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Site 65 Court Lodge Farm,
Harrietsham
Maidstone Borough Local Plan
ALC Map and Report
April 1995

AGRICULTURAL LAND CLASSIFICATION REPORT

MAIDSTONE BOROUGH LOCAL PLAN
SITE 65 COURT LODGE FARM, HARRIETSHAM

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 65 comprises 27 1 hectares of land to the north of Harrietsham railway station and to the south of Court Lodge Farm at Harrietsham Kent An Agricultural Land Classification (ALC) survey was carried out during April 1995 The specific objector site (the most easterly field) which totals 4 4 ha was surveyed at a detailed level of approximately one boring per hectare Land to the west of this area which may also eventually be under pressure from further development was also considered to provide a context for appraising the current objector site This land was surveyed at a semi detailed level of approximately one boring per every three hectares A total of 14 borings and one soil inspection pit were described 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 a long term limitation on its use for agriculture

1 3 The work was carried out by members of the Resource Planning Team in the Guildford Statutory Group of ADAS

1 4 At the time of the survey all of the agricultural land was under oilseed rape Land mapped as non agricultural comprises a track

1 5 The distribution of grades and subgrades is shown on the attached ALC map and the areas and extent are given in the table 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

Table 1 Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site	% of Agricultural Land
2	22 3	82 3	83 8
3a	2 4	8 9	9 0
3b	1 9	7 0	7 2
Non-Agricultural	0 5	1 8	100 0 (26 6 ha)
Total area of site	27 1	100 0	

1 6 Appendix I gives a general description of the grades subgrades and land use categories identified in the survey The main classes are described in terms of the

type of limitation that can occur the typical cropping range and the expected level and consistency of yield

1 7 All of the objector site (4 4 ha) and the majority of the adjacent survey area has been classified as Grade 2 very good quality Parts of the adjacent area have been classified as Subgrades 3a and 3b Grade 2 land comprises deep silty and clayey soils which are derived from chalky marl The highly calcareous nature of such soils may act to impose minor restrictions on the agricultural versatility by inhibiting the uptake of certain essential elements thereby causing a slight chemical limitation The higher flatter land on the adjacent site has been classified as Subgrade 3a good quality because of soil droughtiness limitations Flinty clayey profiles derived from drift deposits of head interact with the prevailing climate to slightly reduce the level and consistency of crop yields

1 8 Two areas of Subgrade 3b land moderate quality also occur on the adjacent site The lower lying land in the south west of this area is subject to soil wetness and workability limitations Slowly permeable clay subsoils impede drainage resulting in restricted flexibility of cropping stocking and cultivations To the west of Court Lodge Cottages there is a gradient limitation Slopes within the range of greater than 7° to 11° act to significantly restrict the efficient use of agricultural machinery

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 deta ls are given in Table 2 and these show that there is no overall climatic limitation affecting the site However climatic factors do interact with soil factors to influence soil wetness and droughtiness limitations The field capacity days and soil moisture deficits are regionally average at this locality Consequently the likelihood of soil droughtiness or wetness limitations are neither increased or decreased

2 4 Climatic reports from the Meteorological Office (Met Office 1971) suggest that land adjacent to the railway line may be rather frost prone However at the time of survey frost risk was not felt to have significant impact on the site No other local climatic factors such as exposure are believed to affect the site

Table 2 Climatic Interpolations

Grid Reference	TQ 864 531	TQ 867 534
Altitude (m)	90	105
Accumulated Temperature (degree days Jan June)	1403	1386
Average Annual Rainfall (mm)	734	144
Field Capacity (days)	154	155
Moisture Deficit Wheat (mm)	108	106
Moisture Deficit Potatoes (mm)	100	97
Overall Climatic Grade	1	1

3 Relief

3 1 The highest land occurs in the centre of the site and occupies a small plateau which lies at approximately 105 m AOD From this plateau the land falls to the east south and west through gradients of approximately 1-3° To the west of Court Lodge Cottages steeper slopes occur Gradients within the range of 7-11° act to restrict the range of agricultural machinery that may be efficiently used All gradients were measured using an optical reading clinometer Nowhere on the does relief impose any limitation to the agricultural land quality

4 Geology and Soil

4 1 British Geological Survey (1976) Sheet 288 shows the site to be underlain by Gault Clay Excluding the lower lying area in the south west of the site adjacent to the railway line the Gault Clay is overlain by Lower Chalk Drift deposits of head are shown to cap the Lower Chalk on the higher flatter land on the site

