

STATEMENT OF PHYSICAL CHARACTERISTICS
AND AGRICULTURAL LAND CLASSIFICATION

LOCK LANE, ALTOFTS
PROPOSED WASTE DISPOSAL SITE

ADAS
LEEDS REGIONAL OFFICE

MAY 1989
FILE REF: 2FCS4350
MAP REF: 21/89

lds.rpg5.Lock.Lane

**LOCK LAND, ALTOFTS
PROPOSED WASTE DISPOSAL SITE**

1. STATEMENT OF PHYSICAL CHARACTERISTICS

A. GENERAL SITE INFORMATION AND SURVEY PROCEDURE

The site is located around National Grid Reference SE 382248 adjacent to the M62 motorway and the Aire-Calder Canal near Altofts, West Yorkshire.

It covers a total area of 1.9 hectares of which, 50 per cent is in agricultural use.

Survey work was carried out in March 1989 when soils were examined at points predetermined by the National Grid. The overall survey density was approximately 4 borings per hectare. Detailed soil descriptions and sampling for laboratory analyses were carried out in an inspection pit located at a representative point on the site. All assessments of agricultural land quality were made using the methods described in the "Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land (MAFF 1988)."

CLIMATE AND RELIEF

Average Annual rainfall in the area is about 624 mm. Accumulated temperature above 0°C (January to June) is approximately 1400 day °C and the mean duration of field capacity is approximately 138 field capacity days. These factors indicate that there are no overall climatic restrictions on agricultural land grade. Moisture deficits of 107 mm for wheat and 99 mm for potatoes however mean that droughtiness is likely to be slightly limiting on the clayey soils prevalent on the site.

Average altitude is approximately 20 m a.o.d. and relief is gentle or moderate with slopes rarely exceeding 5°.

GEOLOGY AND SOILS

Coal Measure shales and siltstones underlie the site beneath a thin soil cover. These soils consist mainly of clay loam, silty clay loam or silty clay topsoils over silty clay subsoils which often pass into the underlying Coal Measures within about 60 cm of the surface.

B. SOIL PROPERTIES AND RESOURCES

One major soil type occurs on the site.

1. **Undisturbed medium and heavy textured soil**

This soil is widespread in the west and along the southern site boundary.

The topsoil (**Unit T1** on the accompanying resource maps) consists of silty clay or heavy clay loam about 25 cm in thickness. This overlies a similarly textured upper subsoil with a median thickness of 20 cm (**Unit U1**). The lower subsoil (**Unit S1**) consists of weathered siltstone and shale suitable for use either as backfill or as a sub soil resource.

A representative inspection pit dug in this soil type showed the topsoil to have a moderately developed coarse sub angular blocky structure passing into weakly developed adherent, coarse angular blocky upper subsoil. Weathered shale and siltstone occurred below 56 cm depth.

2. Other areas on the site.

Topsoils in the eastern half of the site have been removed to a soil store near the southern boundary (see topsoil resource map). Rubble has been tipped over much of this stripped area preventing access to the underlying subsoil resource.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on the site are as follows:

Grade	Hectares	Per cent of total site area
3b	0.96	50%
Non Agricultural	<u>0.95</u>	<u>50%</u>
Total	1.91	100%

Subgrade 3b

All agricultural land on the site falls within subgrade 3b. Soils are in Wetness Classes III or IV and consist mainly of heavy clay loam silty clay loam or silty clay topsoils over gleyed and slowly permeable silty clay subsoil. These usually pass into weathering siltstone and shale between 40 cm and 60 cm depth.

Workability problems caused by a combination of heavy topsoil texture and soil wetness are the main restrictions on ALC grade.

Non Agricultural

Non Agricultural land occurs in the eastern half of the site where the topsoil has been removed and rubble tipped.

Resource Planning Group
Leeds R0

May 1989

3. SOIL PROFILE DESCRIPTION

1. Undisturbed heavy textured soil (NGR 382248)

Land Use: Cereals

Slope: 3° N

Horizon	Depth	Description
1.	0-19 cm	Dark grey (10YR 4/1) heavy silty clay loam with a few silty clay inclusions; unmottled; very slightly stony; few small angular weathering ironstones; wet; moderately developed coarse sub angular blocky structure; moderately weak soil strength; medium packing density; slightly porous; common fine pores and fissures; common very fine fibrous roots; non calcareous; sharp smooth boundary.
2.	19-56 cm	Grey (N/6) silty clay; many medium distinct sharp light yellowish brown (10YR 6/4) mottles; very slightly stony; few very large subrounded and small angular ironstones; moist; weakly developed; adherent; very coarse angular blocky structure; moderately firm soil strength; high packing density very slightly porous; few fine and medium fissures; very sticky; very plastic; few very fine roots above 40 cm depth; non calcareous; abrupt smooth boundary.
3.	56 cm+	Abundant small angular siltstones and shales in a weathered silty clay matrix.