

AGRICULTURAL LAND CLASSIFICATION

GATESHEAD UDP KIBBLESWORTH  
TYNE AND WEAR

MAFF  
Leeds Regional Office

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1. AGRICULTURAL LAND CLASSIFICATION

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-

NZ 245 575

Location Details:-

To the North, West and  
Southwest of  
Kibblesworth, Tyne and  
Wear, 8km south of  
Newcastle upon Tyne.

Site Size:-

93.6 ha

1.2 Survey Methods

Date Surveyed:-

13th February 1992

Boring Density and Spacing Basis:-

1 boring per ha, at  
100m intervals, on a  
grid basis  
pre-determined by the  
National Grid.

Sampling Method:-

Hand Auger borings

Number of Borings:-

92

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)".

This detailed survey supersedes the previous "1" to one mile" survey of  
the area.

1.3 Land Use:-

The northern, northwestern and southwestern parts of the site are in arable use. Elsewhere the majority of land is under permanent grassland. Several areas of farm woodland occur in the northeast and centre of the site. Other non-agricultural land consists of two areas of allotments and a small area of farm buildings.

1.4 Climate and Relief

Average Annual Rainfall (AAR):-	697 mm
Accumulated Temperature above 0°C (January-June):-	1285 day °C
Field Capacity Days:-	173 days
Altitude average:-	70 m a.o.d.
maximum:-	115 m a.o.d.
minimum:-	35 m a.o.d.
Climatic limitation (based on interaction of rainfall and temperature values):-	ALC Grade 2

Relief:-

Gentle to moderate slopes in the north and northwest, with an overall slope from west to east. The centre of the site is gently undulating and is bisected by a steep sided valley. The south western part of the site has a north easterly aspect.

Slopes (° ):-

0 - 10°

Gradient Limitations:-

Limiting gradient(s):-

7 - 11°

Grade(s)/subgrade(s):-

3b

Occurrence on site:-

Small areas in the north and northwest

#### 1.5 Geology and Soil

Solid Strata:-

Coal measures

Depth of solid rock from surface:-

Greater than 1 metre over the whole site.

Drift types:-

Boulder clay and alluvium.

Thickness of drift  
and distribution:-

Boulder clay is greater than 1 metre in thickness over almost all of the site. There are small areas of alluvium along Coltspool Burn near the eastern edge of the site.

Soil Types and Distribution:-

Light to medium textured soils on the alluvial deposits. Medium to heavy textured soils over the remainder of the site.

Soil Textures (topsoils and subsoils):-

Alluvial area:-  
Sandy clay loam or medium clay loam topsoils over medium clay loam or medium sandy loam subsoils.  
Boulder clay areas:  
medium or heavy clay loam topsoils over heavy clay loam or clay subsoils.

Soil Series/Associations:-

On 1/250000 map:-

Identified on site:-

Brickfield/Disturbed

Yes

Soil Limitations and type:-

Upper and lower subsoil compaction in the northwestern part of the site where land has been restored after opencast coal extraction.

#### 1.6 Drainage

Soil type and Wetness Class:-

Light/medium:- Wetness Classes I and II.

(-well to moderately well drained).

Medium/Heavy:- Wetness Class III and IV

(-imperfectly to poorly drained).

Drainage Limitations:-

Wetness Class II - ALC grade 2.

Wetness Class III - ALC sub grade 3a.

Wetness Class IV - ALC sub grade 3b.

## 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	3.7	4.5	4.0
3a	8.1	0	8.7
3b	72.1	86.0	77.0
4			
5			
Non Agricultural	5.0		5.3
Agricultural Buildings	0.5		0.5
Urban			
Other (Farm Woodland)	4.2		
	_____	_____	_____
Total	93.6	100	100
	_____	_____	_____

Grade 2

Distribution on site:-

Two areas; in the southwest at the foot of Kibblesworth bank, and in the east adjoining Coltspool Burn

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

Alluvial Soils (Coltspool Burn):- medium clay loam and sandy clay loam topsoils over medium clay loam, sandy clay loam and medium sandy loam subsoils. Boulder clay soils (at the foot of Kibblesworth Bank):- deep medium clay loams.

Depth to Slowly Permeable Layers:-

Greater than 80 cm

Wetness and Drainage Class:-

Wetness Class I (well drained)

Stone Percentage and Type:-

Topsoils:- very slightly stony 0-5° soft and angular sandstones.  
Subsoils:- stoneless to very slightly stony with angular sandstones and coal fragments.

Grade Limiting Factors:-

Overall climatic  
limitation.

**Subgrade 3a**

**Distribution on site:-**

Three main areas in the central and south western parts of the site.

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

Medium to heavy textured boulder clay soils consisting of medium clay loam or sandy clay loam topsoils, over medium or heavy clay loam upper subsoils passing to heavy clay loam or clay at depth.

**Depth to Slowly Permeable Layers:-**

45 - 70 cm

**Wetness and Drainage Class:-**

Wetness Class III - imperfectly drained.

**Stone Percentage and Type:-**

Topsoils:- 0-15% small, medium and large sub-rounded and sub-angular sandstones.  
Subsoils:- 0-20% small and medium sub-rounded and angular sandstones and hardstones.

Grade Limiting Factors:-

Soil wetness and  
workability problems.

Other Limiting Factor(s):-

Soil droughtiness  
around Kibblesworth  
West Farm due to  
stoniness at 60 cm  
depth.

Subgrade 3b

Distribution on site:-

Almost all of the land to the north of the Coltspool burn falls into this subgrade. Also several smaller areas south of the burn.

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

Medium to heavy textured boulder clay soils consisting of medium/heavy clay loam topsoils over heavy clay loam or clay upper and lower subsoils.

Depth to Slowly Permeable Layers:-

less than 45 cm

Wetness and Drainage Class:-

Wetness Class IV - (Poorly drained).

Stone Percentage and Type:-

0-20% small to large sandstones and hardstones.

Grade Limiting Factors:-

Soil wetness and workability problems and, in places, gradients of 7-11°.

Other Limiting Factor(s):-

In the north western part of the site:- severe subsoil compaction (below about 25 cm depth) remaining since restoration of open cast coal workings.

Non Agricultural

Type and location of land included:-

Areas of farm woodland and allotments at various points around the site.

Agricultural Buildings

Type and location of building included:-

Livestock buildings, including stables at the western end of the site.

MAP