4 2 Soil Survey of England and Wales (1983) Sheet 6 shows the entire site to comprise soils of the Coombe 2 association These soils are described as well drained calcareous fine silty soils over chalk or chalk rubble Shallow soils in places especially on brows and steeper slopes (SSEW 1983)

4 3 Detailed field examination three soil types The predominant is that of well drained deep calcareous soils derived from chalky marl On the plateau profiles comprise flinty clayey soils On the lower lying land the soils are poorly drained

5 Agricultural Land Classification

5 1 Table 1 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 Most of the agricultural land surveyed has been classified as Grade 2 very good quality A possible chemical limitation caused by very high levels of calcium carbonate within the soil profile acts to restrict agricultural versatility Topsoils comprise calcareous medium silty clay loams which overlie very calcareous heavy silty clay loam upper subsoils At approximately 28 55 cm depth these profiles pass into extremely calcareous heavy silty clay loam lower subsoils which extend to depth In addition to the calcareous nature of the soils these lower subsoils contain approximately 10% chalk fragments by volume Such profiles are represented by Pit 1 From Pit 1 which was dug to 85 cm and augered to 120 cm depth it was observed that crop roots extended to 80 cm depth However it is assumed that crop roots could exploit the soil reserves below 80 cm depth

5 4 Consequently the interaction between the deep silty textured soils and the prevailing climate means that these soils are not prone to drought stress However these soils having developed from calcareous chalky marl have extremely high levels of calcium carbonate High levels of calcium carbonate will act to restrict micro-nutrient availability to plants It is therefore judged that these soils have sufficiently high carbonate levels to impose a slight chemical limitation on plant growth thereby restricting the agricultural land quality The range of crops which can tolerate such high levels of calcium carbonate will be slightly limited

Subgrade 3a

5 5 Land classified as Subgrade 3a good quality is limited by soil droughtiness These profiles are derived from the drift deposits of head which cap the Lower Chalk on the higher flatter land on the site This map unit has been delineated mostly on the basis of geological and topographical information The single auger boring within this mapping unit was found to comprise a medium silty clay loam topsoil over a clay upper subsoil The topsoil was slightly stony containing approximately 2% of flints larger than 2 cm and 10% total flints The upper subsoil was moderately stony containing 25% total flints by volume At about 45 cm the profile was impenetrable to a soil auger because of a stonier lower subsoil No soil pit was dug in this small mapping unit but it has been assumed that roots could penetrate into this stony lower subsoil Consequently this land should retain adequate levels of water such that Subgrade 3a is appropriate

Subgrade 3b

5 6 The lower lying land in the south-west of the site has been classified as Subgrade 3b moderate quality This land occurs where the Gault Clay is not overlain by Lower Chalk and is restricted by soil wetness and workability limitations Non-calcareous medium silty clay loam topsoils are directly underlain by non-calcareous clay subsoils These subsoils are poorly structured and their slowly permeable characteristics act to significantly impede drainage This causes seasonal waterlogging as evidenced by gleying within the subsoils Consequently Wetness Class IV is appropriate The medium textured topsoils and poor soil drainage interact with the prevailing climate to restrict the flexibility of cropping stocking

and cultivation Crop growth and yield will also be adversely affected by such soil wetness

5 7 To the west of Court Lodge Cottages the land be classified as no better than Subgrade 3b because of significant slope limitations Gradients within the range of greater than 7° to 11° act to restrict the range of agricultural machinery that may be safely and efficiently used

ADAS Ref 2007/097/95
MAFF Ref EL 20/628

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

British Geological Survey (1976) Sheet No 288 Maidstone 1 50 000 Series (solid and 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) Climatological Data for Agricultural Land Classification

Soil Survey of England and Wales (1983) Sheet 6 Soils of South East England 1 250 000 and accompanying legend

APPENDIX 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 (eg cereals and forage crops) the yields of which are variable In moist climates yields of grass may be moderate to high but there may be difficulties in utilisation The grade also includes very droughty arable land

Grade 5 Very Poor Quality Agricultural Land

Land with 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 religous buildings cemetries 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 (eg polythene tunnels erected for lambing) may be ignored

Open Water

Includes lakes ponds and rivers as map scale permits

Land Not Surveyed

Agricultural land which has not been surveyed

Where the land use includes more than one of the above eg buildings in large grounds and where map scale permits the cover types may be shown separately Otherwise the most extensive cover type will be shown

