AGRICULTURAL LAND CLASSIFICATION
AND STATEMENT OF PHYSICAL CHARACTERISTICS

Cridling Stubbs, North Yorkshire

Proposed Quarry Extension

MAFF
Leeds Regional Office

January 1992
File Ref: 2FCS 5701
Project No: 129/91

lds.AL5.Stubb.qry

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AGRICULTURAL LAND CLASSIFICATION REPORT,

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-	SE 513216
Location Details:-	3km south east of Knottingley on each side of the Knottingley - Doncaster railway
Site Size:-	11.4 hectares

1.2 Survey Methods

Date Surveyed:-	11 December 1991
Boring Density and Spacing Basis:-	At 100 m intervals on a grid pattern predetermined by the national grid
Sampling Method:-	Hand auger borings to a depth of 1 m
Number of Borings:-	8
Number of Soil Pits (used for):-	1 soil pit was dug to examine soil structure and to take samples for analysis

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:-	At the time of survey all land was under arable use with winter cereals predominating

1.4 Climate and Relief

Average Annual Rainfall (AAR):-	594 mm
Accumulated Temperature above 0°C (January-June):-	1396 day °C
Field Capacity Days:-	124 days
Altitude average:-	20 m a.o.d.
maximum:-	30 m a.o.d.
minimum:-	15 m a.o.d.
Climatic limitation (based on interaction of rainfall and temperature values:-	None
Relief:-	The site slopes very gently eastwards
Slopes (°):-	0 - 2°
Gradient Limitations:-	None

1.5 Geology and Soil

Solid Strata:-	Magnesian Limestone
Depth of solid rock from surface:-	40 - 100 cm
Drift types:-	
Thickness of drift and distribution:-	Soils vary from 40 cm to greater than 1 m in thickness over the site with the shallowest profiles occurring in the east
Soil Types and Distribution:-	Medium and heavy soils derived from Permian marl deposits cover much of the site
Soil Textures (topsoils and subsoils):-	Topsoils consist of heavy or medium clay loams over heavy day loams or clay subsoils
Soil Limitations and type:-	Heavy topsoil textures

1.6 Drainage

Soil type and Wetness Class:-	Medium soils - Wetness Class I Medium/heavy soils - Wetness Class III
Drainage Limitations:-	Slowly permeable subsoils in the heavier soils

2.0 Agricultural Land Classification Grades

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

Grade/Subgrade	Hectares	Percentage of Agricultural Area	Percentage of Total Area
1			
2			
3a	8.1	75%	71%
3b	2.7	25%	24%
4			
5			
Non Agricultural			
Agricultural Buildings			
Urban	0.6		5%
Other			
Total	11.4	100	100

Subgrade 3a

Distribution on site:-	The field west of the railway and the central area of the eastern field
Soil Type(s) and Texture(s):-	Medium and heavy clay loam topsoils over similar or heavier subsoils usually to a depth of 1 m
Depth to Slowly Permeable Layers:-	At 40 - 50 cm where present
Wetness and Drainage Class:-	Wetness Class I-III (well drained to imperfectly drained)
Stone Percentage and Type:-	3-10% small to medium angular limestones
Grade Limiting Factors:-	Slight droughtiness

Subgrade 3b

Distribution on site:-	The south eastern corner and a small strip along the northern edge of the site
Soil Type(s) and Texture(s):-	Medium/heavy clay loam or sandy clay loam topsoils over similar or heavier upper subsoils passing directly into bedrock
Depth to Slowly Permeable Layers:-	A slowly permeable layer around 30 cm depth occurs in the northern strip of this subgrade
Wetness and Drainage Class:-	Mainly well drained (Wetness Class I) with some imperfectly drained soils (Wetness Class III) in the north
Stone Percentage and Type:-	5 - 15%
Grade Limiting Factors:-	Droughtiness causes by shallow soil depth
Urban:-	This consists of the railway crossing the site. Presumably this is excluded from the application area.

3.0 STATEMENT OF PHYSICAL CHARACTERISTICS (SOIL PROPERTIES AND RESOURCES)

3.1 Soil Properties

Two soil types occur on the site. Their distribution along with soil depth and quantity information are shown on the accompanying maps.

Soil Type 1:-	Medium or heavy topsoils over heavy subsoils
Occurrence:-	Central and western parts of the site
Textures:-	Medium or heavy clay loam topsoils over heavy clay loam or clay subsoils
Stone content:-	0 - 15%
Horizon thicknesses:-	Topsoil: 30 cm Upper Subsoil: 20 cm Lower Subsoil: 50 cm
Profile pit features:-	Moderately developed medium sub-angular blocky structure
Soil Type 2:-	Medium or heavy topsoils over similar upper subsoils passing to limestone bedrock at depth
Occurrence:-	South eastern part of the site
Textures:-	Sandy clay loam or medium to heavy clay loam topsoils over similar upper subsoils. Limestone bedrock at depth
Stone content:-	5 - 15%
Horizon thicknesses:-	Topsoil: 30 cm Upper Subsoil: 20 cm

3.2 Soil Resources

Topsoils

Unit T1

Texture/stone content:-	Medium/heavy clay loam with 0 - 15% small to medium angular limestone
Structure:-	Moderately developed medium sub-angular blocky
Occurrence:-	Over the whole site
Thickness:-	30 cm mean

Subsoils

Upper Subsoils

Unit U1

Texture/stone content:-	Medium or heavy clay loam or sandy clay loam with up to 15% stones
Structure:-	Moderately developed fine to medium sub-angular blocky
Occurrence:-	Over the whole site
Thickness:-	20 cm

Subsoils

Lower Subsoils

Unit S1

Texture/stone content:-	Heavy soils with up to 8% stones
Structure:-	Moderately developed medium subangular blocky
Occurrence:-	Western part of the site on each side of the railway
Thickness:-	50 cm

SOIL PROFILE DESCRIPTION: Cridling Stubbs, North Yorskhire

Soil Profile Pit 1 (Adjacent to auger boring 40)

Land Use: Water cerals
Slope: 0°

HORIZON	DEPTH (cm)	DESCRIPTION
1	0 - 40	Very dark greyish brown (10 YR 3/2) sandy clay loam; no mottles; very few small to medium angular blocky structure; medium angular limestones; moist; moderately developed medium sub-angular blocky structure; medium packing density. Few fine pores and fissures; friable; slightly sticky; non-plastic; many fine fibrous roots; abrupt wavy boundary
2	40 - 60	Strong brown (7.5 YR 5/6) sandy clay loam; no mottles; few small to meidum angular and sub-angular limestones; dry; moderately developed fine to medium sub-angular blocky structure; medium packing density. Very few fine pores and fissures; slightly hard soil strength; slightly sticky; non-plastic; few fine fibrous roots; gradual broken boundary to weathered limestone bedrock

MAP(S)