

AVON RING ROAD, STONEHILL FARM, HANHAM  
AGRICULTURAL LAND CLASSIFICATION

REPORT OF SURVEY

1. Introduction

In February 1990, a detailed Agricultural Land Classification (ALC) Survey was carried out over 8.5 hectares of land at Stonehill Farm, Hanham adjacent to the line of the proposed Avon Ring road.

The survey was requested by Avon County Council as part of MAFF's response for the planning inquiry.

The fieldwork was conducted by the Resource Planning Group at an approximate observation density of 1.4 observations per hectare. A total of 10 borings and 2 soil pits were examined.

The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture. The distribution of ALC grades is detailed below and illustrated on the accompanying ALC map at a scale of 1:5000. The information is accurate at the scale shown, but any enlargement of the maps would be misleading.

Table 1: Distribution of ALC grades

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
2	2.2 ha	26%	26%
3B	6.3 ha	74%	74%
	8.5 ha	100%	100%

2. Climate

Estimates of important climatic variables were obtained for the site by interpolation from a 5 km grid database in order to assess any overall climatic limitation. The indicative parameters for assessing such a limitation are accumulated temperature (a measure of the relative warmth of a locality) and average annual rainfall (a measure of overall wetness). The results (shown in Table 2) reveal that there is no overall climatic limitation affecting the site. No local limiting climatic factors were observed at the site.

Table 2: Climatic Interpolation

Grid reference	ST 648718
Height (m)	60
Accumulated Temperature (° days)	1480
Average Annual Rainfall (mm)	802
Field Capacity (days)	178
Moisture deficit, Wheat (mm)	95
Moisture deficit, potatoes (mm)	85

### 3. . Agricultural Land Classification

The majority of the survey area has been mapped as **sub-grade 3B**. In this area the medium clay loam soils typically to a depth of 25-30 cm overlying clays to depth are gleyed above 40 cm and have slowly permeable layers (SPL) within 48 cm. The soils fall into wetness Class 4 and with medium clay loam topsoils are graded as **sub-grade 3B**. Soil wetness is the limiting factor.

The small area of **grade 2** land in the north of the survey area did not exhibit signs of wetness and is wetness Class 1. It is limited to grade 2 on soil workability arising from the medium clay loam topsoils. The grade 2 soils are typically medium and then heavy clay loams over clays.

Two soil pits were dug and described, one in each of the mapping units. These confirmed the auger boring classification and in the sub-grade 3B area the soil structure and condition confirmed the depth of the SPL.

SITE NAME	PROFILE NUMBER	SLOPE AND ASPECT	LAND USE	Av Rainfall :- 803 mm	PARENT MARIAL
Avon Ring Road Hanham Section	1	3°	Grass	ATO :- 1480°C FC Days :- 178 Climatic grade:- 1	Keuper Marl

Horizon Number	Lowest Av Depth	Matrix and Ped Face Colours	Texture	Stoniness: Size, Shape, Type, and Field Method	Mottling Abundance, Contrast Size and Colour	Structure: Development Size and Shape	Pores and Fissures	Structural Condition	Consistence	Roots Abundance Size and Nature	Calcium Carbonate Content	Mangan Concs etc	Horizon Boundary: Distinctness and Form
1	36	10YR43	MCL	<1% sst	None	Weakly developed MG	Good	Good	V Friable	Many		None	
2	60	7.5YR46	HCL	1% sst	None	Moderately developed CSAB (not SPL)	Good	Moderate	Friable	Common fine		Few	
3	80+	10YR56	HCL	2% sst	cdm	Moderately developed CSAB (not SPL)	Good	Moderate	Friable			Common	

Depth to Slowly Permeable Horizon :- No SPL not gleyed

Wetness Class :- I

Wetness Grade :- 2

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Available Water Wheat :- Not limiting

Potatoes :-

Moisture Deficit Wheat :-

Potatoes :-

Moisture Balance Wheat :-

Potatoes :-

Droughtiness Grade :-

Final ALC Grade :- 2

Main Limiting Factor(s) :- Workability

Remarks :-

SITE NAME Avon Ring Road Hanham Section	PROFILE NUMBER 2	SLOPE AND ASPECT	LAND USE Grass	Av Rainfall :- 802 mm ATO :- 1480°C FC Days :- 178 Climatic grade:- 1	PARENT MARIAL Keuper Marl
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Horizon Number	Lowest Av Depth	Matrix and Ped Face Colours	Texture	Stoniness: Size, Shape, Type, and Field Method	Mottling Abundance, Contrast Size and Colour	Structure: Development Size and Shape	Pores and Fissures	Structural Condition	Consistence	Roots Abundance Size and Nature	Calcium Carbonate Content	Mangan Concs etc	Horizon Boundary: Distinctness and Form
1	20	10YR33	MCL	None	None							None	
2	36	10YR53	C	None	cdm	Weakly developed MP	1-2% >.5 mm	Moderate	Friable	Common fine		fnn	
3	50	5YR46 ppf	C	None	cdm	Weakly developed CAB (SPL)	1-2%	Moderate	Friable	Common fine		fnn	
4	80+	2.5YR34	C	None	none	Weakly developed MAB	1% >.5 mm	Moderate	Friable	Few fine		cmn	

Depth to Slowly Permeable Horizon :- 36 cm gleyed from 20 cm	Available Water Wheat :- Not limiting Potatoes :-	Final ALC Grade :- 3b
Wetness Class :- 4	Moisture Deficit Wheat :- Potatoes :-	Main Limiting Factor(s) :- Soil wetness
Wetness Grade :- 3b	Moisture Balance Wheat :- Potatoes :-	Remarks :-
RPG0023/WJC	Droughtiness Grade :-	