

**CHESHIRE REPLACEMENT
MINERALS LOCAL PLAN
Crown Farm**

**Agricultural Land Classification
ALC Map and Report
February 1998**

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**AGRICULTURAL LAND CLASSIFICATION REPORT
CHESHIRE REPLACEMENT MINERALS LOCAL PLAN
Crown Farm**

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 31.7 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located to the south west of Sandiway adjacent to the A556 trunk road. The survey was in connection with the Cheshire Replacement Minerals Local Plan.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in February 1998 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 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
1	-	-	-
2	9.9	33	31
3a	18.6	62	59
3b	-	-	-
4	1.7	5	5
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	1.5	N/A	5
Total surveyed area	30.2	100	-
Total site area	31.7	-	100

7. The agricultural land on this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality), and Grade 4 (poor quality). The key limitations to the agricultural use of this land include gradient, soil stoniness and soil droughtiness.

8. The area of very good quality land is located on the flatter ground in the south and east of the site. The soils have a sandy loam topsoil overlying loamy sand and sand to depth.

9. The area of good quality land is mapped mainly in the north and east of the site on the more undulating land. The soils in this area have a loamy sand topsoil overlying loamy sand and sand to depth.

10. The area of poor quality land is mapped on the moderately steep slopes of the more severe undulations in the north of the site. This land has slopes with gradients of between 11° and 15°.

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 standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SJ 579 701	SJ 581 704
Altitude	m, AOD	80	80
Accumulated Temperature	day°C (Jan-June)	1371	1371
Average Annual Rainfall	mm	826	829
Field Capacity Days	days	191	192
Moisture Deficit, Wheat	mm	83	83
Moisture Deficit, Potatoes	mm	68	68
Overall climatic grade	N/A	Grade 1	Grade 1

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 means that there is no overall climatic limitation. The site is climatically Grade 1.

Site

16. The site lies at an altitude of 80 metres AOD. The land is gently undulating in the south, becoming more strongly undulating in the north. An access road cuts across the site from the east to an adjacent quarry on the west side of the site.

17. The three site factors of gradient, microrelief and flooding are considered when classifying the land. Gradient imposes a limitation on the agricultural use of the land in the north of the site where there are slopes of between 11° and 15° .

18. The remaining factors do not impose any limitations on the agricultural use of this land.

Geology and Soils

19. The solid geology of the area is comprised of Lower Keuper Marl - British Geological Survey (1986). This is overlain with deposits of glacial sands and gravel - British Geological Survey (1965).

20. The soils that have developed on this geology are generally either of a sandy loam or loamy sand texture over sand.

Agricultural Land Classification

21. 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.

Grade 2

22. Land of very good quality occupies 9.9 hectares (31 %) of the site area and is found in the south and east of the site.

23. The soil has a sandy loam texture over loamy sand and sand to depth, with few stones within the profile. The moisture balance places these soils in Grade 2. This area includes some isolated borings of excellent quality in the south west corner of the site. These profiles cannot be shown separately at this scale of mapping.

24. The main limitation to the agricultural use of this land is soil droughtiness.

Subgrade 3a

25. Land of good quality occupies 18.6 hectares (59 %) of the site area and is found in the north and west of the site.

26. The soil has a predominantly loamy sand texture over loamy sand and sand to depth, with few to common stones within the profile. The moisture balance places these soils in Subgrade 3a.

27. In the north of the site, on the top of a rise, a small area of land occurs with common to many stones within the topsoil. The stone content places these soils in Subgrade 3a. Isolated areas occurred where the topsoils stone content placed the soils in Subgrade 3b. These profiles cannot be shown separately at this scale of mapping.

28. The main limitations to the agricultural use of this land are soil stoniness and soil droughtiness.

Grade 4

29. Land of poor quality occupies 1.7 hectares (5 %) of the site area and is found on the strongly undulating land in north of the site.

30. The land has slopes with gradients of between 11⁰ and 15⁰.

31. The main limitation to the agricultural use of this land is gradient.

Other Land

32. Other land occupies 1.5 hectares (5 %) of the site area and is found as a pond, water storage tanks, a quarry site office in the north east of the site, and an access road from the site office to the adjacent quarry in the west.

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SOURCES OF REFERENCE

British Geological Survey (1986) Sheet 109, Chester, Solid Edition.
1:50, 000 Scale
BGS: London

British Geological Survey (1965) Sheet 109, Chester, Drift Edition.
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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.
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