AGRICULTURAL LAND CLASSIFICATION

AND

STATEMENT OF PHYSICAL CHARACTERISTICS

Frickley Colliery, South Elmsall
Proposed Extension to Colliery Tip
British Coal Preferred Site and
Objector's Alternative Site

MAFF
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1.0 AGRICULTURAL LAND CLASSIFICATION. FRICKLEY COLLIERY TIP EXTENSION. BRITISH COAL PREFERRED SITE AND OBJECTOR'S ALTERNATIVE SITE

1.1 Introduction

Two potential sites for the proposed extension to Frickley Colliery Tip were surveyed in November 1989. British Coal's preferred site covers 13.6 hectares and is located around Grid Reference SE 455095, immediately south of Broad Lane Farm West. The alternative site covers 11.0 hectares and lies directly south of Frickley Colliery around Grid Reference SE 464093.

Soils on both sites were examined by hand auger borings at a density of one boring per hectare at points predetermined by the National Grid. In addition profile pits were dug to collect data on soil morphology and to provide samples for laboratory analysis.

1.2 Climate and Relief

Although both sites are within a kilometre of each other, differences in altitude result in slight variations in the climatic data. These are as follows:-

	British Coal Preferred site at 40 m a.o.d.	Alternative site at 30 m a.o.d.
Average Annual Rainfall (mm)	634	662
Accumulated Temperature above 0°C (Jan-June)	1380	1391
Field Capacity Days	135	132
Moisture Deposit wheat (mm)	104	106
potatoes (mm)	95	97

There is no overall climatic limitation in both cases although shallow or light textured soils will be droughty. Relief is gentle or level on both sites. Average altitudes in metres a.o.d. are given above.

1.3 Geology, Soils and Drainage

Geology, soils and drainage are similar on both sites which are derived of drift deposits. Solid strata (Carboniferous Coal Measures) consisting of shale and, in a few places, sandstone, have weathered to produce two distinctive soil types. Almost all the soils are formed on weathering shale which give clayey or fine loamy topsoils over clayey gleyed slowly permeable subsoils. A small area of land on the eastern edge of the preferred site contains soils developed on weather sandstone. Topsoils here are formed of moderately stony medium sandy loam over a very stony loamy medium sand subsoil. Bedrock is encountered at about 50 cm depth. These soils are freely drained and likely to be moderately droughty for crops such as wheat and potatoes.

The clayey soils are slowly permeable at about 25 cm depth and, in an area with field capacity periods varying from 132 to 135 days, fall on the boundary between Wetness Classes III and IV. The small area of freely drained sandstone derived soils meets the criteria for Wetness Class I.

1.4 Agricultural Land Classification

	Area (ha)	
Grade	British Coal Site	Alternative Site
3b	12.6	9.2
Non Agricultural	1.0	1.8
Total	13.6	11.0

1.4.1 Subgrade 3b

All farmland on both sites falls within subgrade 3b. Topsoils consist mainly of heavy clay or silty clay loam over a gleyed, slowly permeable, clay subsoil (Wetness Class III/IV). Soil wetness and workability problems restrict this land to no higher than subgrade 3b. A small area on the

preferred site containing medium sandy loam topsoils over a shallow, stony, loamy medium sand subsoils also falls within this subgrade, but because of droughtiness limitations.

1.4.2 Non Agricultural

A small semi derelict field on the preferred site was graded as non agricultural. The alternative site contained woodland and soil storage mounds which also fall within this category.

Resource Planning Group
December 1989

2.0 STATEMENT OF PHYSICAL CHARACTERISTICS: PROPOSED FRICKLEY COLLIERY TIP EXTENSION BRITISH COAL PREFERRED SITE AND OBJECTOR'S ALTERNATIVE SITE

2.1 Introduction

This description of the soil properties and resources is common to both sites. Both contain one principal, slowly permeable, clayey soil type derived from weathering Carboniferous Coal Measure shales. In a small area on the preferred site there is also a patch of sandstone which gives rise to coarse loamy and sandy soils. This light textured soil, however, occupies such a small area it has not been separated on accompanying resource maps.

2.1 SOIL RESOURCES

2.1.2 Topsoil (Unit T1)

This is a brown heavy clay loam or clay with a moderately developed medium subangular blocky structure. It is stoneless and contains common fine fibrous roots.

2.3 Subsoil (Unit S1)

This is usually formed of grey clay with many distinct medium ochreous mottles. It is stoneless and has a well developed coarse prismatic structure. There are a few fine fibrous roots, particularly on structure faces.

3.0 Soil Profile Description
Frickley Colliery Tip Extension

Slope and aspect: 2° S
Land Use: Arable
Recent Weather: Cool and Wet

Depth (cm)

0-25 Brown (10YR 5/3) heavy clay loam; unmottled; stoneless; moderately developed medium subangular blocky structure; common fine pores and fissures; common fine fibrous roots; non calcareous; abrupt even boundary.

25-100 Grey (N6) clay; many distinct medium strong brown (7.5YR 5/6) mottles; stoneless; strongly developed coarse prismatic structure; few fine pores and fissures; non calcareous; few fine fibrous roots.