

**CHERRY ORCHARD FARM,  
OAKMERE, SANDIWAY**

**Agricultural Land Classification &  
Statement of Site Physical Characteristics  
ALC Map and Report  
February 1999**

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**RPT Reference: 098/98 & 25/RPT/0982  
FRCA Reference: EL 06/11512  
LURET Job Number: ME3L7KY**

## AGRICULTURAL LAND CLASSIFICATION REPORT CHERRY ORCHARD FARM, OAKMERE, SANDIWAY

### INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 6.2 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, centred on grid reference SJ 565 680. The site is bounded to the east by woodland, to the north and south by agricultural land and to the west by Cherry Orchard Farm and the existing sand extraction site.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in February 1999 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 was under stubble and grass.

### 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	-	-	-
3a	0.9	15	15
3b	5.3	85	85
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	n/a	-
Other land	-	n/a	-
<b>Total surveyed area</b>	<b>6.2</b>	<b>100</b>	
<b>Total site area</b>	<b>6.2</b>		<b>100</b>

7. The agricultural land on this site has been classified as Subgrade 3a (good quality ) and Subgrade 3b (moderate quality). The key limitations to the agricultural use of this land are soil droughtiness, topsoil texture and gradient.

8. Good quality land is found in the west of the site. The soils commonly comprise a loamy sand topsoil overlying either a loamy sand or sand upper subsoil onto sand at depth.

9. Moderate quality land is found throughout the majority of the site on the undulating land. The soils commonly comprise either a loamy sand or a sand topsoil onto sand at depth. This land has slopes with gradients of between 7° and 11° with intervening hollows and complex slope patterns.

## 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 5km grid datasets using standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SJ 565 680
Altitude	m, AOD	80
Accumulated Temperature	day°C (Jan-June)	1373
Average Annual Rainfall	mm	800
Field Capacity Days	days	185
Moisture Deficit, Wheat	mm	84
Moisture Deficit, Potatoes	mm	70
Overall climatic grade	N/A	Grade 1

12. 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.

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 (ATO, January to June), as a measure of the relative warmth of a locality.

14. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. The site is climatically Grade 1.

## **Site**

15. The site lies at an altitude of 80 metres AOD. The topography of the site is generally undulating in nature with the smaller western field being level.
16. 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 throughout the majority of the site where there are slopes of between 7° and 11°.
17. The remaining factors do not impose any limitations on the agricultural use of this land.

## **Geology and Soils**

18. The solid geology of the area comprises of Helsby Sandstone of the Sherwood Sandstone Group - British Geological Survey (1986). The drift geology comprises of Glacial Sands and Gravel - British Geological Survey (1990).
19. The soils that have developed on this geology are generally of either a loamy sand or sand topsoil texture overlying sand to depth.

## **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 0.9 hectares (15%) and is found in the west of the site.
22. The soils commonly comprise a loamy sand topsoil texture overlying sand to depth. The moisture balance places these soils in Subgrade 3a.
23. The main limitation to the agricultural use of this land is soil droughtiness.

### *Subgrade 3b*

24. Land of moderate quality occupies 5.3 hectares (85 %) of the site area and is found throughout the majority of the site.
25. The soils commonly comprise a loamy sand topsoil overlying sand to depth. The moisture balance places these soils in Subgrade 3a. Occasionally sand topsoils are present at isolated borings. These profiles cannot be shown separately at this scale of mapping.
26. Where sand topsoils are present, these soils are not eligible for Grades 1, 2 or Subgrade 3a, irrespective of the moisture balances which result from the droughtiness assessment, such that Subgrade 3b is appropriate.

27. Gradient imposes a limitation on the agricultural use of the land over most of the site where there are slopes of between 7° and 11° with intervening hollows and complex slope patterns.

28. The main limitations to the agricultural use of this land are topsoil texture and gradient.

## SOIL UNITS

29. From the auger boring and pit information obtained by the detailed survey one soil unit can be identified. The location and extent of the soil unit is shown on the accompanying soil resource map. The map is not necessarily intended to be used for soil stripping but is illustrative of the soil resource available for restoration. The depths quoted should be treated with caution due to the natural variability of the soils on this site.

### *Soil Unit 1*

30. Soil Unit 1 occupies 6.2 hectares (100%) of the site area.

31. The soil has a loamy sand topsoil texture to a depth of between 22 and 50cm, overlying loamy sand and sand to between 65 and 80cm, onto sand to depths greater than 120cm. Occasionally stony subsoils are present.

32. Occasionally sand topsoils are found at isolated borings. These soils cannot be shown separately due to the scattered nature and small area coverage.

33. Table 3 describes a typical profile for Soil Unit 1.

Table 3: Soil Unit 1 - Profile description of Soil Unit 1

Horizon	Depth (cms)	Description
Topsoil	0-22	Loamy medium sand, dark brown (10YR 3/2), stony, weakly developed coarse angular blocky structure, friable consistence, common roots.
Upper Subsoil	22-46	Medium sand, reddish brown (5YR 4/6), moderately stony, weakly developed medium angular blocky structure, friable consistence, porous, common roots.
Lower Subsoil	46-58	Medium sand, reddish brown (5YR 4/6 & 5/8), weakly developed coarse to medium angular blocky structure, friable consistence, porous.
Lower Subsoil	58-120	Medium sand, reddish to yellowish brown (5YR 5/6), weakly developed medium to fine angular blocky, friable consistence, porous.

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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 (1990) Sheet 109, Chester, Drift Edition.  
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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.  
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Meteorological Office (1989) Climatological Data for Agricultural Land Classification.  
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