

REPORT OF THE MAFF AGRICULTURAL LAND CLASSIFICATION SURVEY (1988) CROPPINGS FARM

Summary:

The land has been classified following the Agricultural Land Classification of England and Wales - revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). Of the land surveyed 34% is classified as sub grade 3b and 40% as grade 4. A further 26% is classified as non-agricultural land.

1. Introduction

The survey work was carried out on 23 November 1989. A grid auger boring survey was completed and soil pits were dug as required.

2. Climatic Limitations

The main parameters used in the assessment of the climatic limitations are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (ATO), as a measure of the relative warmth of the locality. The figures of AAR and ATO indicate that there is a climatic limitation on this site, the highest possible grade being Grade 2.

3. Site Limitations:

The assessment of site factors is primarily concerned at the way in which topography influences the use of agricultural machinery and hence the cropping potential of the land. There are no site limitations affecting the use of the land.

4. Soil Limitations

The main soil properties which affect the cropping potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or site factors. The physical limitations which result from interactions with climate or site are soil wetness, droughtiness and erosion. Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is the main interactive limitation affecting the grading on this site. Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, defined in terms of soil texture, structure and gleying, and relating this to the texture of the top 25cm. Combining the soil wetness class and the field capacity days (FCD) a land classification grade is arrived at. Reference will be made to this limitation in Section 6.

5. Background Information

The underlying geology is mapped as Coal measures (Sheet 152, Shrewsbury, Geological Survey).

6. Agricultural Land Use

At the time of the survey, November 1989, the land was under grass, used for horse and cattle grazing.

7. **Agricultural Land Quality (Appendix 1):**

Sub-grade 3b: the soil typically has a medium clay loam texture overlying heavy clay and clay at depths of between 33 and 40cm. Observations of gley and depth to the slowly permeable layer combined with field capacity day figure of 183 indicate wetness class IV and sub-grade 3b.

Grade 4: the soil typically has a clay loam texture overlying clay by 20cm. Observations of gley and depths upto the slowly permeable layer combined with a field capacity day figure of 183 indicate wetness class IV and grade 4.

Non-agricultural land: this includes land adjacent to existing workings, predominantly under scrub and grazed grass cover.

REPORT TO ACCOMPANY THE SOIL UNITS MAP FOR CROPPINGS FARM

Introduction

Following a grid auger boring survey two soil units have been identified on this site. These soil units, based on soil texture, reflect similarities in requirements for stripping, handling and storage. Where appropriate soil pits were dug to obtain information on the physical characteristics of the soil such as structure.

Unit I

This occurs mainly on the western part of the site adjacent to existing workings. The top soil has a heavy clay loam texture of depths between 15-30cm, overlying clay. In places coal dust and coal fragments are present in the soil. Description of the soil pit dug within unit I is attached in Appendix I.

Unit II

This is found mainly along the eastern boundary of the site where the soil has a medium clay loam texture of depths varying between 33-40cm. Below these depths either heavy clay loam to 60cm or clay is present. A description of the soil pit dug within unit II is attached in Appendix II.

Resource Planning Group
Wolverhampton
December 1989

APPENDIX I

CROPPINGS FARM - PIT 1

cms	Texture	Munsell Colour	Mottling	Structure	Stones
0-30	HCL	10YR 3.5 to 10YR 4/1½	Common Ochreous	Weakly discoloured medium subangular blocky	Occasional medium/small sandstone pebbles
30-50	C	2.5Y 4/0	Common Ochreous	Weakly developed coarse angular blocky	

Plant roots common above 30 cms, fewer with depth. Occasional coal fragments present above 30 cms; much coal present below 30 cms.

<0.5% biopores >0.5 cm, throughout profile.

APPENDIX II

Croppings Farm - PIT 2

cms	Texture	Munsell	Mottling	Structure	Stones
0-33	MCL	10YR 4/2	-	Weakly developed medium and fine subangular blocky	Small stone fragments present
33-60	HCL	7.5YR 5/6	Common ochreous pale colours: manganese	Weakly developed coarse and medium subangular blocky <0.5% biopores >0.5mm	Occasional small rounded pebbles present.

Abundant fine/medium roots above 33 cms; common

roots present below 33 cms.

1. Topsoil depth varied around pit.
2. Topsoil stone content sieved - <2% stone remained on 2 cm sieve; 5% stone remained on 1 cm sieve.

APPENDIX II

Croppings Farm - PIT 2

cms	Texture	Munsell	Mottling	Structure	Stones
0-33	MCL	10YR 4/2	-	Weakly developed medium and fine subangular blocky	Small stone fragments present
33-60	HCL	7.5YR 5/6	Common ochreous pale colours: manganese	Weakly developed coarse and medium subangular blocky <0.5% biopores >0.5mm	Occasional small rounded pebbles present.

