

STATEMENT OF PHYSICAL CHARACTERISTICS AND  
AGRICULTURAL LAND CLASSIFICATION

RED BECK BRIDGE, CROFTON  
PROPOSED WASTE DISPOSAL SITE

ADAS  
LEEDS REGIONAL OFFICE

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## RED BECK BRIDGE, CROFTON

### 1. STATEMENT OF PHYSICAL CHARACTERISTICS

#### A. INTRODUCTION

The site (NGR SE 363187) adjoins the A638 approximately 3 km south east of Wakefield city centre. It covers approximately 6.3 hectares, 94 per cent of which is in agricultural production.

Survey work was carried out in March 1989 when soils were examined by hand auger borings at points predetermined by the National Grid. The overall survey density was approximately 4 borings per hectare with additional borings being made, where necessary, to check soil variability.

Detailed soil descriptions and sampling for laboratory analyses were carried out in a soil pit located at a representative point on the site.

#### GEOLOGY

Shales and mudstones from the Carboniferous coal measures underlie the site. These have been disturbed by past open cast coal mining.

#### CLIMATE

Average annual rainfall around Crofton is about 634 mm. Accumulated temperature above 0°C (January to June) is approximately 1383 day°C and the mean duration of field capacity is approximately 142 field capacity days. These factors indicate that there is no overall climatic limitation on ALC grade. Summer moisture deficits of 103 mm for winter wheat and 94 mm for potatoes mean that soil droughtiness is slightly limiting on the clayey soils prevalent in the area.

LAND USE

At the time of survey the site was entirely in permanent pasture except for a small waterlogged area of semi natural vegetation along the southern boundary.

## B. SOIL RESOURCES

One major soil type was identified. This consists of a clay loam topsoil, approximately 25 cm thick over compacted heavy clay loam and clay.

Close examination of a typical profile (soil profile pit A) showed the topsoil to have a moderately developed coarse sub angular blocky structure over very coarse angular blocky to prismatic subsoil.

### TOPSOILS

Only one topsoil was identified. This consists of medium textured material with an optimum depth of 25 cm (**Unit T1**).

### SUBSOILS

These consist of heavy clay loam upper subsoils of variable thickness over clayey lower subsoils. The upper subsoils are at their thickest in the northern part of the site where they have been separated as a distinct resource unit (**Unit U1**).

The clayey lower subsoil units (**S1a**) and (**S1**) are similar. Sub unit (**S1a**) is however, the thicker resource because of the absence of a significant upper subsoil in this area.

A small area containing a metre of medium to heavy textured subsoil material occurs along the southern site boundary. This area is too small to identify as a separate sub unit.

## 2. AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows:

Grade	Hectares	Per cent of total site area
3b	3.0	48
4	2.9	46
Non Agricultural	<u>0.4</u>	<u>6</u>
Total	6.3	100%

### **Subgrade 3b**

Land in this subgrade occurs on the higher and better drained land in the north. Soils fall within wetness class IV and are limited to the subgrade by a combination of soil wetness and workability problems.

### **Grade 4**

Grade 4 quality land occurs on the lower lying ground in the southern part of the site. Soils here remain waterlogged for long periods because of the poor outfall from the site. They are limited to this grade by a combination of extreme soil wetness and topsoil workability problems.

### **Non Agricultural**

This consists of a waterlogged hollow of semi natural vegetation along the southern boundary.

3. SOIL PROFILE DESCRIPTION

1. MEDIUM OVER HEAVY TEXTURED SOIL (SOIL PROFILE PIT A)

LAND USE: PERMANENT PASTURE

ASPECT : SOUTH

SLOPE : 1°

HORIZON	DEPTH (CM)	DESCRIPTION
1.	0-24	Dark grey (10YR 4/1) medium clay loam; unmottled; stoneless; wet; moderately developed coarse sub angular blocky structure; medium packing density; slightly porous; common fine fissures and macropores; moderately weak soil strength; moderately sticky; moderately plastic many very fine fibrous roots; non calcareous; sharp smooth boundary.
2.	24-100	Grey (10YR 6/1) clay; many medium and fine sharp prominent strong brown (7.5YR 6/6) mottles; stoneless; moist; weakly developed adherent very coarse angular blocky structure tending to prismatic; high packing density; very slightly porous; few fine fissures; very firm to moderately strong soil strength; very sticky; very plastic; few very fine fibrous roots above 45 cm; non calcareous.