**A1**

# Fareham Borough Local Plan
# Sites 15 & 16,
# North and South of Segensworth Road
# Agricultural Land Classification
# March 1996

**Resource Planning Team**
**Guildford Statutory Group**
**ADAS Reading**

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# AGRICULTURAL LAND CLASSIFICATION

## FAREHAM BOROUGH LOCAL PLAN
## SITES 15 & 16; NORTH AND SOUTH OF SEGENSWORTH ROAD, FAREHAM, HAMPSHIRE

### Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 8.1 ha of land situated to the north and south of Segensworth Road in the area known as Titchfield Park, between Fareham (to the east) and Locks Heath (to the north west). The survey was carried out in March 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 Fareham Borough Local Plan Review. No previous survey work has been carried out on Site 15 (north of Segensworth Road). A narrow strip of land in the east of Site 16 (South of Segensworth Road) was included in a survey in 1980 to subdivide Grade 3 land into Subgrades 3a, 3b and 3c in the western wards of Fareham (ADAS Ref 1504/009/80). The previous survey was undertaken using technical guidelines which have been superceded (MAFF, 1988). Consequently a new, detailed survey was undertaken; the current survey supersedes all previous ALC surveys on 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 6.4 ha was under grassland. 1.7 ha is occupied by either glasshouses or in urban land use. The area in the west of Site 15 is mapped as Other land. Part of this area is occupied by residential properties, the eastern third is a nursery with glass houses on predominately hard footings. The rest of this area is occupied by glasshouses where large areas of soil are exposed and is mapped as agricultural land not surveyed. A narrow strip of land approximately 20 m wide has recently been fenced off along the eastern boundary of Site 16. I was informed by the occupier that this was the route of a new road although was under pasture at the time of survey.

### 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.

**Table 1: Area of grades and other land**

| Grade/ Other land | Site 15 Area (hectares) | Site 16 Area (hectares) | Total area Sites 15 & 16 | % Surveyed area of Sites 15 & 16 | % Total area of Sites 15 & 16 |
|---|---|---|---|---|---|
| 3b | 3.5 | 2.9 | 6.4 | 100.0 | 79.0 |
| Other land | 0.9 | - | 0.9 | - | 11.1 |
| Agricultural land not surveyed | 0.8 | - | 0.8 | - | 9.9 |
| Total surveyed area | 3.5 | 2.9 | 6.4 | 100.0 | |
| Total site area | 5.2 | 2.9 | 8.1 | - | 100.0 |

7. The fieldwork was conducted at an average density of 1.6 borings per hectare. Supplementary borings were placed where necessary. On this site a total of 10 borings and 2 soil pits were described.

8. Soils were found to comprise medium clay loam or medium silty clay loam topsoils overlying slightly stony slowly permeable clay subsoils over much of the site, with stonier profiles in some locations. The profiles described suggest that soil drainage is impeded by slowly permeable horizons, imposing a limitation on land quality due to soil 'wetness'. Seasonal waterlogging reduces the number of days on which the land can be worked with machinery or grazed without the risk of poaching, and root development is restricted by prolonged wet conditions.

9. Soil 'droughtiness', where a crop does not have sufficient water available in the profile to meet its potential yield, also imposes a limitation on part of this land, affecting the crop during months of low rainfall.

10. Subgrade 3b (moderate quality) land is mapped over all of the agricultural land on the site. The overriding limitation to land quality is soil wetness.

**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 5 km grid datasets using the standard interpolation procedures (Met. Office, 1989).

**Table 2: Climatic and altitude data**

| Factor | Units | Values |
|---|---|---|
| Grid reference | N/A | SU 535 074 |
| Altitude | m, AOD | 37 |
| Accumulated Temperature (>0°C Jan-June) | day°C | 1514 |
| Average Annual Rainfall | mm | 806 |
| Field Capacity Days | days | 162 |
| Moisture Deficit, Wheat | mm | 112 |
| Moisture Deficit, Potatoes | mm | 107 |

13. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

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

15. The combination of rainfall and temperature on this site mean that there is no limitation on grade due to climate. Neither exposure nor frost are considered to be a potential limitation, and this site is climatically Grade 1.

