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6/89

LAND AT JUNCTION OF A38 AND A419, HARDWICKE, GLOUCESTERSHIRE AGRICULTURAL LAND CLASSIFICATION

REPORT OF SURVEY

1. Introduction

This survey was carried out in February 1989 by the Resource Planning Group, Bristol, for a statutory planning consultation. The land involved covered 0.839 hectares, located at the junction of the A38 and A419 roads at Hardwicke, Gloucestershire. Four auger borings were described and one profile pit was dug and described. In addition, several auger borings were made to check the soil variability. Using the Ministry's revised Guidelines, the site was classified as sub-grade 3a.

2. Climate, Geology and Soils

Climatic variables were obtained by interpolation from a 5 km grid database as follows:

Altitude	:	20 m
Accumulated Temperature (ATO)	:	1505^{o} days
Average Annual Rainfall (AAR)	:	727 mm
Moisture Deficit, Wheat (MD Wheat)	:	107 mm
Moisture Deficit, Potatoes (MD pots)	:	101 mm
Field Capacity Days (FCD)	:	159 days

Accumulated temperature is a measure of the relative warmth of a locality, and average annual rainfall is a measure of the overall wetness. Climate was not found to be a limiting factor at this site.

The site is flat and overlies Jurassic clays. There is a slight ridge and furrow pattern in the field. The soils are deep, brown, stone free, with a loamy topsoil over a clayey subsoil. A slowly permeable layer in the subsoil occurred above 80 cm at some sites. Gley characteristics occur within 40 cm of the surface throughout. The soils were identified in the field as belonging to the Wickham Series.

3. Agricultural Land Classification

The only limiting factor is soil wetness, indicated by pale and grey colours and common distinct mottling throughout most of the profile. A slowly permeable layer (spl) occurs at various depths across the site without apparent pattern. Where the spl occurred within 70 cm, the gleying within 40 cm and a duration of field capacity of 159 days led to wetness class of III. Where the spl occurred below 70 cm or was not found, the gleying within 40 cm led to a wetness class of II. These variations in depth to the spl and a duration of field capacity of 159 days led to agricultural land classifications of grade 2 at some points and sub grade 3a at others. These variations were not mapable at this level of survey. Taking into account the random nature of the variation and the small size of the site, the site was classified as predominantly sub-grade 3a. A small area (0.04 hectares) was classified as non-agricultural.

[woode/JR]

PIT NUMBER 1

Topsoil	0-10 cm Medium sandy silt loam 10YR 4/2 dark greyish brown
Subsoil 1	10-19 cm Medium clay loam 10YR 4/2 dark greyish brown Common distinct ochreous mottles
Subsoil 2	19-35 cm Sandy clay loam 2.5Y 5/4 light olive brown Many distinct ochreous mottles
Subsoil 3	35-86 cm Sandy clay 2.5Y 5/4 light olive brown Many distinct ochreous mottles Coarse angular blocky structure Porous (<0.5% pores <0.5 mm)
Subsoil 4	86-96 cm (continuing) Clay 7.5YR N5 Grey Slowly permeable

WETNESS CLASS II Grade 2