

AGRICULTURAL LAND CLASSIFICATION
AND
STATEMENT OF PHYSICAL CHARACTERISTICS

BULLCLIFF WOOD, WEST BRETTON,
WAKEFIELD

PROPOSED OPENCAST COAL SITE

ADAS
Leeds Regional office

April 1989
Ref: 33/81 2FCS 4362

lds.alc4.33/81

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1. **AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED OPENCAST
COAL SITE AT BULLCLIFF WOOD, WEST BRETTON, WAKEFIELD, WEST YORKSHIRE**

INTRODUCTION

The site is located at National Grid Reference SE 286157 close to the A636 Wakefield-Denby Dale road, about 2 km north of the village of West Bretton. It covers an area of about 7.2 hectares all of which is in arable use except for a small area of derelict land surrounding a disused drift mine at the northern end of the site. Survey work was carried out in April 1989 when soils were examined by hand auger borings at 14 points pre-determined by the National Grid. In addition a soil pit was dug to collect data on soil morphology and to provide samples for laboratory analysis.

Land quality assessments were made using the revised guidelines published by MAFF in 1988.

CLIMATE AND RELIEF

Average annual rainfall is approximately 670 mm. The accumulated temperature above 0°C (January to June) is 1347 day °C and the site is at field capacity for a period of around 168 days each year. These factors indicate that there is no overall climatic limitation on ALC grade.

Altitude ranges from 60 m aod on the north western edge of the site to 70 m aod in the south. Slopes are gentle (2°-3°) along the higher south western length of the site, increasing to moderate (4°-7°) in the north west.

GEOLOGY, SOILS AND DRAINAGE

The entire site is covered by heavy clay derived from the underlying Coal Measures. Solid strata, however, were not encountered within 1 metre of the surface. Soil textures reflect the nature of the parent material and consist of heavy silty clay loam topsoils over silty clay or clay subsoils. Stone content is low except to the south east of the old drift mine. Here flaggy sandstones are common in the topsoil suggesting the

presence, in this locality, of sandstone beds in the underlying Coal Measures.

All soils are slowly permeable at about 30 cm depth and, in an area with a field capacity period of 168 days, meet the criteria for Wetness Class IV.

LAND USE

All agricultural land is in arable use. The derelict drift mine area is covered by scrubby woodland.

AGRICULTURAL LAND CLASSIFICATION

Grade	Area (hectares)	Percentage of Total Area
3b	6.6	92%
Urban	<u>0.6</u>	<u>8%</u>
Total	7.2	100%

Subgrade 3b

The entire agricultural area falls within this subgrade. Soils consist of heavy silty clay loam topsoils over slowly permeable silty clay or clay subsoils which meet the criteria for Wetness Class IV. Soil wetness and the resulting poor workability are the principal grading limitations.

Urban

This consists of the derelict mine workings which could not be restored to agricultural use without considerable expenditure.

Reference

"Revised Guidelines and Criteria for grading the quality of agricultural land", MAFF (1986)

Resource Planning Group

April 1989

BULLCLIFF WOOD, WEST BRETTON, WAKEFIELD

PROPOSED OPENCAST COAL SITE

2. SOIL PROPERTIES AND RESOURCES

(STATEMENT OF PHYSICAL CHARACTERISTICS)

Soils on the site are all derived from Coal Measure shales and mudstones and there is only one soil type present. The topsoil and subsoil resources are shown on the accompanying maps, along with soil depth and volume information.

1. Heavy textured soil derived from Coal Measure Shales.

This soil type covers the whole site, except for the derelict area, and varies little except just to the south and east of the old drift mine where the presence of sandstone blocks suggests the presence of sandstone beds in the underlying Coal Measures.

Topsoil textures are generally heavy, usually of heavy silty clay loam. Mean thickness is 30 cm. Structure is typically moderately developed medium angular to subangular blocky. Stone content is usually less than 5% except locally where large tabular sandstones are common.

The topsoil corresponds with unit T1 on the accompanying resource map.

Subsoils are heavy in texture, mainly of silty clay or clay and sometimes with a heavy clay loam horizon immediately below the topsoil. Structure is moderately developed coarse angular blocky blocky becoming very coarse prismatic or massive at depth.

The subsoil corresponds with Unit S1 on the accompanying resource map.

3. SOIL PROFILE DESCRIPTION

Bullcliff Wood OCCS

Slope: 3°NW

Land Use: Cereals

(cm)

0-28 Dark greyish (brown (10 YR 4/2) heavy silty clay loam; very slightly stony with a few large tabular sandstones; wet; moderately developed medium angular to subangular blocky structure; moderate packing density; slightly porous with few fine pores and common fine fissures; moderately firm soil and ped strength; very sticky and very plastic; many very fine and fine fibrous roots; non calcareous; abrupt wavy boundary.

28-100 Pale yellow (2.5 Y 7/4) silty clay with very many prominent strong brown (7.5 YR 5/8) mottles; very slightly stony with a few large tabular sandstones and a few small shale fragments which become more common at depth; moderately developed very coarse angular blocky to coarse prismatic structure; high packing density; very slightly porous with few very fine pores and very fine fissures; very firm soil strength; very sticky and very plastic; few very fine fibrous roots; non calcareous.