8FCS 2995

5/89

LAND ADJACENT TO BISHOP'S COURT SAND QUARRY, EXETER, DEVON
AGRICULTURAL LAND CLASSIFICATION (ALC)

Report of Survey

1. Introduction

In March, 1988, following an informal planning consultation from Exeter City Council, a 16 hectare site was surveyed to the immediate west of Junction 30 on the M5 at Exeter. The site straddles Apple Lane (SX962915) and incorporates the active mineral workings of Bishop's Court Sand Quarry which affects almost all of the land east of Apple Lane.

Field survey work was conducted by members of the Resource Planning Group (South West Region) using MAFF's revised guidelines and criteria for grading the quality of agricultural land. The guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use.

The soils were augered at an approximate sampling density of one boring per hundred metres, and one soil pit was examined. The distribution of the ALC grades and sub-grades is outlined below in Table 1 and illustrated in the accompanying ALC map. The distribution of the auger sample points (ASPs) and the location of the soil pit are shown on the ASP map.

Table 1: The Distribution of Grades and Sub-grades

Grade	Area (ha)	% of Survey Area	% of Agricultural Area
1	1.44	8.8	18.9
3A	5.54	33.7	72.9
3B	0.62	3.8	8.2
Non-Agric	8.83	53.7	
	16.43 ha	100%	100%

Total Agricultural Area = 7.6 ha

2. Climate

Estimates of important climatic variables have been obtained by interpolation from a 5 kilometre grid database and are detailed in Table 2 below. The main parameters used in assessing an overall 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). Together, these parameters suggest that for the site as a whole, overall climate is not a limiting factor. No

evidence of limiting local climatic factors such as exposure was found at the site.

Table 2: Climatic Interpolations*

Accumulated Temperature (° days)	:	1555
Average Annual Rainfall (mm)	:	806
Moisture Deficit, Wheat (mm)	:	110
Moisture Deficit, Potatoes (mm)	:	104

(* At an altitude of 40 metres. There is only slight variation in altitude over the agricultural area.)

3. Agricultural Land Classification

Grade 1: A small area of this grade has been identified on the northern edge of the site. Here, deep well-structured sandy loams have adequate available water in the profile to overcome the summer drought stress. The soils are stone-free and occupy a flat to gently sloping area.

Sub-Grade 3A: The majority of the agricultural land has been placed in this grade, with droughtiness as the most limiting factor. Topsoil textures are deep medium sandy loams which grade into loamy medium sand subsoils. Good structural conditions exist in the upper subsoil but a coarse platy structure in the lower subsoil has resulted from the weathering of the sandstone parent material producing only moderate structural conditions (see soil pit description). These structures, in combination with subsoil textures, restrict the available water for crops and make the soils susceptible to drought stress.

Profile depth is locally variable.

Some individual profiles may be graded as 2 on the basis of droughtiness but it is felt that sub-grade 3A is the most appropriate grade for the majority of the site as a result of the variability in soil depth and the variability of the depth to the loamy sand horizons.

Sub-Grade 3B: Two limited areas of 3B have been identified on the basis of locally steep slopes.

Non-agricultural: Over 50% of the total area has been placed in this classification, and includes the active mineral workings and associated land, and small areas of tree screenings on the northern and western fringes.

[MAR-17]SJ

SOIL PIT DESCRIPTION

Topsoil 0-29 cm
Medium Sandy Loam (close to LMS boundary)
10YR21/31 (Very dark brown)

Subsoil 1 29-52 cm
Loamy Medium Sand
10YR32 (dark brown)
Fine to Medium Granular; Weakly Developed; Friable to V. Friable
(Good Structural Conditions)

Subsoil 2 52-85 cm
Loamy Medium Sand
5YR58
Coarse Platy; Moderately Developed; Friable to Firm
(Moderate Structural Conditions)

Impenetrable +85 cm (over Sandstone)

AP Wheat	=	94 mm	MD Wheat	=	110 mm	MB Wheat	= -16mm
AP Pots	=	84 mm	MD Pots	=	104 mm	MB Pots	= -20 mm

Grade according to Droughtiness = 3A