

AGRICULTURAL LAND CLASSIFICATION  
NORTHUMBERLAND MINERALS  
LOCAL PLAN  
LAND AT WHITTONSTALL/WOODHEAD  
AUGUST 1995

ADAS  
Leeds Statutory Group

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## SUMMARY

A reconnaissance Agricultural Land Classification (ALC) survey of 385 ha of land to the east of Whittonstall was carried out in August 1995. 77.9% of the site was in agricultural use at this time. Soils are derived from boulder clay over much of the south of the site, where soil wetness limits ALC to Subgrade 3b. Other land in this Subgrade is limited by its gradient, and climate notably in the north east of the site. In total 185 ha are Subgrade 3b.

110 ha of land are Subgrade 3a. Land in this Subgrade is found over light textured drift including sand and gravel deposits and on soils developed from weathering sandstone bedrock. Droughtiness, soil wetness and an overall climatic limitation restrict the ALC grade of this land.

5 ha of land are Grade 4. Gradients over 11° limit ALC grade.

Woodland (80 ha) Urban (<5 ha) and Agricultural Buildings (<5 ha) occupy remaining land on the site.

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site is located to the east of the village of Whittonstall, and is centred around National Grid Reference NZ 085 572. Soils were examined by hand auger borings at an overall density of one boring per four hectares. Auger boring locations were chosen with reference to previous ALC work in the area - Woodhead OCCS in 1982, published geology and soils information and relief patterns. Soil inspection pits were dug to allow the soil to be examined in greater detail.

Land quality was assessed 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).

1.2 Land Use and Relief

At the time of survey 300 ha of land was in agricultural use, with land under cereals and pasture. 80 ha of woodland crosses the centre of the site, and less than 5 ha is classed as Urban, or Farm Buildings. Gradients on the site range from being level, to moderately steeply sloping (0-12°), with variable aspect. Average altitude for the site is 160 m AOD.

1.3 Climate

Grid Reference	: NZ 085 572
Altitude (m)	: 160
Accumulated Temperature above 0°C (January - June)	: 1186 day °C
Average Annual Rainfall (mm)	: 728
Climatic Grade	: 3a
Field Capacity Days	: 192
Moisture Deficit (mm) Wheat	: 77
Moisture Deficit (mm) Potatoes	: 58

Land over approximately 210m is limited to Subgrade 3b by climate. This only occurs in the extreme north east of the site.

#### 1.4 Geology, Soils and Drainage

Carboniferous Coal Measures underlie the whole site. Soils are developed from sandstone bedrock in the north where drift deposits are absent. Elsewhere soils are developed from boulder clay or light textured drift including sand and gravel deposits in the east.

Soils reflect the parent material and are shallow and light textured over sandstone. Here profiles are well drained (Wetness Class I). Light drift has produced soils with slight wetness limitations typically Soil Wetness class II and III.

Elsewhere on the site, especially in the south, soils are developed from boulder clay and are poorly drained and Soil Wetness Class IV.

## 2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2		
3a	110.0	28.6
3b	185.0	48.0
4	5.0	1.3
5		
(Sub total)	(300.0)	(77.9)
Urban	<5.0	1.0
Non Agricultural		
Woodland	80.0	20.8
Agricultural Buildings	<5.0	0.3
Open Water		
Land not surveyed		
(Sub total)	(85.0)	(22.1)
TOTAL	<u>385.0</u>	<u>100</u>

## 2.1 Subgrade 3a

110 ha is Subgrade 3a. In the east of the site, lighter textured soils, medium sandy loam topsoils over sandy clay loam subsoils, are derived from the underlying sands and gravels, and the land is restricted to Subgrade 3a by the overall climatic limitation.

Elsewhere, Subgrade 3a land is limited by moderate soil wetness. Medium clay loam topsoils overlie heavy clay loam and sandy clay loam slowly permeable subsoils. Profiles are imperfectly drained (Wetness Class III).

## 2.2 Subgrade 3b

185 ha is classed as Subgrade 3b. In the north-east, either overall climate or gradient limits ALC grade. Elsewhere, Subgrade 3b land is characterised by medium clay loam topsoils overlying heavy clay loam or clay slowly permeable subsoils. Profiles are poorly drained (Wetness Class IV). In these areas, soil wetness limits the land to this Subgrade.

## 2.3 Grade 4

5.0 ha is Grade 4. Gradients of over 11° limit this land to Grade 4.

## 2.4 Urban

Less than 5 ha on the site is taken up by roads and tracks, and buildings at Whittonstall.

## 2.5 Woodland

A band of woodland across the centre of the site occupies 80 ha.

## 2.6 Farm Buildings

Less than 5 ha of land is occupied by the farms at Whittonstall Hall Farm, Hollings, and Woodhead.

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