

AGRICULTURAL LAND CLASSIFICATION
AND STATEMENT OF PHYSICAL CHARACTERISTICS

PARK HOUSE FARM
GEMBLING
DRIFFIELD, HUMBERSIDE

MAFF
Leeds Regional Office

July 1991
File Ref: 2FCS
Project No: 22/91

lds.AL4.PrkHS.frm

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AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-

TA 120 580

Location Details:-

10 kms east of Driffield
town centre

Site Size:-

47 ha

1.2 Survey Methods

Date Surveyed:-

14 May and 17 May 1991

Boring Density and Spacing Basis:-

1 boring per hectare at
100 m intervals
predetermined by the
National Grid.

Sampling Method:-

By hand auger to a depth
of 1.00 m.

Number of Borings:-

47

Number of Soil Pits (used for):-

2 for soil descriptions
and sampling for
laboratory 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 Climate and Relief

Average Annual Rainfall (AAR):-	659 mm
Accumulated Temperature above 0°C (January-June):-	1,377 day °C
Field Capacity Days:-	157 days
Altitude average:-	8 m a.o.d.
maximum:-	12 m a.o.d.
minimum:-	5 m a.o.d.
Climatic limitation (based on interaction of rainfall and temperature values):-	None
Gradient Limitation:-	None

1.4 Geology and Soil

Solid Strata:-

Chalk

Depth of solid rock from surface:-

Greater than 1.00 m.

Drift types:-

Boulder clay, sand and gravel, alluvium and peat (all of glacial or recent origin).

Thickness of drift and distribution:-

Greater than 1.00 m throughout the site.

Soil Types and Distribution:-

Deep sandy loams and medium clay loams with peaty soils in lower lying and central parts of the site.

Soil Textures (topsoils and subsoils):-

Generally medium sandy loam topsoil over medium sandy loam or medium clay loam subsoil. Peaty top and or subsoils occur in places.

Soil Limitations and type:-

Mainly droughtiness but wetness on the heavier and peaty soils.

1.5 Drainage

Soil type and Wetness Class:-

Generally Wetness
Class I but classes II
and III on heavier and
more peaty soils.

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>
2	45.45	100	98.2
Non Agricultural	0.40		0.9
Agricultural Buildings			
Urban	0.40		0.9
Other			
Total	<u>46.25</u>	<u>100</u>	<u>100</u>

Grade 2

Distribution on site:-

Grade 2 soils cover the whole site.

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

Deep sandy loams and medium clay loams with peaty soils in the central part of the site.

Depth to Slowly Permeable Layers:-

No slowly permeable layers were found.

Wetness and Drainage Class:-

Generally Wetness Class I, but Classes II and III on some of the heavier soils and on peaty soils.

Stone Percentage and Type:-

Soils are generally stone-free.

Grade Limiting Factors:-

Droughtiness and, in a few cases, slight wetness.

Non Agricultural

Type and location of land included:-

This consists of a small area of derelict grassland in the centre of the site associated with the wartime airfield.

Urban

Type of land use included:-

Concrete runway in the central part of the site.

3.0 STATEMENT OF PHYSICAL CHARACTERISTICS (SOIL PROPERTIES AND RESOURCES)

3.1 Soil Properties

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

Soil Type 1:-	Light to medium textured soil.
Occurrence:-	Mainly in the northern and southern parts of the site.
Textures:-	Generally medium sandy loam topsoil over medium sandy loam or medium clay loam subsoil.
Stone content:-	Slightly stony.
Horizon thicknesses:-	Topsoil mean thickness 30 cm, subsoil mean thickness 70 cm.
Profile pit features:-	Moderately or weakly developed medium sub-angular blocky structure; moderately weak soil strength; slightly sticky; slightly plastic.
Soil Type 2:-	Light over peaty (organic) soil.
Occurrence:-	In central and low lying parts of the site.
Textures:-	Medium clay loam or more usually medium sandy loam over peat or peaty loam subsoils.

Stone content:-	Slightly stony.
Horizon thicknesses:-	Topsoil mean thickness 30 cm, subsoil mean, 70 cm.
Profile pit features:-	Weak or moderately developed sub-angular blocky structure; weak soil strength.

3.2 Soil Resources

Topsoils

Unit T1

Texture/stone content:-	(Light), fine or medium sandy loam, stoneless to slightly stony.
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Structure:-	Fine to medium sub-angular blocky structure, weakly to moderately developed.
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Occurrence:-	Throughout the site.
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Thickness:-	Mean thickness 30 cm.
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Subsoils

Unit S1

Texture group/stone content:-	Variable; medium sandy loam or medium to heavy clay loam, stoneless to slightly stony.
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Structure:- Medium sub-angular blocky, weakly developed.

Occurrence:- Mainly in the northern and southern parts of the site.

Thickness:- Mean thickness 70 cm.

Unit S2

Texture group/stone content:- Organic, peat containing bark and tree remains.

Structure:- Moderately developed medium sub-angular blocky.

Occurrence:- Central and low lying parts of the site.

Thickness:- Mean thickness 70 cm+.

4. SOIL PROFILE DESCRIPTIONS

SOIL PROFILE DESCRIPTIONS - PARK HOUSE FARM, GEMBLING, DRIFFIELD

Soil 1 (T1/S1): Sandy loam topsoil over sandy loam or clay loam subsoil.

Moisture Deficits: 107 mm (wheat), 99 mm (potatoes)

Wetness Class: I Land Use: Permanent Grazing Slope: 0°

<u>Horizon</u>	<u>Depth (cm)</u>	<u>Description</u>
1	0-40	Very dark greyish brown (10YR 3/2) fine sandy loam with no mottles; stoneless; moderately developed medium sub-angular blocky structure; moderately weak soil strength; moderately sticky; slightly plastic; many fine fibrous roots; non-calcareous, abrupt smooth boundary.
2	40-60	Light grey (10YR 7/2) medium sandy loam; many yellowish-brown mottles (10YR 5/8); stoneless; weakly developed medium sub-angular blocky structure; moderately weak soil strength; slightly sticky; slightly plastic; few fine fibrous roots; non-calcareous; clear; wavy boundary.
3	60-90	Light grey (10YR 7/1) medium sandy loam; many yellowish-brown mottles (10YR 5/8); stoneless; weakly developed medium sub-angular blocky structure; slightly sticky; slightly plastic; few fine fibrous roots; non-calcareous; diffuse boundary.

<u>Horizon</u>	<u>Depth (cm)</u>	<u>Description</u>
4	90-100	Light grey (10YR 7/1) heavy clay loam; many strong brown mottles (7.5YR 5/8); stoneless; moderately developed angular blocky structure; moderately sticky; moderately plastic; no roots; non-calcareous.

Soil 2 (T1/S2): Medium textured topsoil over peat or peaty loam subsoil.

Moisture Deficits: 107 mm (wheat), 99 mm (potatoes)

Wetness Class: I Land Use: Permanent Grazing Slope: 0°

<u>Horizon</u>	<u>Depth (cm)</u>	<u>Description</u>
1	0-15	Dark brown (10YR 3/3) medium sandy loam; no mottles; few hard medium sub-rounded stones; weakly developed fine sub-angular blocky structure; weak soil strength; slightly sticky; slightly plastic; many fine fibrous roots; non-calcareous; abrupt; smooth boundary.
2	15-100	Black (7.5YR 2/0) peat; no mottles; stoneless; moderately developed medium sub-angular blocky structure; few coarse to very coarse fissures; many fine fibrous roots; non-calcareous.

MAP(S)