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# Test Valley Local Plan Review
# Sites 134 135, Romsey
# Agricultural Land Classification
# Semi Detailed Survey
# ALC Map and Report

January 1997

Resource Planning Team
Eastern Region
FRCA Reading

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# AGRICULTURAL LAND CLASSIFICATION REPORT

## TEST VALLEY LOCAL PLAN REVIEW
## SITES 134-135
## ROMSEY HAMPSHIRE

## SEMI DETAILED SURVEY

### Introduction

1 This report presents the findings of a semi detailed Agricultural Land Classification (ALC) survey of approximately 28 hectares of land to the immediate north west of Chandler s Ford east of Romsey in Hampshire The survey was carried out during January 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 Test Valley Local Plan Review 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 mostly arable cropping with the northern most field being in permanent grassland Areas mapped as Other Land comprise woodland and scrub bordering the western boundary of the site

### 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 |
|---|---|---|---|
| 2 | 2 3 | 8 5 | 8 3 |
| 3b | 21 4 | 79 3 | 77 3 |
| 4 | 3 3 | 12 2 | 11 9 |
| Other land | 0 7 | | 2 5 |
| Total survey area | 27 0 | 100 0 | |
| Total site area | 27 7 | | 100 0 |

7 The fieldwork was conducted at an average density of 1 boring every 1 5 hectares of agricultural land A total of 16 borings and 1 soil pit were described

8 The land at this site has been classified mainly as Subgrade 3b (moderate quality) with smaller areas of Grade 2 (very good quality) and Grade 4 (poor quality)

9 The majority of the land suffers from wetness and workability problems and is mapped as Subgrade 3b or Grade 4 These areas are broadly coincident with land underlain by deposits of Bracklesham Beds The topsoils comprise fine loamy textures These may overlie similar upper subsoils but more usually pass to poorly structured clays at shallow depth As a result the drainage will be severely restricted and land is classified as Subgrade 3b Where topsoils are heavier the land is further limited by workability restrictions and Grade 4 is appropriate

10 Across the slightly higher land to the north east of the site (where Bagshot Sands are recorded) the soil profiles are more sandy and thereby generally better drained Here the combination of soil properties and the prevailing climate results in slight soil droughtiness which will restrict the amount of profile available water for crops Crop growth and yields may be adversely affected and the land is assigned to Grade 2 as a result

## Factors Influencing ALC Grade

### Climate

11 Climate affects the grading of 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 |
|---|---|---|
| Grid reference | N/A | SU 414 225 |
| Altitude | m, AOD | 40 |
| Accumulated Temperature | day°C (Jan June) | 1507 |
| Average Annual Rainfall | mm | 822 |
| Field Capacity Days | days | 176 |
| Moisture Deficit, Wheat | mm | 106 |
| Moisture Deficit, Potatoes | mm | 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 (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 (Climatic Grade 1) However climatic factors do interact with soil properties to influence soil wetness and droughtiness The climate at this locality is warm and moist in regional terms thereby enhancing the likelihood of soil wetness/workability restrictions

16 Local climatic factors such as frost risk and exposure are not thought to adversely affect agricultural land use on this site

**Site**

17 The land on this site ranges from 35 55m AOD The highest land is found along the northern site boundary with the land falling gently through gradients of 1 3° towards the south of the site Micro relief and gradient do not affect agricultural land quality across the site

18 Flooding does not appear to be limiting on this site

**Geology and soils**

19 The published geological sheet for the area (BGS 1978) shows most of the site to be underlain by Bracklesham Beds (interbedded sands and clays) with the northern most part being coincident with deposits of Bagshot Sands

20 The most recently published soils information for this area (SSEW 1983) maps the Wickham 3 soil association across the site These soils are described as Slowly permeable seasonally waterlogged fine loamy over clayey and coarse loamy over clayey and clayey soils (SSEW 1983)

21 Detailed field examination of the soils on the site broadly confirms the presence of poorly drained clayey soils across much of the site with deeper sandy soils to the north of the site in conjunction with the Bagshot Sand deposits

**Agricultural Land Classification**

22 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

23 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*

24 An area of very good quality agricultural land has been mapped in conjunction with the Bagshot Sands deposits to the north of the site Profiles typically comprise non calcareous medium sandy loam topsoils which may contain up to 5% total flints by volume These overlie loamy medium sand upper subsoils and pass to slightly heavier lower subsoils of sandy loam or sandy clay loam textures which are mottled and gleyed below 40cm This provides evidence of slight seasonal waterlogging caused by a fluctuating watertable In such a situation wetness class I (see Appendix II) is appropriate However the interaction between soil properties particularly the sandy textures and the prevailing climate results in slightly reduced reserves of available water Soil moisture balance calculations indicate that available water may not be sufficient to meet the demands of a growing crop throughout the season Grade 2 is therefore appropriate on the basis of a minor soil droughtiness restriction which may affect the level and consistency of yield

