



ADAS

FOOD, FARMING, LAND & LEISURE

AGRICULTURAL LAND CLASSIFICATION

Roddam Quarry, Wooperton
Northumberland

Proposed Extension to Sand and Gravel Quarry

MAFF
Leeds Regional Office

May 1992
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Lds.AL6.Wooper.ton

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AGRICULTURAL LAND CLASSIFICATION REPORT

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:- NU 016194
Location Details:- 3.5km west of the A697 at Wooperton, 6km south of Wooller.

Site Size:- 7.5 hectares

1.2 Survey Methods

Date Surveyed:- 19 May 1992

Boring Density and Spacing Basis:- At 100m intervals on a grid pattern predetermined by the National Grid giving a density of 1 per hectare.

Sampling Method:- By hand auger borings to a depth of up to 1 metre.

Number of Borings:- 10

Number of Soil Pits (used for):- 1 soil pit was dug at a representative point on the site to examine the soil profile, structure and stoniness in greater detail and to take samples 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)".

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

1.3 Land Use:-

At the time of survey most land was under grass. The western field was ploughed.

1.4 Climate and Relief

Average Annual Rainfall (AAR):- 861 mm

Accumulated Temperature above
0°C (January-June):- 1115 day °C

Field Capacity Days:- 220 days

Moisture Deficit:

wheat:- 59 mm

potatoes:- 35 mm

Altitude average:- 200 m a.o.d.

maximum:- 200 m a.o.d.

minimum:- 195 m a.o.d.

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

Subgrade 3b

Relief:-

Undulating with an overall aspect to the
south-east

Slopes (°):-

0-8°

Gradient Limitations:-

Yes, but equalled by the overall climatic
limitation

Limiting gradient(s):-

8°

Grade(s)/subgrade(s):-

3b

Occurrence on site:-

Parts of the eastern side

1.5 Geology and Soil

Soil Strata:- Carboniferous Roddam Dean Conglomerate

Depth of solid rock from surface:- Greater than 1 metre

Drift types:- Glacial sand and gravel

Thickness of drift and distribution:- Greater than 1 metre, over the whole site

Soil Types and Distribution:- Soils are light textured and stony over the whole site

Soil Textures (topsoils and subsoils):- Stony medium sandy loam topsoils over similar or lighter subsoils.

Soil Series/Associations:- Wick I
On 1/250000 map:- Yes
Identified on site:- Yes

Soil Limitations and type:- Stoniness and in places, droughtiness

1.6 Drainage

Soil type and Wetness Class:- Light textured well drained
(Wetness Class I)

Drainage Limitations:- None

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 | | | |
| 3a | | | |
| 3b | 7.5 | 100 | 100 |
| 4 | | | |
| 5 | | | |
| Non Agricultural | | | |
| Agricultural Buildings | | | |
| Urban | | | |
| Other | | | |
| | — | — | — |
| Total | <u>7.5</u> | <u>100</u> | <u>100</u> |

Subgrade 3b

Distribution on site:-

This subgrade covers the entire site

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

Soils are light with medium sandy loam topsoils over similar or lighter subsoils

Depth to Slowly Permeable Layers:-

None present

Wetness and Drainage Class:-

Wetness Class I - well drained

Stone Percentage and type:-

17% subrounded and angular hard rocks and stones

Grade Limiting Factors:-

Climate along with topsoil stoniness and in places droughtiness and gradient

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 are shown on the accompanying maps.

| | |
|------------------------|--|
| Soil Type 1:- | Light textured stony soil over sand and gravel |
| Occurrence:- | Over the entire site |
| Textures:- | Medium sandy loam topsoils over similar or lighter subsoils. Medium clay loam topsoils occur locally |
| Stone content:- | 7-40% |
| Horizon thicknesses:- | Topsoils 30-50cm (mean 35 cm) Subsoils 50-70 cm (mean 65 cm) |
| Profile pit features:- | Weakly developed medium sub angular blocky topsoils over moderately developed medium granular subsoils |

3.2 Soil Resources

Topsoils

Unit T1

Texture/stone content:- Light (medium sandy loam); 7-17% stones

Structure:- Weakly developed medium sub angular blocky

Occurrence:- Over the whole site

Thickness:- Mean:- 35 cm

Subsoils

Unit S1

Texture group/stone content:- Light (medium sandy loam); 20-40% stones

Structure:- Moderately developed medium granular

Occurrence:- Over the whole site

Thickness:- Mean:- 65 cm

4.0 Soil Profile Description

Light textured stony soil over sand and gravel

Location:- Near auger boring No 6
Land Use:- Ploughed
Gradient:- 0°
Weather:- Fine, breezy

| Depth (cm) | Profile description |
|------------|---|
| 0 - 25 | Very dark greyish brown (10YR3/2) medium sand loam; moderately stony with 17% medium subrounded and angular hard rocks and stone; unmottled; weakly developed medium sub angular blocky structure; very friable; common fine fibrous roots; abrupt smooth boundary. |
| 25 - 70 | Yellowish brown (10YR5/6) medium sandy loam; moderately stony with 22% medium subrounded and angular hard rocks and stones; unmottled; moderately developed medium granular structure; friable; common fine fibrous roots. |
| 70+ | Very stony sand and gravel deposits. |

MAP(S)