Abundant fine/medium roots above 33 cms; common

roots present below 33 cms.

1. Topsoil depth varied around pit.
2. Topsoil stone content sieved - <2% stone remained on 2 cm sieve; 5% stone remained on 1 cm sieve.

SOIL NOTES FOR CROPPINGS FARM, TELFORD 23RD NOVEMBER 1989

1. 0-15 cm silty clay loam, 10 YR 4/2, very faint ochreous mottles, 15-40 cm ditto with some coal fragments present, 40-90 cm heavy clay loam, 10 YR 6/4 with ochreous mottles and pale colours. spl 40 cm, wetness class IV, stone at 90 cm. Very slightly uneven, grass. Disturbed? 3b
2. 0-30 cm of silty clay loam, 10 YR 4/2 with coal fragments, 30-40 cm of silty clay loam with common ochreous mottles, 40 cm+ stone, difficult to auger, several attempts. Gleyed above 40 cm. Wetness class IV. 3b
3. 0-25 cm of heavy clay loam, 10 YR 4/1, with mottles, 25-40 cm of grey clay with mottles, 40-70 cm of black coal dust with some clay present at 60 cm. Difficult to auger below 70 cm because of stones. Grass. Disturbed? spl at 25 cm. Wetness class IV. ALC 4.
4. 0-25 cm of silty clay loam/heavy silty clay loam, 10 YR 4/1, with mottles and coal fragments, 25-100 cm of grey yellow mixed clay and coal fragments. Disturbed? Grass. Wetness class IV. ALC 4.
5. 0-20 cm of silty clay loam/heavy silty clay loam, 10 YR 4/1, 20-40 cm of grey clay 10 YR 6/1, 40-50 cm of shale plus much coal dust, 40-60 cm ditto, difficult to auger below 60 cm. Level, grass. Wetness class IV, ALC 4.
6. 0-25 cm of medium clay loam, becoming heavy clay loam by 25 cm, 10 YR 4/2, 25-30 cm of brown mixed colours heavy clay loam, 30-40 cm of clay, 7.5 YR 5/6 with numerous mottles, 40-70 cm ditto, stone difficult to auger below 70 cm. Very occasional quartz pebbles present. Disturbed? Wetness class IV. b
3/4
A
7. 0-20 cm of heavy clay loam, 10 YR 4/1 with common ochreous mottles, 20-30 cm of clay, 10 YR 5/1 with coal fragments and mottles, 30-100 cm of grey clay with mottles. spl at 20 cm, wetness class IV, ALC 4.
8. 0-20 cm of grey heavy clay loam with mottles, 20-70 cm of grey clay with coal fragments and mottles. Difficult to auger below 70 cm because of stones. Adjacent at current workings, scrub, broom and juncus. Non-agricultural land.

9. 0-40 cm of clay, 10 YR 5/1 with coal fragments and mottles present, 40-50 cm of brown medium clay loam mixed, disturbed. Slight slope. 4
10. 0-35 cm of brown medium clay loam, 10 YR 4/2, coal fragments present, 35-40 cm of heavy clay loam with numerous coal fragments, 40-50 cm ditto, 50-70 cm of orange brown clay with numerous coal fragments. Slight slope. Wetness class IV. ALC 3b
11. 0-33 cm of brown medium clay loam, 33-40 cm of medium clay loam, 10 YR 5/6, 40-60 cm of heavy clay loam/medium clay loam, small stones present with occasional mottling. Difficult to auger below 60 cm because of stones. spl at 60 cm and not gleyed. Wetness class III, ALC 3a
12. 0-38 cm of medium clay loam, 10 YR 3/2, 38-58 cm of clay, 10 YR 4/6 with ochreous mottles, 58-75 cm of yellow grey clay with mottles and occasional small stones present, 75-80 cm of yellow sand. Difficult to auger below 80 cm. If spl at 38 cm, 7, wetness clas IV. 3b
13. 0-15 cm of heavy clay loam with mottles, 2.5 YR 4/0, 15-60 cm of grey clay, 2.5 Y 6/0. Mottles. Difficult to auger below 60 cm because of stone? Non-agricultural land, ungrazed scrub. 4
- 9a 0-100 cm of grey clay. Disturbed. Coal fragments. 4
- 11a. 0-33 cm of medium clay loam, 10 YR 4/2, with a few very faint fine mottles, 33-40 cm of brown heavy clay loam with occasional small sandstone fragments, 40-50 cm of brown clay with small stones present. Difficult to auger below 50 cm. 3b