

STATEMENT OF PHYSICAL CHARACTERISTICS  
AND  
AGRICULTURAL LAND CLASSIFICATION  
BURNT HOUSES, COCKFIELD  
COUNTY DURHAM  
PROPOSED OPEN CAST COAL SITE  
APRIL 1993

ADAS  
Leeds Statutory Group

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## SUMMARY

A Statement of Physical Characteristics (Soil Survey) and Agricultural Land Classification survey of 14.4 ha of land at Burnt Houses was carried out in April 1993.

At the time of survey all of the land was in agricultural use, all of which falls within Subgrade 3b. Soils are imperfectly or poorly drained (Wetness Classes III and IV) and typically consist of light or medium textured topsoils over heavy subsoils. An overall climatic limitation as well as, in places, soil wetness, limits all of this land to Subgrade 3b.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED OPEN CAST COAL SITE AT BURNT HOUSES, COCKFIELD, COUNTY DURHAM

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies ½ km south of Cockfield around National Grid Reference NZ 129235 and covers a total area of 14.4 ha. Survey work was carried out in April 1993 when soils were examined by hand auger borings at intervals predetermined by the National Grid. Overall boring density was approximately one per hectare. A soil inspection pit was dug to allow detailed descriptions of soil structure to be made. Land quality was assessed using methods described in "Agricultural Land Classification of England and Wales: Revised criteria for grading the quality of agricultural land" (MAFF, 1988).

1.2 Land Use and Relief

At the time of survey, all of the site was under grass. Site altitude varies between 215 and 225m AOD. The land is gently sloping.

1.3 Climate

Grid Reference	: NZ 129 235
Altitude (m)	: 220
Accumulated Temperature above 0°C (January-June)	: 1132 day°C
Average Annual Rainfall (mm)	: 829
Climatic Grade	: 3b
Field Capacity Days	: 213
Moisture Deficit (mm) Wheat	: 67
Moisture Deficit (mm) Potatoes	: 45

#### 1.4 Geology, Soils and Drainage

The site is underlain by Coal Measures over which there is a cover of till. Soils consist of light to medium textured topsoils over heavy textured subsoil. They are imperfectly to poorly drained and fall within Wetness Classes III and IV.

#### 1.5 Soil Properties

One main soil type occurs on this site, descriptions of which are given below. Topsoil and subsoil resources are also shown on the accompanying maps along with soil thickness and volume information.

- (a) Soil Type 1: light to medium over heavy textured soils (Unit T1/S1)  
(Full Profile Description, Table 1)

This soil formed on Till covers all of the site.

#### 1.6 Soil Resources

- (i) Topsoils

Unit T1 covers the whole site. It is light to medium textured and typically consists of medium sandy loam or medium clay loam which is stoneless or very slightly stony (containing 0-4% small to large subangular sandstones). This topsoil has a well developed fine to medium subangular blocky structure and a mean thickness of 25cm.

- (ii) Subsoils

Unit S1 covers the whole site. It is heavy textured and consists mainly of heavy clay loam. It is very slightly to slightly stony (containing 0-8% small to very large : subangular sandstones) and has a weakly developed coarse angular and medium prismatic structure. Mean thickness is 75cm.

## 2. SOIL PROFILE DESCRIPTIONS

Table 1 light to medium over heavy textured soil, T1/S1

Profile Pit 1 (Near auger boring 11)

Slope:- 2°  
Land Use: Pasture  
Weather:- Overcast

Depth cm	Horizon Description
0-25	Very dark greyish brown (10YR3/2) medium sandy loam; no mottles, very slightly stony (3-4% small to large subangular sandstones); moist; well developed fine and medium subangular blocky structure; friable; very porous; many fine and medium fibrous roots; slightly sticky, slightly plastic; non calcareous; clear smooth boundary.
25-100	Grey (10YR5/1) heavy clay loam; many distinct strong brown (7.5YR5/8) mottles; slightly stony (6-8% small to very large subangular sandstones); slightly moist; weakly developed coarse angular and medium prismatic structure; firm soil strength; slightly porous (<0.5% pores <0.5mm); common fine and medium fibrous roots, becoming few at depth; moderately sticky; moderately plastic; non calcareous.

### 3. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2		
3a		
3b	14.4	100
4		
5		
(Sub total)	(14.4)	(100)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
	<hr/>	<hr/>
TOTAL	14.4	100
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#### 3.1 Subgrade 3b

All land on the site falls within this subgrade. Soils are imperfectly to poorly drained (Wetness Classes III and IV) and consist mainly of medium sandy loam or medium clay loam topsoils over gleyed slowly permeable heavy clay loam subsoils. The land is restricted to Subgrade 3b by the overall climatic limitation and, in places, by wetness and workability problems.

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MAPS