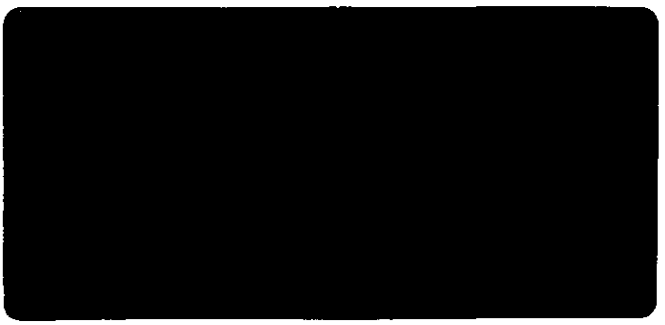

MAFF Ministry of Agriculture Fisheries and Food

# AGRICULTURAL LAND CLASSIFICATION
# AND STATEMENT OF PHYSICAL CHARACTERISTICS

Leam Lane, Felling, Gateshead

Proposed Opencast Coal Site

MAFF

Leeds Regional Office

November 1991

Job No: 94/91

File Ref: 2FCS 5536

lds.AL5.Leam.Lane

CONTENTS



MAP(S)

# 1 INTRODUCTION

## 1.1 Location and Methodology

The site (National Grid Reference NZ 295602) is located approximately 6 km south east of Gateshead town centre and lies immediately north of the A194. Survey work was carried out in October 1991 when soils were examined by hand auger boring at 100m intervals at points predetermined by the National Grid. In addition a soil profile pit was dug to collect further information on soil characteristics. All land quality assessments were made using the methods described in "Revised Guidelines and Criteria for Grading the Quality of Agricultural Land", MAFF, 1988.

## 1.2 Climate and Relief

Average annual rainfall at the site is 650 mm and the accumulated temperature between January and June is 1288 day °C. The land is at field capacity for 160 days each year. The above rainfall and temperature figures impose an overall climatic limitation of Grade 2 on land in this area. The site is flat to gently sloping and rises from an altitude of 66 m AOD in the north east to 84 m in the west.

## 1.3 Geology, Soils and Drainage

The site is underlain by Carboniferous Coal Measures and is covered by drift deposits of boulder clay. The soils are medium to heavy textured and poorly drained, falling in Wetness Class IV.

## 2 AGRICULTURAL LAND CLASSIFICATION

### 2.1 Subgrade 3b (40.59 ha - 100% of the site area)

All the land on the site falls in subgrade 3b. Topsoils consist of medium clay loam or heavy clay loam and generally overlie heavy clay loam or clay subsoils. However, sandy clay loam subsoils occur in places, especially in the east of the site. The soils are poorly drained (Wetness Class IV) with slowly permeable layers generally starting at depths of around 30 cm to 40 cm. Soil wetness is, therefore, the main limiting factor on A.L.C grade.

## 3 STATEMENT OF PHYSICAL CHARACTERISTICS

The site contains one major type:-

### 3.1 Heavy Poorly Drained Boulder Clay Soils (T1/S1)

These soils generally have a medium or heavy topsoil over a heavy subsoil, although medium-textured subsoil horizons occur in places. The soil is very slightly to slightly stony (often with 5-10% hard rock) and slowly permeable layers generally begin at depths of between 30 cm and 40 cm. Soils are therefore poorly drained, falling in Wetness Class IV. The topsoils (T1) has a moderately developed coarse sub-angular blocky structure and consists of heavy clay loam or clay (although horizons of sandy clay loam occur in places) with a strongly developed coarse angular blocky structure.

Topsoil and subsoil resources along with soil depth and volume information are shown on the accompanying maps.

4 **SOIL PROFILE DESCRIPTION**

Pit 1 (near boring 8) Land Use: Arable Slope: 2° SW

| Horizon | Depth | Description |
|---|---|---|
| 1 | 0-25 | Very dark greyish brown (10 YR 3/2) heavy clay loam; no mottles; very slightly stony; dry; moderately developed coarse sub-angular blocky structure; moderately strong soil strength; very slightly porous; slightly sticky; slightly plastic; many fine fibrous roots; non-calcareous; sharp smooth boundary |
| 2 | 25-100 | Light greyish brown (10 YR 6/2) clay with many medium clear brownish yellow (7.5 YR 6/8) mottles; stoneless; dry; strongly developed coarse angular blocky structure; very slightly porous; moderately sticky; moderately plastic; common fine fibrous roots; non-calcareous |

MAPS