AGRICULTURAL LAND CLASSIFICATION & STATEMENT OF SITE PHYSICAL CHARACTERISTICS COBDEN FARM, CHESHIRE

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1 SUMMARY

1.1 The Agricultural Land Classification (ALC) Survey for this site shows that the following proportions of ALC grades are present:

Grade/Subgrade	ha	% of site
3a	13.8	58
3b	10.1	42

1.2 The main limitation to the agricultural use of land in Subgrade 3a is soil droughtiness and Subgrade 3b is soil droughtiness and topsoil texture.

2 INTRODUCTION

2.1 The site was surveyed by the Resource Planning Team in December 1995. An Agricultural Land Classification survey was undertaken according to the guidelines laid down in the "Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).

2.2 The 23.9 ha site is situated 4 miles west of Winsford. The site lies between the A54 to the south, Longstone Lane to the east, Shay's Lane to the north and Tarporley Road (A49) to the west.

2.3 The survey was requested by MAFF initially in connection with the Cheshire Minerals Local Plan, and subsequently in connection with a planning application for sand extraction at this site.

2.4 At MAFF Land Use Planning Unit's request this was a detailed grid survey at 1:10000 with a minimum auger boring density of 1 per hectare. The attached map is only accurate at the base map scale and any enlargement would be misleading.

2.5 At the time of the survey the site was under grass, winter cereal, carrots, and stubble/bare ground after cereals and potatoes.

3 CLIMATE

3.1 The following interpolated data are relevant for the site (SJ585675):

Average Annual Rainfall (mm)	817
Accumulated Temperature above 0ºC January to June (day ºC)	1378

3.2 There is no overall climatic limitation on the site.

3.3 Other relevant data for classifying land include:

Field Capacity Days (days)	188
Moisture Deficit Wheat (mm)	84
Moisture Deficit Potatoes (mm)	69

4 SITE

4.1 Three site factors of gradient, micro relief and flooding are considered when classifying land.

4.2 These factors do not impose any limitations on the agricultural use of the land.

5 GEOLOGY AND SOILS

5.1 The solid geology of the area comprises Lower Keuper Marl and Lower Keuper Saliferous Beds. This is overlain with Glacial Sand and Gravel drift deposits - British Geological Survey Sheet 109, Chester, 1" to 1 mile.

5.2 The soils developed from these parent materials have loamy sand and sand textures.

6 AGRICULTURAL LAND CLASSIFICATION

6.1 Grade 3a - occupies 13.8 ha (66%) of the survey area and is found in the north, west and south of the site.

6.1.1 The soils generally have a loamy sand topsoil texture overlying a medium sand subsoil. The soils are stoneless or slightly stony in the subsoil. In places the topsoils have a high organic matter content and are bordering on organic mineral textures. Within the area shown as Subgrade 3a there are auger borings of Subgrade 3b which cannot be mapped separately at this scale.

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

6.2 Subgrade 3b - occupies 10.1 ha (34%) of the survey area and is found in the centre of the site.

6.2.1 The soils have a medium sand topsoil texture overlying medium sand subsoils. Some profiles are slightly stony with gravelly layers in the subsoil. Some topsoils have a high organic matter content and are bordering on an organic mineral texture. Within the area shown as Subgrade 3b there are augur borings of Subgrade 3a which cannot be mapped separately at this scale.

6.2.2 The main limitations to the agricultural use of this land are topsoil texture and soil droughtiness.

6.3 SUMMARY OF AGRICULTURAL LAND CLASSIFICATION GRADES

Grade/Sub-grade	Area in Hectares	% of Survey Area	% of Agricultural Land
3a	13.8	58	58
3b	10.1	42	42
Totals	**23.9**	**100**	**100**

SOIL RESOURCES REPORT FOR COBDEN FARM, CHESHIRE

7 INTRODUCTION

7.1 The soils on the site were investigated using a Dutch auger, with borings made on a 100m grid, and by examining soil pits to a depth of 1.2m. Two soil units were identified and these are described below.

8 SOIL UNITS

8.1 Soil unit 1 occupies 13.8 ha (58%) of the site and is found in the north, west and south. The soils have a loamy sand topsoil over a medium sand subsoil. A typical profile description is as follows:

0-30 cm	black, 7.5YR 2.5/1, loamy medium sand; stoneless; moderately well developed fine granular structure; friable; few fine roots; wavy boundary to;
30-65 cm	dark brown, 7.5YR 3/4, medium sand; stony band at 45 cm of hard, rounded stones, otherwise stoneless; weakly developed fine, granular structure; very friable; common fine roots;
65-120 cm	strong brown, 7.5YR 5/8, medium sand; stoneless; single grain; very few fine roots.

8.2 Soil unit 2 occupies 10.1 ha (42%) of the site and is found in the centre of the site. The soils are predominantly of medium sand texture throughout the profile. A typical profile description is as follows:

0-35 cm	black, 7.5YR 2.5/1, medium sand; stoneless; moderately well developed fine granular structure; friable; few fine roots; iron rich layer at boundary with subsoil;
35-60 cm	strong brown, 7.5YR 4/6, medium sand/loamy medium sand; stoneless; weakly developed fine coarse angular blocky structure, breaking down readily; friable; few fine roots;
60-80 cm	strong brown, 7.5YR 4/6, medium sand; 10% hard gravel up to 2cm in size; single grain; no roots;
80-120 cm	strong brown, 7.5UR 4/6, medium sand; stoneless, single grain; no roots.

8.3 SUMMARY OF SOIL UNIT AREAS

Unit	Area (ha)	% of site
1	13.8	58
2	10.1	42
Total	23.9	100