*Subgrade 3b*

25 Moderate quality land has been assigned to much of the site on the basis of soil wetness restrictions Soils across this area generally comprise non calcareous topsoils of medium clay loam texture containing 0 5% total flints by volume These sometimes overlie a thin upper subsoil of medium or heavy clay loam which is gleyed or they may pass directly to gleyed and slowly permeable clay horizons which significantly impede drainage The shallow depth to gleyed and slowly permeable horizons gives rise to a wetness class of IV in most cases occasionally III (see Appendix II) Soil pit 1 (see Appendix III) is representative of these soils The combination of soil drainage status prevailing climatic conditions (relatively moist in a regional context) and medium topsoil textures results in a land classification of Subgrade 3b on the basis of soil wetness This will adversely affect yield potential and the opportunities for cultivations and/or grazing

*Grade 4*

26 Poor quality land has been mapped towards the south east of the site Soils are similar to those described in para 25 above being clayey and poorly drained but heavier topsoil textures of heavy clay loam are typical This means that in addition to the significant soil wetness restrictions which prevail the land is limited by soil workability The opportunities for landwork or grazing will be severely reduced if damage to topsoil structure is to be avoided Such land is best suited to grazing

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Resource Planning Team
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## SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No 315 Southampton* 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* Meteorological 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 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 WETNESS CLASSIFICATION

### Definitions of Soil Wetness Classes

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

| 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 |

### Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land* (MAFF 1988)

[1] The number of days is not necessarily a continuous period
[2] In most years is defined as more than 10 out of 20 years

# APPENDIX III

# 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 **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 VALLEY SITE 134 135 Pit Numbe 1P

G id Reference SU41302280 Average Annual Rai f 11 820 mm
Accumulated Tempe ature 1513 degree days
Field Capacity Level 176 d ys
Land Use Cereal
Slope and Aspect 01 degrees W

| HORIZON | TEXTURE | COLOUR | STONES 2 | TOT STONE | LITH | MOTTLES | STRUCTURE | CONSIST | SUBSTRUCTURE | CALC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 25 | MCL | 10YR43 00 | 1 | 3 | HR | | | | | |
| 25- 38 | HCL | 10YR54 00 | 0 | 8 | HR | C | MDCSAB | FR | M | |
| 38- 60 | C | 10YR62 00 | 0 | 0 | | M | WKCAB | FR | M | |

Wetness Grade 3B Wetness Class IV
Gleying 025 cm
SPL 038 cm

Drought Grade APW 000mm MBW 0 mm
APP 000mm MBP 0 mm

FINAL ALC GRADE 3B
MAIN LIMITATION Wetness

| SAMPLE NO | GRID REF | USE | ASPECT | GRDNT | GLEY | SPL | WETNESS CLASS | WHEAT GRADE | POTS- AP | POTS- MB | M REL AP | M REL MB | DRT | FLOOD | EROSN EXP | FROST DIST | CHEM LIMIT | ALC | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SU41202300 | PGR | S | 01 | 035 | 035 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 1P | SU41302280 | CER | W | 01 | 025 | 038 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 2 | SU41302300 | SAS | SW | 03 | 040 | | 1 | 1 | 140 | 34 | 092 | -8 | 2 | | | | DR | 2 | |
| 3 | SU41202290 | SAS | SW | 02 | 020 | 045 | 4 | 3B | 123 | 17 | 099 | 1 | 2 | | | | WE | 3B | |
| 4 | SU41302290 | PGR | W | 02 | 065 | | 1 | 1 | 110 | 4 | 086 | 14 | 3A | | | | DR | 2 | Imp 100 |
| 5 | SU41302280 | CER | W | 02 | 028 | 028 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | Sandy le ses |
| 6 | SU41202270 | CER | W | 02 | 030 | 070 | 3 | 3A | 137 | 31 | 113 | 13 | 1 | | | | WE | 3A | |
| 7 | SU41202260 | CER | SW | 01 | 0 | 040 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | Sandy lenses |
| 8 | SU41302260 | CER | W | 01 | 032 | 032 | 4 | 4 | 000 | 0 | 000 | 0 | | | | | WE | 4 | |
| 9 | SU41202250 | CER | S | 01 | 035 | 035 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 10 | SU41402250 | CER | S | 01 | 042 | 042 | 3 | 3A | 000 | 0 | 000 | 0 | | | | | WE | 3A | |
| 11 | SU41302240 | CER | S | 01 | 030 | 030 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 12 | SU41502240 | CER | S | 01 | 030 | 030 | 4 | 4 | 000 | 0 | 000 | 0 | | | | | WE | 4 | |
| 13 | SU41202230 | CER | S | 01 | 028 | 028 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 14 | SU41402230 | CER | S | 01 | 025 | 025 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 15 | SU41302220 | CER | S | 01 | 030 | 030 | 4 | 3B | 000 | 0 | 000 | 0 | | | | | WE | 3B | |
| 16 | SU41502220 | SAS | S | 01 | 0 | 025 | 4 | 4 | 000 | 0 | 000 | 0 | | | | | WE | 4 | |

