AGRICULTURAL LAND CLASSIFICATION
AND
STATEMENT OF PHYSICAL CHARACTERISTICS

RIDDINGS LANE, AUSTERFIELD, SOUTH YORKSHIRE
PROPOSED SAND AND GRAVEL QUARRY

MAFF
Leeds Regional Office

July 1991
File Ref: 2FCS 5495
Project No: 74/91

lds.AL4.Aster.fld

CONTENTS

MAP(S)

AGRICULTURAL LAND CLASSIFICATION REPORT AND STATEMENT OF PHYSICAL CHARACTERISTICS ON THE PROPOSED SAND AND GRAVEL QUARRY AT RIDDINGS LANE, AUSTERFIELD, SOUTH YORKSHIRE

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:-	SK 656955.
Location Details:-	West of the A614(T) 1.5 km north of Bawtry.
Site Size:-	9.5 ha.

1.2 Survey Methods

Date Surveyed:-	19 July 1991.
Boring Density and Spacing Basis:-	1 boring per hectare at 100 m intervals predetermined by the National Grid.
Sampling Method:-	By hand auger borings to a depth of 1 m.
Number of Borings:-	9.
Number of Soil Pits (used for):-	One to examine soil structure.

All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988)".

1.3 Land Use:- Derelict disturbed land in the north east. Unmanaged grassland elsewhere.

1.4 Climate and Relief

Average Annual Rainfall (AAR):- 585 mm

Accumulated Temperature above 0°C (January-June):- 1407 day °C

Field Capacity Days:- 113 days

Altitude average:- 17 m a.o.d.
maximum:- 18 m a.o.d.
minimum:- 16 m a.o.d.

Climatic limitation (based on interaction of rainfall and temperature values:- None

Relief:-	
Slopes (°):-	0° except on disturbed hummocky areas.
Gradient Limitations:-	None.

1.5 Geology and Soil

Solid Strata:-	Triassic sandstone.
Depth of solid rock from surface:-	More than 1 m.
Drift types:-	Sand and gravel.
Thickness of drift and distribution:-	More than 1 m across the whole site.
Soil Types and Distribution:-	Well drained sand and gravel soils.
Soil Textures (topsoils and subsoils):-	Loamy medium sand topsoils over medium sand subsoils. Slightly to moderately stony.
Soil Series/Associations:-	
On 1/250000 map:-	Newport.
Identified on site:-	Newport.
Soil Limitations and type:-	Light texture leading to droughtiness.

1.6 Drainage

Soil type and Wetness Class:-	All well drained (Wetness Class I).
Drainage Limitations:-	None.

2.0 Agricultural Land Classification Grades

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

Grade/Subgrade	Hectares	Percentage of Agricultural Area	Percentage of Total Area
4	5.15	100	53.99
Non Agricultural	4.39		46.01
Total	9.54	100	100

Grade 4

Distribution on site:-	Western and southern parts of the site.
Soil Type(s) and Texture(s):-	Sand and gravel soils consisting of loamy medium sand topsoils (slightly to moderately stony) over medium sand subsoils with variable stone content.
Depth to Slowly Permeable Layers:-	No slowly permeable layers.
Wetness and Drainage Class:-	Wetness Class I, well drained.
Stone Percentage and Type:-	12-20% of hard quartzite stones (mainly 2-4 cm in size).
Grade Limiting Factors:-	Severe droughtiness.

Non Agricultural

Type and location of land included:- Derelict disturbed area with little topsoil.

Agricultural Buildings

Type and location of building included:-

Urban

Type of land use included:-

3.0 STATEMENT OF PHYSICAL CHARACTERISTICS (SOIL PROPERTIES AND RESOURCES)

3.1 Soil Properties

One soil type occurs on the site. Soil depth and quantity information are shown on the accompanying maps.

Soil Type 1:-

Occurrence:-	Over the whole site.
Textures:-	Medium loamy sand topsoil over medium sand topsoil.
Stone content:-	12-20% of hard stone in topsoil. 0-20% hard stone in topsoil.
Horizon thicknesses:-	Topsoil mean thickness:- 30 cm. Subsoil mean thickness:- 70 cm.
Profile pit features:-	Topsoil has very weak fine subangular blocky structure. Subsoil consists of loose structureless sand. See full description at Section 4.0.

3.2 Soil Resources

Topsoil:-	The topsoil (mean thickness 30 cm) is shown as Unit T1 on the accompanying map.

Subsoil:-

The subsoil (70 cm) is shown as Unit S1 on the accompanying map.

Resource Planning Group
Leeds Regional Office
July 1991

4.0 SOIL PROFILE DESCRIPTION

Freely Drained Sand and Gravel Soil

Land Use:- Derelict grassland
Gradient:- 0
Moisture Deficits:- Wheat 113 mm
Potatoes 107 mm
Field Capacity Days:- 113

	Depth (cm)	Horizons
1	0-30	Dark brown (10YR 3/3) loamy medium sand; unmottled; slightly stony (12%) with common small and medium rounded quartzite stones; slightly moist; very weakly developed fine subangular blocky structure; very porous with abundant fine pores; very weak soil strength; non sticky and non plastic; abundant fine fibrous roots; non calcareous; abrupt smooth boundary.
2	30-100	Strong brown (7.5YR 5/6) medium sand; unmottled; moderately stony with many small and medium quartzite stones; slightly moist; single grain loose; extremely porous; non sticky and non plastic; common fine fibrous roots; non calcareous.