APPENDIX II

FIELD ASSESSMENT OF SOIL WETNESS CLASS

SOIL WETNESS CLASSIFICATION

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile Six soil wetness classes are identified and are defined in the table below

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging[1]
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years [2]
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 90 days but only wet within 40 cm depth for 30 days in most years
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
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
V	The soil profile is wet within 40 cm depth for 211 335 days in most years
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years

Soils can be allocated to a wetness class on the basis of quantitative data recorded over a period of many years or by the interpretation of soil profile characteristics site and climatic factors Adequate quantitative data will rarely be available for ALC surveys and therefore the interpretative method of field assessment is used to identify soil wetness class in the field The method adopted here is common to ADAS and the SSLRC

[1]The number of days specified is not necessarily a continuous period

[2] In most years is defined as more than 10 out of 20 years

APPENDIX III

SOIL PIT AND SOIL BORING DESCRIPTIONS

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	**DCW**	Deciduous Wood
HTH	Heathland	**BOG**	Bog or Marsh	**FLW**	Fallow
PLO	Ploughed	**SAS**	Set aside	**OTH**	Other
HRT	Horticultural Crops				

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	**EX**	Exposure
FR	Frost Risk	**GR**	Gradient	**MR**	Microrelief
FL	Flood Risk	**TX**	Topsoil Texture	**DP**	Soil Depth
CH	Chemical	**WE**	Wetness	**WK**	Workability
DR	Drought	**ER**	Erosion Risk	**WD**	Soil Wetness/Droughtiness
ST	Topsoil Stoniness				

Soil Pits and Auger Borings

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

S	Sand	**LS**	Loamy Sand	**SL**	Sandy Loam
SZL	Sandy Silt Loam	**CL**	Clay Loam	**ZCL**	Silty Clay Loam
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	**SLST**	soft oolitic or dolimitic limestone
CH	chalk	**FSST**	soft fine grained sandstone
ZR	soft argillaceous or silty rocks	**GH**	gravel with non-porous (hard) stones
MSST	soft medium grained sandstone	**GS**	gravel with porous (soft) stones
SI	soft weathered igneous/metamorphic rock		

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	**VC** very 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 appropiate 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 MAIDSTONE LP SITE 65 Pit Number 1P

Grid Reference TQ87005300

Average Annual Rainfall 734 mm
Accumulated Temperature 1403 degree days
Field Capacity Level 154 days
Land Use Oilseed Rape
Slope and Aspect 02 degrees SE

HORIZON	TEXTURE	COLOUR	STONES	2	TOT STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	MZCL	10YR43 00	0		1	HR					Y
28- 42	HZCL	25Y 53 00	0		1	HR		MDCSAB	FM	M	Y
42-120	HZCL	25Y 72 71	0		10	CH	F	MDCSAB	FR	M	Y

Wetness Grade 1

Wetness Class I
Gleying cm
SPL No SPL

Drought Grade 1

APW 157mm MBW 49 mm
APP 122mm MBP 22 mm

FINAL ALC GRADE 2
MAIN LIMITATION Chemical

MPLE		ASPECT			--WETNESS--		-WHEAT-		-POTS-		M REL	EROSN	FROST	CHEM	ALC	
D	GRID REF	USE		GRDNT GLEY SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	COMMENTS
1	TQ87005310	OSR	SE	02	1	1	154	46	119	19	1				CH 2	Very calc 25
1P	TQ87005300	OSR	SE	02	1	1	157	49	122	22	1				CH 2	Very calc 42
2	TQ87105310	OSR	E	01	1	1	153	45	123	23	1				1	
3	TQ86205300	OSR	SE	02	1	1	157	49	122	22	1				CH 2	Very calc 28
4	TQ87005300	OSR	SE	02	1	1	157	49	122	22	1				CH 2	Very calc 42
5	TQ86905290	OSR	SE	02	1	1	157	49	122	22	1				CH 2	Very calc 28
6	TQ86705340	OSR	NW	02	1	1	146	38	111	11	1				CH 2	Very calc 35
7	TQ86805330	OSR	NW	01	1	1	151	43	118	18	1				1	
8	TQ86505320	CER	SE	02 035	2	2	143	35	119	19	1				CH 2	Very calc 35
9	TQ86705320	OSR			1	1	68	-40	68	-32	3B				DR 3A	Imp 45 flinty
10	TQ86905320	OSR	SE	03	1	1	154	46	120	20	1				CH 2	Very calc 55
11	TQ86405310	CER	SW	03 025 025	4	3B		0		0					WE 3B	Plastic 25
12	TQ86605300	CER		02 085 085	1	1	129	21	109	9	2				DR 2	
13	TQ86705300	CER	SW	02	1	1	157	49	122	22	1				CH 2	Very calc 35
14	TQ87655295	CER	SW	02 065 065	2	2	136	28	116	16	2				WD 2	Plastic 65

MPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	CALC	
1	0 25	mzcl	10YR43 52						0	0	CH	10					Y		
	25-120	hzcl	25Y 72 00						0	0	CH	10		M			Y		very calc
1P	0-28	mzcl	10YR43 00						0	0	HR	1					Y		
	28-42	hzcl	25Y 53 00						0	0	HR	1	MDCSAB FM	M			Y		
	42-120	hzcl	25Y 72 71	10YR56 00	F				0	0	CH	10	MDCSAB FR	M			Y		very calc
2	0-28	mzcl	10YR42 00						0	0	HR	1					Y		
	28-90	hzcl	25Y 53 00						0	0	HR	1		M			Y		
	90-120	c	25Y 53 00						0	0	CH	1		M			Y		
3	0-28	mzcl	10YR43 00						0	0		0					Y		
	28-120	hzcl	25Y 72 00	10YR56 00	F				0	0	CH	10		M			Y		very calc
4	0-25	mzcl	10YR43 00						0	0		0					Y		
	25-42	hzcl	25Y 53 00						0	0		0		M			Y		
	42-120	hzcl	25Y 72 00	10YR56 00	F				0	0	CH	10		M			Y		very calc
5	0 28	mzcl	10YR43 00						0	0		0					Y		
	28-120	hzcl	25Y 72 00	10YR56 00	F				0	0	CH	10		M			Y		very calc
6	0-25	mzcl	10YR42 00						4	0	HR	15					Y		
	25-35	hzcl	10YR54 00						0	0	HR	25		M			Y		
	35-120	hzcl	25Y 72 71	10YR68 00	F				0	0	CH	10		M			Y		very calc
7	0-25	mzcl	10YR42 00						1	0	HR	5					Y		
	25 55	hzcl	10YR56 00						0	0	HR	5		M			Y		
	55 120	hzcl	10YR56 00						0	0	HR	7		M			Y		
8	0-25	mzcl	10YR42 00						0	0	HR	2					Y		
	25-35	hzcl	25Y 54 00						0	0		0		M			Y		
	35-120	c	25Y 72 71	10YR68 00	M			Y	0	0	CH	5		M			Y		very calc
9	0-25	mzcl	10YR42 00						2	0	HR	10					Y		
	25-45	c	10YR56 00						0	0	HR	25		M			Y		Imp 45 flinty
10	0 25	mzcl	10YR53 00						0	0		0					Y		
	25-35	mzcl	10YR54 00						0	0		0		M			Y		
	35-55	mzcl	10YR54 00						0	0	CH	15		M			Y		
	55-120	hzcl	25Y 71 72	10YR68 00	F				0	0	CH	20		M			Y		very calc
11	0-25	mzcl	10YR42 00						0	0	HR	2							non-calc
	25-70	c	25Y 52 00	10YR56 00	M	00MN00 00		Y	0	0		0		P		Y			non-calc
12	0-20	mzcl	10YR42 00						0	0	HR	3					Y		
	20-55	c	25Y 54 00						0	0	HR	10		M			Y		
	55-85	c	25Y 54 00	00MN00 00	C				0	0	HR	10		M			Y		
	85-120	c	25Y 52 00	10YR58 00	M	00MN00 00		Y	0	0	HR	5		P		Y			non-calc

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----- COL	ABUN	CONT	PED COL	GLEY	----STONES >2	>6	LITH	TOT	-- STRUCT/ CONSIST	SUBS STR	POR	IMP	SPL	CALC	
13	0-28	hzcl	10YR43 00						0	0		0						Y	
	28-35	hzcl	25Y 63 00						0	0	CH	5		M				Y	
	35-120	hzcl	25Y 72 71	10YR68 00	F				0	0	CH	10		M				Y	very calc
14	0-25	mzcl	10YR42 00						0	0	HR	2						Y	
	25-65	c	25Y 54 00						0	0	CH	5		M				Y	
	65-120	c	25Y 52 00	10YR56 00	M			Y	0	0		0		P		Y			non-calc