**Site**

16. Site 15 to the north of Segensworth Road is bounded on the north by a recent industrial development, on the east and west by residential properties, and on the south by residential properties and Segensworth Road. Site 16, South of Segensworth Road is bounded by Segensworth Road in the north, residential developments to the west and east, and by fields to the south.

17. Land on both sites falls from higher, level plateaux to lower points in the north east and towards the road between the two sites. Altitude (above Ordnance Datum in each case) ranges from 33 m (spot height value) between the two sites (SU 5355 0725), to approximately 42 m in the north west of Site 16 (SU 5320 0755) and approximately 38 m in the south of Site 16 (SU 5350 0710). Nowhere on the site does gradient affect agricultural land classification grade.

**Geology and soils**

18. The most detailed published geological information (BGS, 1971: Sheet 316, Fareham), shows the site to be underlain by a solid geology of Bracklesham Beds, with a small area of Bagshot Beds exposed in the far north east. A drift cover of high level terrace deposits (formerly classified as plateau gravels) is mapped over the south of Site 16 and over the south and west of Site 15.

19. The most recently published soils information (SSEW, 1983), records the whole area as having soils corresponding to the Sonning 1 association. Sonning 1 soils are described as 'well drained, flinty, coarse loamy and sandy soils mainly over gravel..' with '..some coarse loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging' (SSEW, 1984).

20. A Soil Survey of the Strawberry District of South Hampshire (FF Kay 1939) maps three soil types in this area, the most extensive being the Warsash series. Warsash soils are flinty loamy sands over gravels.

21. The south of Site 16 was mapped by Kay as the Titchfield series (named after this area) which has since been mapped under the Wickham series by SSEW. Titchfield soils are described by Kay as having composite profiles as they are derived from both Bracklesham Beds and high level terrace (gravel) deposits, and can occur on the edge of the gravels, with mottled gravelly loamy horizons passing into mottled clay. Soils found on the site (types 1 and 2) follow this description on both sites. A small area of stoneless permeable Hamble series soils is mapped by Kay in the east of Site 16.

**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.

*Subgrade 3b*

24. All of the agricultural land on the site falls into Subgrade 3b. Soils are variable but fall into two different soil types.

Type 1.

25. Most of the auger boring information on both sites describes profiles with medium clay loam, often gleyed, very slightly or slightly stony topsoils (2-10% vv total hard stones). Upper subsoils at approximately 30 cm depth (when present), are typically slowly permeable very slightly stony clay (1% very small flint stones), with stoneless slowly permeable clay at 30 to 45 cm depth. These soils have impeded drainage owing to slowly permeable horizons, and fall into Wetness Class IV.

26. A moderately stony (25% vv hard stones) heavy clay loam upper subsoil was described in one profile in the extreme south east of Site 16, with slowly permeable clay occurring at a slightly lower depth of 45 cm. In this profile the soils fall into Wetness Class III (Subgrade 3a) but as a single occurrence, unsupported by the nearby soil inspection pit, the area was not mapped as a separate unit. This is compared with the previous survey of 1980, where Subgrade 3a was mapped, based on a single boring located at this same point.

Type 2.

27. The centre to north of Site 15 has stonier soil profiles with topsoils impenetrable to the auger in several locations. A soil inspection pit was described at boring number 2 to represent this soil type.

28. The topsoil in this area has a higher proportion of silt or fine sand which may be related to the aeolian drift known to occur in this region. The medium silty clay loam topsoil is moderately stony, containing 8% vv hard stones greater than 2 cm (seived estimate), and a total hard stone content of 25% vv (sample measured by displacement). Topsoil stones are not abundant enough to limit the grade independently, although are important in reducing the available water in the profile.

29. The gleyed sandy clay loam upper subsoil is considered to be moderately stony (see 1P), containing 22% vv total hard stones (sample measured by displacement) and passes to a clay lower subsoil at 30 cm depth. The lower subsoil is moderately to very stony with 34% vv total hard stones (sample measured by displacement) and is slowly permeable. This horizon was found to be variable within short distances and some profiles may also be limited due to droughtiness. This land falls into Wetness Class IV and is graded Subgrade 3b.

30. The higher stone content of these soils (see 1P) reduces the available water capacity of the profile and the land also suffers a droughtiness limitation, although this would only restrict the grade to Subgrade 3a, with soil wetness the overriding limitation to land quality.

