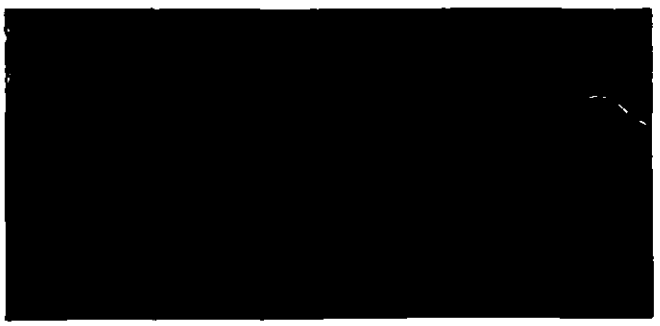

MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
LEEDS U. D. P.
TOPIC 878
WEST YORKSHIRE
(RECONNAISSANCE SURVEY)
JANUARY 1995

ADAS
Leeds Statutory Group

Job No:- 1/95
MAFF ref:-EL49/13
Commission No:- 1528

SUMMARY

A reconnaissance Agricultural Land Classification survey of 274.2 ha of land at Bramham Moor (Leeds U.D.P. Topic 878) was carried out in January 1995. Of the total site area, 261.5 ha was in agricultural use at the time of survey of which 18.0 ha has been mapped as Grade 1. The soils are deep and well drained, with medium textured topsoils over medium to heavy textured subsoils. Weathering limestone bedrock occurs at between 80cm and 110cm depth in places but topsoils are stoneless to very slightly stony and there are no, or only very minor, limitations to the agricultural use of this land.

103.7 ha of Grade 2 land occurs on this site. Profiles are well, or, in a few cases, moderately well drained. Generally very slightly stony, medium textured topsoils overlie medium to heavy textured subsoils. Weathering limestone bedrock occurs at around 70cm depth in most areas, although a slowly permeable clay subsoil begins at around 65cm depth in some places. This land is limited to Grade 2 by either slight soil droughtiness or slight soil wetness.

Subgrade 3a land covers 71.3 ha. The soils are well drained in most cases with very slightly to slightly stony medium textured topsoils and subsoils overlying weathering limestone at between 45cm and 60cm depth. A more severe soil droughtiness restriction limits this land to Subgrade 3a. In some parts of the site land in this subgrade consists of moderately well to imperfectly drained soils where medium to heavy textured topsoils overlie heavy textured subsoils, which often become slowly permeable at between 45cm and 70cm depth. Soil wetness and topsoil workability limitations are the factors restricting this land to Subgrade 3a.

The remainder of the agricultural land (68.5 ha) falls in Subgrade 3b. The medium textured soils are well drained but shallow, and overlie weathering limestone at between 30cm and 45cm depth. This land is limited to Subgrade 3b by soil droughtiness.

Other land on this site includes Urban land (a disused quarry covering 1.4 ha), Woodland (covering 6.9 ha) and Agricultural Buildings (covering 4.4 ha).

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RECONNAISSANCE AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT BRAMHAM MOOR, WEST YORKSHIRE (LEEDS U.D.P., TOPIC 878)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 16 km east-north-east of Leeds city centre to the north-east of the A1/A64 road junction, and covers a total area of 274.2 ha. A reconnaissance survey was carried out in January 1995 when the soils were examined by hand auger borings at regular intervals predetermined by the National Grid. Three soil pits were dug to allow full profile descriptions to be made. The 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 the survey 95% of the site was in agricultural use, either as arable land or ley grassland. The remainder consists of Agricultural Buildings, Woodland and Urban land (a disused quarry in the south-west).

Site altitude varies from 70m A.O.D. in the south-west to 42m A.O.D. in the south-east and the land is generally gently to moderately sloping (1-4°) with variable aspect. Only in a small area in the north-west of the site is the A.L.C. grade of the land limited to Subgrade 3b by slope.

1.3 Climate

Grid Reference	:	SE 444 415
Altitude (m)	:	50
Accumulated Temperature above 0°C (January-June)	:	1355 day°C
Average Annual Rainfall (mm)	:	656
Climate Grade	:	1
Field Capacity Days	:	155
Moisture Deficit (mm) Wheat	:	100
Moisture Deficit (mm) Potatoes	:	88

1.4 Geology, Soils and Drainage

The area is mostly underlain by Lower Magnesian Limestone although in the centre of the site there are deposits of Upper Magnesian Limestone and a band of Permian Marl. The Magnesian Limestone outcrops to within one metre of the soil surface over much of the site.

