

**MSA M55, HALE HALL FARM,
TREALES, LANCASHIRE**

**Agricultural Land Classification
ALC Map and Report
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**AGRICULTURAL LAND CLASSIFICATION REPORT
MSA M55, HALE HALL FARM, TREALES, LANCASHIRE**

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 43.6 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located on either side of the M55 motorway, north of Treales in Lancashire. The survey was in connection with a proposed motorway service area on the M55.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in November, 1997 by the Resource Planning Team of the Farming and Rural Conservation Agency (FRCA)- Northern region of FRCA.
3. The land has been graded in accordance with the publication "Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land" (MAFF 1988) .
4. At the time of survey the agricultural land on this site was under winter wheat and stubble.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000 with an average auger boring density of 1 per hectare. The ALC map is only accurate at this base map scale and 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	Area (hectares)	% surveyed area	% site area
3a	19.6	46	45
3b	23.1	54	53
Other	0.9	-	2
Total surveyed area	42.7	100	-
Total site area	43.6	-	100

7. The agricultural land on this site has been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The key limitation to the agricultural use of this land is soil wetness.

8. The area of good quality agricultural land is mapped around the edges of the site. The soils commonly comprise a medium clay loam topsoil overlying a medium clay loam or sandy clay loam upper subsoil, passing to heavy clay loam and occasionally clay at depth, with common sandy lenses.

9. The area of moderate quality agricultural land is mapped in the centre of the site. The soils commonly comprise a medium clay loam topsoil, overlying a medium clay loam upper subsoil, passing to heavy clay loam and clay subsoils.

FACTORS INFLUENCING ALC GRADE

Climate

10. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

11. 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 standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SD 450 346	SD 448 345
Altitude	m, AOD	22	25
Accumulated Temperature	day°C (Jan-June)	1412	1409
Average Annual Rainfall	mm	983	989
Field Capacity Days	days	216	217
Moisture Deficit, Wheat	mm	77	76
Moisture Deficit, Potatoes	mm	61	60
Overall climatic grade	N/A	1	2

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

13. 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.

14. The site straddles a climatic boundary. The combination of rainfall and temperature at this site means that the majority of the site is climatically Grade 1. However, the western fringe of the site, approximately above the 25 m contour, is climatically Grade 2.

Site

15. The site lies at an altitude of 20 to 26 metres AOD. The land is gently undulating in character, particularly in the eastern part of the site north of the motorway, a number of small ponds and hollows scattered throughout.
16. The three site factors of gradient, microrelief and flooding are considered when classifying the land.
17. Gradient, microrelief and flooding do not impose any limitations on the agricultural use of this land.

Geology and Soils

18. The solid geology of the area is comprised Triassic Mudstones of the Mercia Mudstone Group. The drift geology is comprised of Glacial Till - British Geological Survey (1991).
19. The soils that have developed on this geology are generally of a clay loam topsoil texture overlying a clay loam upper subsoil, passing to heavy clay loam and clay with sandy lenses.

Agricultural Land Classification

20. The details of the classification of the site are shown on the enclosed ALC map and the area statistics of each grade are given in Table 1, page 1.

Subgrade 3a

21. Land of good quality occupies 19.6 hectares (46 %) of the site area and occurs around the edges of the site.
22. The soil has a medium clay loam topsoil texture over either a medium clay loam or sandy clay loam upper subsoil, passing to heavy clay loam and occasionally clay, with few or no stones within the profile. Sandy lenses commonly occur within the subsoils.
23. The depths to gleying and the slowly permeable layer place these soils in Wetness Class III.
24. The main limitation to the agricultural use of this land is soil wetness.

SubGrade 3b

25. Land of moderate quality occupies 23.1 hectares (53 %) of the site area and occurs in the centre of the site on both sides of the motorway.

26. The soil has a medium clay loam topsoil texture over a medium clay loam or heavy clay loam upper subsoil over either heavy clay loam or clay, with few or no stones within the profile. Isolated borings of good quality land occur within this area where sandy lenses occur within the subsoil. An area of disturbed land was identified between the woodland and the south side of the motorway in the extreme west of the site.

27. The depths to gleying and the slowly permeable layer place these soils in Wetness Class IV.

28. The main limitation to the agricultural use of this land is soil wetness.

Other Land

29. Other land occupies 0.9 hectares (2 %) of the site area and includes ponds and a small area of woodland on the western boundary of the site, south of the motorway.

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SOURCES OF REFERENCE

British Geological Survey (1991) Sheet 67, Garstang, Drift Edition.
1:50 000 Scale.
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.
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