

AGRICULTURAL LAND CLASSIFICATION

GLENZIER ESTATE, LONGTOWN, CUMBRIA

SET-ASIDE MONITORING

MAFF

Leeds Regional Office

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CONTENTS

1. INTRODUCTION AND SITE CHARACTERISTICS
2. AGRICULTURAL LAND CLASSIFICATION GRADES

MAP(S)

1. AGRICULTURAL LAND CLASSIFICATION

AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:- NY234575

Location Details:- 16½ Km north of Carlisle city centre

Site Size:- 411 ha.

1.2 Survey Methods

Date Surveyed:- 15th - 16th October 1991

Boring Density and Spacing Basis:- Free Survey

Sampling Method:- Free Survey

Number of Borings:- 47

Number of Soil Pits (used for):-

All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988)".

1.3 Land Use:- Mainly arable, set-aside, permanent grazing, ley grassland and mixed woodland, with small areas of urban and non-agricultural land and agricultural buildings.

1.4 Climate and Relief

Average Annual Rainfall (AAR):- 920 mm

Accumulated Temperature above 0°C (January-June):- 1343 day °C

Field Capacity Days:- 224 days

Altitude average:- 35 m a.o.d.
maximum:- 60 m a.o.d.
minimum:- 10 m a.o.d.

Climatic limitation (based on interaction of rainfall and temperature values):- Grade 2

Relief:- Varies from flat alongside the River Esk
Slopes (°):- 0° to 20°

Gradient Limitations:-

Limiting gradient(s):- 11° and 18°

Grade(s)/subgrade(s):- 4 and 5

Occurrence on site:-

In a small area in the east of the site (Grade 4) and alongside the Glinger Burn (Grade 5).

1.5 Geology and Soil

Solid Strata:- Bunter Sandstone

Depth of solid rock from surface:- Greater than 1.00m

Drift types:- Mainly boulder clay with some glacial sand and gravel in the east and

Thickness of drift gravel terraces and alluvium alongside the River Eden.

and distribution:- Greater than 1.00m across the whole site.

Soil Types and Distribution:- Mainly medium to heavy-textured soils in the north and west and light to medium-textured soils in the south and east.

Soil Textures (topsoils and subsoils):- Very variable but often medium clay loam topsoils over similar subsoils, or medium sandy loam topsoils over medium sandy loam, loamy medium sand or medium sand subsoils.

Soil Series/Associations:-

On 1/25000 map:- Clifton, Lea, Blackwood, Isbham, Wick and Trent.
Identified on site:-

Soil Limitations and type:- Droughtiness limits the sandy and gravelly soils found in central parts of the site to subgrade 3a.

1.6 Drainage

Soil type and Wetness Class:- Wetness classes III and IV in the case of the medium and heavy-textured soils in the north of the site, Wetness classes I and II in the case of the light to medium-textured soils in the south.

Drainage Limitations:-

Soil Wetness limits much of the land on the site to Grade 2 and sub-grades 3a and 3b, depending on the existence and depth of the slowly permeable layer.

2.0 Agricultural Land Classification Grades

The ALC grades occurring on the site are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Agricultural Area</u>	<u>Percentage of Total Area</u>
1			
2	78	24.5	19.0
3a	68	15.0	11.
3b	184	57.7	44.8
4	8	2.5	1.9
5	1	0.3	0.2
Non Agricultural			
+ Agricultural Buildings			
+ Urban	92		22.4
Other			
Total	<u>411</u>	<u>100</u>	<u>100</u>

