint
7	0 25	mcl	10YR42 00	10YR36 00 F					2	0 HR	6							
	25 30	mcl	10YR53 42						0	0 HR	10		M					Imp-fli t
8	0 27	fszl	10YR43 00						0	0 HR	2							
	27 35	mzcl	10YR44 54	10YR58 00 F			00MN00 00		0	0 HR	2		M					
	35-45	mzcl	10YR54 00	10YR58 00 C			00MN00 00	S	0	0	0		M					
	45-55	hzcl	75YR64 00	75YR58 00 C			00MN00 00	Y	0	0	0		M					
	55-75	hzcl	75YR64 00	75YR58 00 C			00MN00 00	Y	0	0	0		M					
	75-120	hzcl	75YR64 00	75YR58 00 C			00MN00 00	Y	0	0	0		M					
9	0 32	fszl	10YR43 00						0	0	0							
	32 40	mzcl	10YR54 00	10YR58 00 C			00MN00 00	S	0	0 HR	2		M					
	40 50	mzcl	75YR64 00	75YR58 00 C			00MN00 00	Y	0	0 HR	2		M					
	50 70	mzcl	75YR64 00	75YR58 00 C			00MN00 00	Y	0	0 HR	2		M					
	70 120	mzcl	75YR64 00	75YR58 00 M			00MN00 00	Y	0	0 HR	2		M					
10	0 28	fs l	10YR42 00	10YR56 00 F					0	0 HR	3							
	28 40	fszl	10YR42 53						0	0 HR	3		M					
	40 57	mzcl	10YR53 62	10YR56 58 C			00MN00 00	Y	0	0 HR	2		M					
	57 100	hzcl	10YR53 62	10YR58 00 M			00MN00 00	Y	0	0 HR	2		M					Imp-fli t

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES 2	STONES 6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
11	0-28	fszl	10YR43 00						0	0		0							
	28-75	mzcl	10YR64 00	10YR58 00	C		00MN00 00	Y	0	0		0		M					
	75-120	hzcl	75YR64 72	75YR58 00	M		00MN00 00	Y	0	0	HR	2		M					
12	0 30	mzcl	10YR42 00						0	0	HR	2							
	30 60	mzcl	10YR44 00						0	0	HR	2		M					
	60-68	hzcl	10YR44 00						0	0		0		M					
	68-120	hzcl	10YR52 62	10YR56 58	M			Y	0	0		0		M					
13	0 32	mzcl	10YR43 00						0	0		0							
	32-45	mzcl	10YR54 00				00MN00 00		0	0		0		M					
	45-60	hzcl	10YR63 73	75YR58 00	C		00MN00 00	Y	0	0		0		M					
	60 90	hzcl	75YR64 00	75YR58 00	M		00MN00 00	Y	0	0		0		M					
	90 120	hzcl	75YR64 00	75YR58 00	M		00MN00 00	Y	0	0		0		M					
14	0 20	fs l	10YR43 00						0	0	HR	2							
	20 50	mzcl	10YR44 00						0	0	HR	2		M					
	50 65	mzcl	10YR54 00	10YR58 00	C			S	0	0	HR	2		M					
	65-120	hzcl	10YR62 63	10YR56 58	M			Y	0	0	HR	2		M					
15	0 25	mszl	10YR32 00	10YR46 00	F				2	0	HR	6							
	25-45	fs l	10YR51 52	10YR56 00	C			Y	0	0	HR	15		M					Imp-flint
16	0 30	f zl	10YR43 00						0	0		0							
	30 120	mzcl	10YR44 00						0	0		0		M					
17	0 30	ms l	10YR32 00						2	0	HR	6							
	30 40	fs l	10YR42 00						0	0	HR	10		M					Imp-flint
18	0 30	mzcl	10YR42 00						2	0	HR	6							
	30 32	mzcl	10YR42 00	75YR58 00	C			Y	0	0	HR	10		M					Imp-fli t