There is no drift cover over the north and south-east of the site. Most of the centre and south are covered with a thin layer of boulder clay principally derived from Permian Marl and Magnesian Limestone. In the south-west of the site there are deposits of morainic sand and gravel.

Most of the soils on the site are well drained (Wetness Class I) with medium clay loam, sandy clay loam or medium silty clay loam topsoils overlying medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam subsoils.

Where the soils have formed over weathering Permian Marl (or in drift principally derived from it) the soils are typically moderately well to imperfectly drained, falling in Wetness Classes II and III, with medium or heavy clay loam topsoils overlying clay or heavy silty clay loam subsoils.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows :

Grade/Subgrade	Hectares	Percentage of Total Area
1	18.0	6.6
2	103.7	37.8
3a	71.3	26.0
3b	68.5	25.0
4		
5	(261.5)	(95.4)
(Sub total)		
Urban	1.4	0.5
Non Agricultural		
Woodland	6.9	2.5
Agricultural Buildings	4.4	1.6
Open Water		
Land not surveyed		
(Sub total)	(12.7)	(4.6)
Total	274.2	100

2.1 Grade 1

Grade 1 land has been mapped in three separate areas in the centre of the site. The soils are well drained (Wetness Class I) and consist of medium clay loam or medium silty clay loam topsoils overlying medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam subsoils. Weathering limestone bedrock occurs at between 80cm and 110cm depth in places. Topsoils are stoneless to very slightly stony, containing up to 3% small and medium sandstones and limestones, while subsoils are stoneless to slightly stony, containing up to 8% small and medium limestones. There are no or only very minor limitations to the agricultural use of this land.

2.2 Grade 2

Grade 2 land covers approximately 38% of the site. Profiles are well drained (Wetness Class I) or, in a few cases, moderately well drained (Wetness Class II). Topsoils and subsoils are very slightly to slightly stony in most cases, containing between 2% and 8% small and medium subangular limestones or subrounded hard stones. In most cases weathering limestone bedrock begins at between 60cm and 80cm depth. Topsoils are medium-textured (medium clay loam or medium silty clay loam) and subsoils medium to heavy textured (usually medium clay loam, medium silty clay loam, heavy clay loam or heavy silty clay loam). Slowly permeable clay subsoils begin in places at between 60cm and 70cm depth. This land is limited to Grade 2 by either slight soil droughtiness or, less frequently, slight soil wetness.

2.3 Subgrade 3a

Subgrade 3a land covers approximately 26% of the site. Generally the soils are well drained (Wetness Class I), with medium clay loam or medium silty clay loam topsoils and subsoils overlying weathering limestone bedrock at between 45cm and 60cm depth. Topsoils are typically very slightly stony (containing around 5% small, medium and large subangular limestones) and subsoils slightly stony (containing around 10% subangular limestones). The A.L.C. grade of this land is limited by soil droughtiness. In some parts of the centre of the site the soils on the Subgrade 3a land are moderately well to imperfectly drained and fall in Wetness Classes II and III. The profiles here consist of medium or heavy clay loam topsoils overlying heavy clay loam, heavy silty clay loam or clay subsoils, which often become slowly permeable at between 45cm and 70cm depth. In this case soil wetness and topsoil workability restrictions limit the land to Subgrade 3a.

2.4 Subgrade 3b

The remainder of the agricultural land on this site (68.5 ha) falls in Subgrade 3b. The soils are well drained (Wetness Class I) and typically consist of medium clay loam or medium silty clay loam topsoils and, in places, subsoils, overlying weathering limestone bedrock at between 30cm and 45cm depth. A more severe soil droughtiness limitation restricts this land to Subgrade 3b.

A small area of land adjoining the quarry in the south-west appears to have been disturbed, possibly as a result of quarrying, and has also been mapped as Subgrade 3b.

2.5 Urban

A disused quarry and adjoining buildings in the south-west have been mapped as Urban land.

2.6 Woodland

Woodland occurs in three separate blocks in the north of the site.

2.7 Agricultural Buildings

This category includes the houses and agricultural buildings at Spen Farm (in the south-west), Hedley Hall (in the centre), and Wise Warren (in the north).

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MAP