4106/081/92

Agricultural Land Classification

East Sussex Minerals Plan

Broomhill Farm, Camber

Resource Planning Team
Guildford Statutory Group
ADAS

EAST SUSSEX MINERALS PLAN, BROOMHILL FARM, CAMBER

Agricultural Land Classification: Report of Survey

1. Introduction

In August 1992, a detailed Agricultural Land Classification (ALC) was carried out over 68 hectares of land at Broomhill Farm, Camber near Rye in East Sussex. The work was carried out under commission from MAFF's Land Use Planning Unit. The survey area was one of several areas of search identified by the County Council as part of its review of the Structure Plan and the preparation of a Minerals Local Plan which was hoping to identify areas for possible aggregate extraction.

The work was carried out by members of the Resource Planning Team within ADAS's Guildford Statutory Group, using MAFF's revised guidelines and criteria for grading the quality of agricultural land. A total of 2 soil pits and 53 auger borings were described giving an approximate observation density of 1 per hectare. The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on agricultural use.

The results of the survey are shown on the attached ALC map at a scale of 1:10,000; it is accurate at this scale but any enlargement would be misleading. The details of the distribution of the grades is given in the table below and shows that there is no high quality land on the site. The majority of the land has been classified as Sub-grade 3B as a result of a significant wetness limitation related to shallow clay subsoils, with the rest of the site classified as Grade 4 as a result of a severe droughtiness limitation related to extremely stony soils developed on storm gravel deposits.

Table 1: Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Agricultural Area
3B	59.5	89
4	7.1	11
Agric bldgs	0.3	100% (66.6 ha)
Open water	0.3	
Total	67.2 ha	

2. Climate

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

The main parameters used in the assessment of the climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.

A detailed assessment of the prevailing climate has been made by interpolation from a 5 km gridpoint dataset. The details of the interpolation are given in the table below. These show that there is no overall climatic limitation affecting the site: the area is climatically Grade 1.

Table 2: Climatic Interpolation

Grid Reference:	TQ 980 190
Altitude (m):	3
Accumulated Temperature (°days):	1515
Average Annual Rainfall (m):	693
Field Capacity (days):	143
Moisture Deficit, Wheat (mm):	126
Moisture Deficit, Potatoes (mm):	124

3. Agricultural Land Classification

3.1 Sub-grade 3B

The majority of the survey area has been placed in this grade and Pit 1 is typical of these soils. Clay topsoils overlie upper subsoils of clay which show clear evidence of gleying and structures which are slowly permeable. The soils are placed in Wetness Class IV (ie. soil profile is wet within 7 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years) and this, in combination with the heavy topsoil textures and the prevailing Field Capacity range (143 days), places the soils in 3B. There is a significant limitation on the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

3.2 Grade 4

This map unit of poor soils relates directly to stone gravel deposits which have created extremely stony profiles. Pit 2 is typical of these soils which have approximately 65% stones throughout the profile. This degree of stoniness imposes a severe droughtiness limitation and also causes a great reduction in the flexibility of the land due to the stone content of the topsoil (although the majority of the stones are less than 2 cm in size). Part of this map unit has actually been used as a source of aggregates for backfilling drains and creating paths across the farm and has been left as a flooded pit.

SOIL PIT DESCRIPTION

Site Name : CAMBER EAST SUSSEX MINS Pit Number : 1P

Grid Reference:

Average Annual Rainfall : 693 mm
Accumulated Temperature : 1515 degree days
Field Capacity Level : 143 days
Land Use : Bare Soil
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	C	10YR42 00	0	0		MDCSAB
25- 55	C	10YR53 00	0	0	M	MCP
55-120	C	25Y 52 00	0	0	C	MCP

Wetness Grade : 3B

Wetness Class : IV
Gleying :025 cm
SPL :025 cm

Drought Grade : 3A

APW : 124mm MBW : -2 mm
APP : 101mm MBP : -23 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : CAMBER EAST SUSSEX MINS Pit Number : 2P

Grid Reference:

Average Annual Rainfall : 693 mm
Accumulated Temperature : 1515 degree days
Field Capacity Level : 143 days
Land Use : Bare Soil
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 32	C	10YR43 00	1	65		
32-120	C	10YR43 00	0	65		

Wetness Grade : 2

Wetness Class : I
Gleying :000 cm
SPL : No SPL

Drought Grade : 4

APW : 050mm MBW : -76 mm
APP : 041mm MBP : -83 mm

FINAL ALC GRADE : 4
MAIN LIMITATION : Droughtiness

ADAS