AGRICULTURAL LAND CLASSIFICATION
STATEMENT OF PHYSICAL CHARACTERISTICS

LICKAR LEA, BERWICK, NORTHUMBERLAND

Proposed Opencast Coal Site

ADAS

Leeds Regional Office

October 1989

Ref: 4573.65/89

2fcs 4573

lds.RP1Brwck.rpt

CONTENTS

MAPS

1. AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED OPENCAST COAL SITE AT LICKAR LEA, BERWICK, NORTHUMBERLAND

1.1 Introduction

The site is located around Grid Reference NU 015413 about 4 km west of the A1, approximately 10 km south of Berwick. It covers an area of 14.8 hectares all of which is currently in agricultural use. Survey work was carried out in October 1989 when soils were examined by hand auger borings at 16 points predetermined by the National Grid. Profile pits were also dug at representative points in order to make more detailed assessments of soil morphology. Land quality assessments were made using the revised guidelines published by MAFF in 1988.

1.2 Climate and Relief

Salient climatic parameters at Lickar Lea are as follows:-

Average Annual Rainfall (mm)	649
Accumulated Temperature (above 0°C) Jan-June	1276
Field Capacity Days	162
Moisture Deficit (mm) Wheat	93
Potatoes	79

The rainfall and accumulated temperature figures place an overall climatic restriction on the site and limit it to a maximum of Grade 2. Average altitude is 50 m a.o.d. and the land slopes south or south eastwards towards Dry Burn.

1.3 Geology, Soils and Drainage

Boulder clay deposits cover the whole site and solid strata occur within 1 metre of the surface in only a few places. Previous localised opencast mining activity on the site has disturbed and compacted the natural soil profile in many places. Undisturbed profiles consist, typically, of

medium clay loam topsoils over clayey slowly permeable subsoils (Wetness Class IV).

Disturbed areas generally contain a heavy clay loam topsoil over a clayey subsoil (Wetness Class IV), which in turn overlies compacted, clayey overburden material at between 80 and 100 cm depth. The disturbed and undisturbed areas form a complex pattern which cannot be accurately delineated. As both also have similar wetness and workability limitations they have been grouped into one soil type on the accompanying resource maps.

1.3 Agricultural Land Classification

1.3.1 Subgrade 3a (1.2 ha, 8% of total area)

The small area of subgrade 3a at the western end of the site contains profiles with fine loamy topsoils over gleyed, coarse loamy subsoils. The main limitations on ALC grade are soil wetness and workability problems which, however, are not as restricting as on the adjoining subgrade 3b land.

1.3.2 Subgrade 3b (13.6 ha, 92% of total area)

All remaining land (disturbed and undisturbed) falls within subgrade 3b. Topsoils are mainly fine loamy and overlie clayey, slowly permeable subsoils. Soil wetness and workability problems are the overriding limiting factors on this land.

Resource Planning Group

October 1989

2.0 Statement of Physical Characteristics

As the disturbed and natural soils on the site are both derived largely from boulder clay, are fairly similar texturally and have the same wetness and workability limitations, they have been grouped and described below as one soil unit.

2.1 Topsoil

This consists of medium or heavy clay loam, or occasionally sandy clay loam, containing a few subangular sandstones. It is unmottled with a moderately developed medium and coarse subangular blocky structure and has a mean thickness of 30 cm. It corresponds with unit T1 on the accompanying topsoil resource map.

2.2 Subsoil

This consists of heavy clay loam with pockets and lenses of sandy clay loam. It is very slightly stony with a few subangular sandstones, is distinctly mottled and has a coarse angular blocky structure becoming coarse prismatic at depth. Occasionally, weathering sandstone bedrock or restored clayey overburden occurs between 80 cm and 100 cm depth. This unit corresponds with S1 on the accompanying subsoil resource map.