Grade 1

Distribution on site:-

Soil Type(s) and Texture(s):-

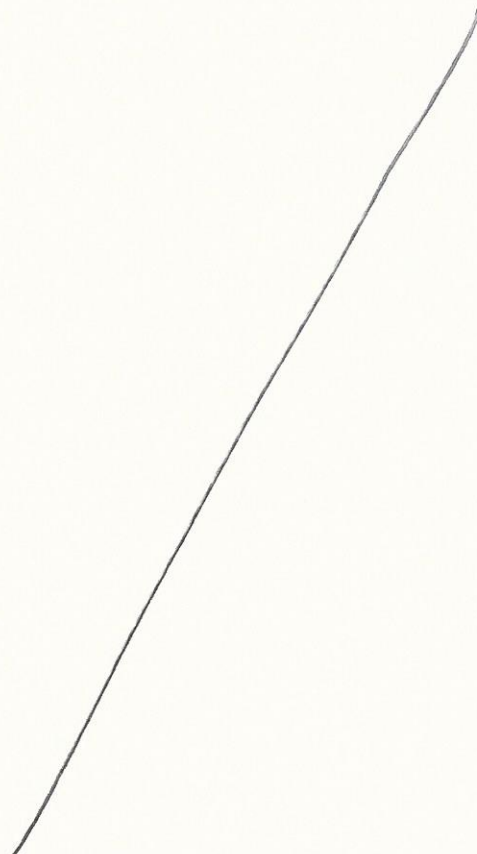
Depth to Slowly Permeable Layers:-

Wetness and Drainage Class:-

Stone Percentage and Type:-

Grade Limiting Factors:-

Other Limiting Factor(s):-



Grade 2

Distribution on site:- In the south and east of the site, on the flood plain of the River Esk.

Soil Type(s) and Texture(s):- Light to medium textured soils - often medium clay loam or medium sandy loam topsoil overlying loamy medium sand or medium sandy loam.

Depth to Slowly Permeable Layers:- No slowly permeable layers occur.

Wetness and Drainage Class:- Wetness Class I, well drained soils

Stone Percentage and Type:- Very slightly stony topsoils (often with around 5% hard rock) and very slightly stony to moderately stony subsoils (often with around 20% hard rock)

Grade Limiting Factors:- Climate

Other Limiting Factor(s):-

3a

Subgrade 2a

Distribution on site:- In two areas in the centre of the site and on the flood plains of the Glinger Burn and River Eden.

Soil Type(s) and Texture(s):- In the far west of the site medium clay loam topsoils overlying loamy medium sand upper subsoil and heavy clay loam lower subsoil. Elsewhere medium sandy loam topsoil over medium sandy loam, loamy medium sand or medium sand subsoil.

Depth to Slowly Permeable Layers:- Where they occur (in the west of the site) slowly permeable layers start at depths of between 60cm and 80cm.

Wetness and Drainage Class:- Where slowly permeable layers exist, the soils are imperfectly drained and fall in wetness class III. Where no slowly permeable layers exist, the soils are well drained and fall in wetness class I.

Stone Percentage and Type:- Generally around 5% hard stones in the topsoil but up to 20% hard stones in the subsoil in the light-textured soils.

Grade Limiting Factors:- Soil wetness and soil droughtiness.

Other Limiting Factor(s):- Flood risk on the low-lying land alongside Glinger Burn.

Subgrade 3b

Distribution on site:- Subgrade 3b land covers much of the north and centre of the site.

Soil Type(s) and Texture(s):- Medium to heavy-textured soils with medium clay loam topsoils overlying medium clay loam and heavy clay loam subsoils

Depth to Slowly Permeable Layers:- Slowly permeable layers generally start at depths of around 30cm

Wetness and Drainage Class:- The soils fall in Wetness Class IV and are poorly drained.

Stone Percentage and Type:- These soils are stoneless to slightly stony, with 0-10% hard stones and sandstones.

Grade Limiting Factors:- Soil wetness.

Other Limiting Factor(s):- Soil workability

Grade 4

Distribution on site:- In two separate areas in the east and west of the site

Soil Type(s) and Texture(s):- In the west, organic and peaty soils with medium clay loam or organic clay loam topsoil over peat or peaty loam subsoil

Depth to Slowly Permeable Layers:- No slowly permeable layers exist

Wetness and Drainage Class:- In the west of the site, the soils are poorly to very poorly drained and fall in wetness classes ~~IV~~ and V

Stone Percentage and Type:- Stoneless

Grade Limiting Factors:- Slope (in the east of the site) and soil wetness (in the west)

Other Limiting Factor(s):- Soil workability.

Grade 5

Distribution on site:- A small area of very steep land alongside the Glinger Burn, in the centre of the site.

Soil Type(s) and Texture(s):- Medium to heavy-textured soils with medium clay loam topsoils overlying medium clay loam and heavy clay loam subsoils

Depth to Slowly Permeable Layers:- Slowly permeable layers start at around 30cm. depth.

Wetness and Drainage Class:- The soils fall in Wetness Class IV and are poorly drained.

Stone Percentage and Type:- The soils are stoneless to slightly stony with 0-10% hard stones and sandstones.

Grade Limiting Factors:- Slope.

Other Limiting Factor(s):-

Non Agricultural

Type and location of land included:- Areas of deciduous, broad-leaved and mixed woodland, mainly in the north of the site.

Agricultural Buildings

Type and location of building included:- The farmhouses and buildings at Millers, Dykeside, Glinger Burn and Bakenbush farms.

Urban

Type of land use included:- A small area of minor roads running through the site.