

9/93

Agricultural Land Classification Report for land at Arclid (Congleton L.P.)

Introduction:

This 16.8 ha site was visited by the Resource Planning Team in April 1993. An Agricultural land classification (ALC) survey was undertaken using the guidelines laid down in the ALC Revised Guidelines/Criteria Booklet (1988). Soils were augered to a depth of 100cm at 100m intersections. Additional profiles were described where necessary, to determine land quality boundaries and soil pits were dug to determine soil structure.

Location:

The survey area lies South West of Congleton, is bounded by the A50 in the South West, Davenport Lane to the East, the A534 to the South with agricultural land and a waste disposal site to the North.

Altitude and Relief:

The land lies at an altitude of approximately 75m and is gently undulating. To the South of Drummer Bank Farm gradient is a limiting factor where slopes exceed 7 degrees.

Climate:

The main parameters used in the assessment of climatic limitations are Average Annual Rainfall (AAR), a measure of the overall wetness of the area and Accumulated Temperature (ATO), a measure of warmth. For this site these figures are 766mm and 1378 degrees respectively, indicating that there are no climatic limitations on the site. The mean last frost is in April.

Geology and Soils:

The parent geology of this site consists of Middle Keuper Marl overlain by a drift deposit of boulder clay. Typically medium sandy loams overlie loamy medium sands over sands with clay at depth. Soils with an organic rich topsoil are located to the North East of the site where woodland has been reclaimed to agriculture.

Interactive Limitations

Seasonal waterlogging affects the soils workability of crop yields hence wetness is an important parameter in the classification of land. It is measured by reference to climate, particularly Field Capacity Days (FCD), soil water and topsoil texture. This site is at field capacity for 183 days. Some isolated profiles exhibit gley morphology and have a slowly permeable layer within 80cm. These soils fall into Wetness Class III. The majority of the soils on this site fall into Wetness Class I. These soils tend not to exhibit gley morphology and do not have a slowly permeable layer (SPL) within 80cm. They are light textured and prone to drought. A soils susceptibility to drought is measured by the amount of water a profile can hold (AP), in comparison to the soil moisture deficit (MD) for the area. For this site the MD for wheat is 88mm and for potatoes is 76mm.

Land Use:

At the time of survey the site was mainly under grass, with field vegetables sown in the Northern part of the site. Land was ploughed and sown with potatoes and wheat in the North East of the site.

Agricultural Land Classification:**Grade 2:**

This grade accounts for 8.9 ha and 53% of the site. It is mapped as a large unit in the Northern half of the site and as a smaller central unit in the South West.

The soils are typically medium sandy loams over loamy medium sands over sands, occasionally clay is encountered at depth. An organic rich topsoil occurs in the North East of the site with a typical profile of organic medium sand overlying medium sands. These light textures mean that droughtiness is the main limiting factor. Stone content is generally low. These soils fall into Wetness Class 1 having no gley morphology or SPL within 80cm. Some isolated profiles of grade 1 and grade 3a occur within this area but were too small to map separately at this scale.

Sub Grade 3a:

This grade accounts for 3.2 ha and 19% of the site. It is mapped as a block in the Southeast of the site. The soils are typically loamy medium sands over medium sands to depth. A smaller unit of this grade occurs just North of Inglewood and is typified by medium sandy loams over loamy medium sands over sands. The depth to the subsoil is shallower than described above for grade 2. Stone content is low. These soils fall into Wetness Class 1 with no gley morphology within 40cm and no SPL within 80cm. Droughtiness is the main limitation for these soils.

To the South of Drummer Bank Farm a central unit of 3a exists. Here the soils are more mixed in character, and can be either medium sandy loams overlying clays to depth or loamy medium sands/medium sandy loams over sands. Isolated areas of heavier soils occur along the Western boundary of the site and these soils exhibit gley morphology below 40cm and are slowly permeable within 80cm. These soils fall into Wetness Class III and wetness is the main limitation.

Sub grade 3b:

This grade accounts for 0.5 ha and 3% of the site. It is mapped in two localities firstly, South of Holdings Drumble stream in the West of the site. Gradient is the main limitation for this part of the site with slopes of up to 11 degrees recorded. The second area is located to the East of Inglewood. Here the soils are typically loamy medium sands over sands to depth. A compacted layer exists within the subsoil. The depth and extent of this layer is variable and as such the field has been classified as 3b because of this potential limitation to rooting depth.

Grade 4:

This grade accounts for 0.3ha and 2% of the site. This grade is mapped over a small marshy, rush infested area in the West of the site directly North of Holdings Drumble. At the time of survey the land was waterlogged and this severe drainage problem has resulted in the area being classified as Wetness Class IV (ie. the soil profile is wet within 40cm for 211-335 days in most years) To the North of this marshy area grade 4 has been mapped where slopes of between 14 and 15 degrees have been recorded. Here gradient is the main limiting factor.

Non-Agricultural land:

This accounts for 0.6 ha and 3% of the site. It is composed of an abandoned marl pit, a driveway and a stream.

Urban:

This grade accounts for 2.8 ha and 17% of the site and is composed of Arclid Hospital, grounds and local houses.

Woodland:

This grade accounts for 0.2 ha and 1% of the site and occurs as two small strips in the South East and Northern part of the site.

Agricultural Buildings:

This grade accounts for 0.3 ha and 2% of the site and is composed of agricultural buildings and poultry pens.

Table 1: Breakdown of ALC Grades

Grade	Area	% of survey area	% of Ag land
2	8.9	53	69
3a	3.2	19	25
3b	0.5	3	4
4	0.3	2	2
Urban	2.8	17	0
Non-Ag	0.6	3	0
Ag buildings	0.3	2	0
Woodland	0.2	1	0
Total	16.8	100	100