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## SOURCES OF REFERENCE

F.F. Kay (1939) *A Soil Survey of the Strawberry District of South Hampshire.*

British Geological Survey (1971) *Sheet No.316, Fareham*
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, 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:**

# 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<br>**ST**: strongly developed | **MD**: moderately developed |
| ped size | **F**: fine<br>*C*: coarse | **M**: medium<br>**VC**: very coarse |
| ped shape | **S** : single grain<br>**GR**: granular<br>**SAB**: sub-angular blocky<br>**PL**: platy | **M**: massive<br>**AB**: angular blocky<br>**PR**: prismatic |

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 : FAREHM N&S SEGENSWORTH R  Pit Number :  1P

Grid Reference: SU53300750  Average Annual Rainfall :  806 mm
Accumulated Temperature : 1514 degree days
Field Capacity Level  : 162 days
Land Use  : Permanent Grass
Slope and Aspect  :  degrees

| HORIZON | TEXTURE | COLOUR | STONES >2 | TOT.STONE | LITH | MOTTLES | STRUCTURE | CONSIST | SUBSTRUCTURE | CALC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0- 20 | MZCL | 10YR51 00 | 8 | 25 | HR | F | | | | |
| 20- 31 | SCL | 10YR63 00 | 0 | 22 | HR | C | WKMSAB | FR | G | |
| 31-120 | C | 10YR62 00 | 0 | 34 | HR | M | WKCSAB | FM | M | |

Wetness Grade : 38  Wetness Class  : IV
Gleying  :020 cm
SPL  :031 cm

Drought Grade : 3A  APW : 099mm  MBW :  -13 mm
APP : 083mm  MBP :  -24 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : FAREHM N&S SEGENSWORTH R  Pit Number : 2P

Grid Reference: SU53600712
Average Annual Rainfall : 806 mm
Accumulated Temperature : 1514 degree days
Field Capacity Level : 162 days
Land Use : Permanent Grass
Slope and Aspect : 02 degrees N

| HORIZON | TEXTURE | COLOUR | STONES >2 | TOT.STONE | LITH | MOTTLES | STRUCTURE | CONSIST | SUBSTRUCTURE | CALC |
|---|---|---|---|---|---|---|---|---|---|---|
| 0- 25 | MCL | 10YR52 00 | 3 | 3 | HR | M | | | | |
| 25- 36 | HCL | 10YR63 00 | 0 | 1 | HR | M | MDCSAB | FR | M | |
| 36- 80 | C | 10YR63 00 | 0 | 0 | | M | WKCSAB | FM | M | |

Wetness Grade : 3B
Wetness Class : IV
Gleying :0 cm
SPL :036 cm

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

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

| 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 | SU53200750 | PGR | | | 030 | 030 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P |
| 1P | SU53300750 | PGR | | | 020 | 031 | 4 | 3B | 099 | -13 | 083 | -24 | 3A | | | | WE | 3B | AT B2 |
| 2 | SU53300750 | PGR | | | 020 | | 2 | 2 | 048 | -64 | 048 | -59 | 4 | | | | WE | 3B | SEE 1P, IMP 30 |
| 2P | SU53600712 | PGR | N | 02 | 0 | 036 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | NR B10 |
| 3 | SU53400750 | PGR | | | | | 1 | 1 | 012 | -100 | 012 | -95 | 4 | | | | WE | 3B | SEE 1P, IMP 10 |
| 4 | SU53500750 | PGR | | | 0 | 040 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P, ANAERO |
| 5 | SU53450735 | PGR | S | 04 | 0 | 030 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P, IMP 70 |
| 6 | SU53500720 | PGR | N | 01 | 0 | 040 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P |
| 7 | SU53600720 | PGR | N | 04 | | | 1 | 1 | 055 | -57 | 055 | -52 | 4 | | | | WE | 3B | SEE 1P, IMP 40 |
| 8 | SU53570715 | PGR | N | 02 | 0 | 030 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P |
| 9 | SU53500710 | PGR | | | 0 | 030 | 4 | 3B | | 0 | | 0 | | | | | WE | 3B | SEE 2P |
| 10 | SU53600710 | PGR | N | 01 | 0 | 045 | 3 | 3A | | 0 | | 0 | | | | | WE | 3A | SEE 2P |

