

AGRICULTURAL LAND CLASSIFICATION

Dispit, Willerby, Hull
Proposed Chalk Quarry Extension

MAFF
Leeds Regional Office

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AGRICULTURAL LAND CLASSIFICATION REPORT, DISPIT, WILLERBY, HULL

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-

TA 014314

Location Details:-

1.5km north west of
Willerby north east of
Hull/Barnsley railway

Site Size:-

1.51 hectares

1.2 Survey Methods

Date Surveyed:-

3rd April 1992

Boring Density and Spacing Basis:-

5 borings per hectare
at 50m intervals on a
grid pattern
predetermined by the
National Grid

Sampling Method:-

By hand auger borings
to a depth of 1 metre

Number of Borings:-

8

Number of Soil Pits (used for):-

One, to examine soil
structure

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:-

All land is in arable
use

1.4 Climate and Relief

Average Annual Rainfall (AAR):-

681 mm

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

1346 day °C

Field Capacity Days:-

151 days

Moisture Deficit:

wheat:-

100 mm

potatoes:-

90 mm

Altitude average:-

50 m a.o.d.

maximum:-

53 m a.o.d.

minimum:-

47 m a.o.d.

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

None

Relief:-

Very gently undulating

Slopes (°):-

0-1°

Gradient Limitations:-

None

1.5 Geology and Soil

Solid Strata:-	Chalk
Depth of solid rock from surface:-	More than 1 metre
Drift types:-	Mixed medium and heavy textured boulder clay with sandy pockets
Thickness of drift and distribution:-	More than 1 metre over the whole site
Soil Types and Distribution:-	Argillic brown earths (Hunstanton and Ludford series) & stagnogleyic argillic brown earths (Burlingham series) occur in a patchy distribution across the area
Soil Textures (topsoils and subsoils):-	Fine to medium sandy loam or medium clay loam topsoils over subsoils varying between sandy loam, sandy clay loam and heavy clay loam
Soil Series/Associations:- On 1/250000 map:- Identified on site:-	Hunstanton Association Hunstanton, Ludford & Burlingham series
Soil Limitations and type:-	None

1.6 Drainage

Soil type and Wetness Class:-

Light over medium soils:- Wetness Class I and II (well or moderately well drained)

Medium over heavy soils:- Wetness Classes III and IV (imperfectly or poorly drained)

Drainage Limitations:-

Localised slowly permeable subsoils

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 Total Area</u>
1		
2	1.01	66.9%
3a	0.50	33.1%
3b		
4		
5		
Non Agricultural		
Agricultural Buildings		
Urban		
Other	—	—
Total	1.51	100
	—	—

Grade 2

Distribution on site:-

The western two thirds

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

Fine or medium sandy loam topsoils over sandy clay loam or medium clay loam subsoils. Heavy clay loam subsoils occur locally

Depth to Slowly Permeable Layers:-

Mainly 55-100cm
Locally 35-45cm

Wetness and Drainage Class:-

Generally Wetness Classes I and II (well to moderately well drained). Locally Wetness Classes III and IV (imperfectly or poorly drained)

Stone Percentage and Type:-

3% medium sized hard stones

Grade Limiting Factors:-

Localised patches of heavier soil impose a pattern limitation which prevents much of this part of the site being placed within Grade 1

Grade 3a

Distribution on site:-

The eastern third of the site

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

Fine sandy loam or medium clay loam topsoils over heavy clay loam subsoils

Depth to Slowly Permeable Layers:-

35-55cm

Wetness and Drainage Class:-

Wetness Classes III and IV (imperfectly to poorly drained)

Stone Percentage and Type:-

3% medium sized hard stones

Grade Limiting Factors:-

Slight topsoil wetness problems caused by slowly permeable subsoils

3.0 STATEMENT OF PHYSICAL CHARACTERISTICS (SOIL PROPERTIES AND RESOURCES)

3.1 Soil Properties

One soil type occurs on the site. Its distribution along with soil depth and quantity information is shown on the accompanying maps.

Soil Type 1:- Light/medium over medium/heavy boulder clay soil

Occurrence:- Over the whole site

Textures:- Fine to medium sandy loam or medium clay loam topsoils over sandy clay loam, medium clay loam, or less commonly heavy clay loam subsoils

Stone content:- 0-5%

Horizon thicknesses:- Topsoil = 25-30cm
Subsoil = 70-75cm

Profile pit features:- Weakly developed subangular blocky topsoil structure over moderately developed subangular blocky or angular blocky subsoil structure

3.2 Soil Resources

Topsoils

Unit T1

Texture/stone content:- Light or medium very slightly stony

Structure:- Weakly developed medium subangular blocky

Occurrence:- Over the whole site

Thickness:- Mean thickness : 30cm

Subsoils

Unit S1

Texture/stone content:- Medium very slightly stony. Locally light or heavy

Structure:- Moderately developed medium angular blocky, prismatic where heavy

Occurrence:-

Thickness:- Mean : 70cm

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4.0 SOIL PROFILE DESCRIPTION

Light over medium boulder clay soil

Location: Near Auger Boring 1a, western end of site

Aspect: 1° NW

Weather: Sunny periods, cold after heavy showers

Depth (cm)	Horizon
1. 0-30	Brown (10YR4/3) fine sandy loam; unmottled; very slight stony with a few small and medium hard subangular igneous stones and angular flints; moist; weakly developed medium subangular blocky structure breaking to fine subangular blocky; medium packing density; very porous; very friable; slightly sticky and slightly plastic; many fine fibrous roots; abrupt even boundary
2. 30-60	Brown (7.5YR5/4) sandy clay loam with a few faint greyish and ochreous mottles, very slight stony with a few small igneous stones and flints; moist; moderately developed medium angular blocky structure; medium packing density; porous; friable; slightly sticky and slightly plastic; common fine fibrous roots; clear smooth boundary
3. 60-100	Brown (7.5YR5/4) medium clay loam; other details as horizon 2

MAP(S)