| 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 35 | msl | 10YR41 00 | | | | | | 0 | 0 | | 0 | | | | | | | |
| | 35-70 | c | 25 Y61 00 | 75YR58 00 | C | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 1P | 0-25 | mcl | 10YR43 00 | | | | | | 1 | 0 | HR | 3 | | | | | | | |
| | 25-38 | hcl | 10YR54 00 | 10YR58 00 | C | | | S | 0 | 0 | HR | 8 | MDCSAB FR | M | | | | | |
| | 38-60 | c | 10YR62 00 | 75YR68 00 | M | | | Y | 0 | 0 | | 0 | WKCAB FR | M | Y | | Y | | |
| 2 | 0 25 | msl | 10YR32 00 | | | | | | 0 | 0 | HR | 5 | | | | | | | |
| | 25-40 | lms | 10YR44 00 | | | | | | 0 | 0 | HR | 8 | | M | | | | | |
| | 40 70 | msl | 10YR42 44 | 10YR58 00 | C | | | Y | 0 | 0 | HR | 8 | | M | | | | | |
| | 70-85 | msl | 10YR42 00 | 10YR58 52 | C | | | Y | 0 | 0 | | 0 | | M | | | | | |
| | 85-120 | msl | 25Y 62 00 | 75YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | | | |
| 3 | 0 20 | ms l | 10YR42 00 | | | | | | 0 | 0 | HR | 5 | | | | | | | |
| | 20-45 | msl | 10YR63 00 | 10YR56 00 | C | | | Y | 0 | 0 | HR | 10 | | M | | | | | |
| | 45-120 | hcl | 10YR63 61 | 75YR58 00 | M | | | Y | 0 | 0 | HR | 5 | | M | | | Y | | |
| 4 | 0 32 | msl | 10YR41 00 | | | | | | 0 | 0 | | 0 | | | | | | | |
| | 32 65 | lms | 10YR62 00 | | | | | | 0 | 0 | | 0 | | M | | | | | |
| | 65-80 | msl | 25 Y62 00 | 10YR58 00 | C | | | Y | 0 | 0 | HR | 2 | | M | | | | | |
| | 80 100 | scl | 25 Y62 00 | 10YR58 00 | C | | | Y | 0 | 0 | HR | 2 | | M | | | | Imp | fl ts |
| 5 | 0 28 | mcl | 10YR43 00 | | | | | | 1 | 0 | HR | 5 | | | | | | | |
| | 28-50 | c | 10YR63 00 | 10YR58 00 | M | | | Y | 0 | 0 | HR | 5 | | M | | | Y | | |
| | 50 70 | c | 10YR63 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 6 | 0 30 | mcl | 10YR43 00 | | | | | | 1 | 0 | HR | 3 | | | | | | | |
| | 30 70 | mcl | 10YR53 00 | 10YR58 00 | C | | | Y | 0 | 0 | HR | 5 | | M | | | | | |
| | 70 120 | c | 10YR53 00 | 75YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 7 | 0 30 | mcl | 10YR42 00 | 10YR58 00 | C | | | Y | 1 | 0 | HR | 3 | | | | | | | |
| | 30 40 | mcl | 10YR53 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | | | |
| | 40 70 | c | 10YR62 63 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 8 | 0 32 | hcl | 10YR44 00 | | | | | | 0 | 0 | | 0 | | | | | | | |
| | 32 70 | c | 10YR63 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | | |
| 9 | 0 35 | mcl | 10YR34 00 | | | | | | 0 | 0 | HR | 1 | | | | | | | |
| | 35-70 | c | 10YR71 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | | |
| 10 | 0 28 | mcl | 10YR42 00 | | | | | | 0 | 0 | | 0 | | | | | | | |
| | 28 35 | mcl | 10YR54 00 | | | | | | 0 | 0 | | 0 | | M | | | | | |
| | 35-42 | hcl | 10YR54 00 | | | | | | 0 | 0 | | 0 | | M | | | | | |
| | 42 75 | c | 25 Y61 00 | 75YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | | |
| 11 | 0 30 | mcl | 10YR43 00 | | | | | | 0 | 0 | HR | 1 | | | | | | | |
| | 30 70 | c | 25 Y61 00 | 75YR68 00 | M | | | Y | 0 | 0 | | 0 | | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 0-30 | hcl | 10YR42 00 | | | | | | 0 | 0 | | 0 | | | | | | |
| | 30-70 | c | 25 Y61 00 | 75YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | |
| 13 | 0 28 | mcl | 10YR44 00 | | | | | | 0 | 0 | HR | 1 | | | | | | |
| | 28-70 | c | 10YR71 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | |
| 14 | 0 25 | mcl | 10YR44 00 | | | | | | 0 | 0 | | 0 | | | | | | |
| | 25-70 | c | 10YR62 00 | 10YR56 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | |
| 15 | 0-30 | mcl | 10YR42 00 | | | | | | 3 | 0 | HR | 5 | | | | | | |
| | 30 70 | c | 25 Y61 00 | 75YR68 00 | M | | | Y | 0 | 0 | HR | 2 | | P | | | Y | |
| 16 | 0 25 | hcl | 10YR53 00 | 75YR56 00 | C | | 10YR61 00 | Y | 0 | 0 | | 0 | | | | | | |
| | 25-60 | c | 25 Y61 00 | 75YR58 00 | M | | | Y | 0 | 0 | | 0 | | P | | | Y | |