| SAMPLE | 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 | SUBS CALC | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0-30 | mcl | 10YR41 00 | 10YR46 00 | F | | | | 1 | 0 | HR | 1 | | | | | | | SEE 2P |
| | 30-70 | c | 10YR72 00 | 10YR58 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 1P | 0-20 | mzcl | 10YR51 00 | 10YR56 00 | F | | | | 8 | 2 | HR | 25 | | | | | | | |
| | 20-31 | scl | 10YR63 00 | 10YR68 00 | C | | | Y | 0 | 0 | HR | 22 | WKMSAB | FR | G | | | | |
| | 31-120 | c | 10YR62 00 | 10YR58 00 | M | | | Y | 0 | 0 | HR | 34 | WKCSAB | FM | M | | Y | | |
| 2 | 0-20 | mcl | 10YR42 00 | | | | | | 0 | 0 | | 0 | | | | | | | SEE 1P, IMP 30 |
| | 20-30 | mcl | 10YR52 00 | 10YR56 00 | C | | | Y | 0 | 0 | HR | 25 | | M | | | | | |
| 2P | 0-25 | mcl | 10YR52 00 | 10YR56 00 | M | | | Y | 3 | 0 | HR | 3 | | | | | | | |
| | 25-36 | hcl | 10YR63 00 | 10YR58 00 | M | | | Y | 0 | 0 | HR | 1 | MDCSAB | FR | M | | | | |
| | 36-80 | c | 10YR63 00 | 10YR71 68 | M | | | Y | 0 | 0 | | 0 | WKCSAB | FM | M | | Y | | |
| 3 | 0-10 | msl | 10YR42 00 | | | | | | 0 | 0 | HR | 30 | | | | | | | SEE 1P, IMP 10 |
| 4 | 0-40 | msl | 10YR51 00 | 10YR46 00 | C | | | Y | 2 | 1 | HR | 7 | | | | | | | SEE 2P, ANAEROBIC |
| | 40-70 | c | 25 Y64 00 | 75YR58 00 | C | | | Y | 0 | 0 | HR | 2 | | M | | | Y | | |
| 5 | 0-30 | mzcl | 10YR52 00 | 10YR58 00 | C | | | Y | 2 | 0 | HR | 10 | | | | | | | SEE 2P, IMP 70 |
| | 30-70 | c | 10YR63 00 | 10YR68 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 6 | 0-30 | mcl | 10YR52 00 | 75YR56 00 | C | | | Y | 2 | 0 | HR | 7 | | | | | | | SEE 2P |
| | 30-40 | c | 10YR64 00 | 75YR68 00 | C | | | Y | 0 | 0 | HR | 5 | | M | | | | | |
| | 40-70 | c | 10YR63 00 | 05 Y58 00 | M | | | Y | 0 | 0 | HR | 2 | | M | | | Y | | |
| | 70-100 | c | 10YR72 00 | 10YR68 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 7 | 0-40 | mcl | 10YR53 00 | | | | | | 5 | 0 | HR | 25 | | | | | | | SEE 1P |
| 8 | 0-30 | mcl | 10YR53 00 | 10YR58 00 | C | | | Y | 1 | 0 | HR | 4 | | | | | | | SEE 2P |
| | 30-100 | c | 10YR72 00 | 10YR58 00 | M | | | Y | 0 | 0 | HR | 1 | | M | | | Y | | |
| 9 | 0-30 | mcl | 10YR52 00 | 10YR58 00 | C | | | Y | 1 | 0 | HR | 4 | | | | | | | SEE 2P |
| | 30-40 | c | 10YR63 00 | 10YR72 00 | C | | | Y | 0 | 0 | HR | 3 | | M | | | Y | | |
| | 40-100 | c | 10YR72 00 | 10YR68 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |
| 10 | 0-30 | mcl | 10YR52 00 | 10YR56 00 | C | | | Y | 1 | 0 | HR | 4 | | | | | | | SEE 2P |
| | 30-45 | hcl | 10YR53 00 | 10YR58 00 | C | | | Y | 0 | 0 | HR | 25 | | M | | | | | |
| | 45-70 | c | 10YR63 00 | 10YR68 00 | M | | | Y | 0 | 0 | HR | 1 | | M | | | Y | | |
| | 70-120 | c | 10YR72 00 | 10YR68 00 | M | | | Y | 0 | 0 | | 0 | | M | | | Y | | |