STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION

SANDS TOP QUARRY, NORTH NEWBALD

Proposed extension to limestone quarry

ADAS

Leeds Regional Office

November 1989

2FCS4583

lds.AL1Nwbld.rpt

CONTENTS

MAPS

1. STATEMENT OF PHYSICAL CHARACTERISTICS

A. INTRODUCTION

The site is located around National Grid Reference SE 907364 adjoining the A1034 Market Weighton to South Cave road, immediately west of the village of North Newbald. The area surveyed covers a total of 1.7 hectares. Survey work was carried out in September 1989 when soils were examined by hand auger borings to a depth of one metre at a density of approximately 2 borings per hectare. Additional borings and soil pits were dug where necessary to confirm soil characteristics.

Land Use

The southern central part of the site consists of a derelict quarry used at present for waste disposal. The remainder of the site consists of derelict weed covered agricultural land.

Climate and Relief

The average annual rainfall is approximately 674 mm and the median accumulated temperature above 0°C (January-June) is 1348 day°C. The area is at field capacity for about 157 days each year. The rainfall and temperature figures indicate that there is no overall climatic limitation on ALC grade on this site. The relatively high soil moisture deficits of 100 mm for wheat and 90 mm for potatoes will, however, result in a slight droughtiness limitation on the light soils which are widespread on the site.

The agricultural land on the site is virtually level at an altitude of 48 m a.o.d.

Geology

Jurassic limestone with a thin and patchy cover of blown sand underlies much of the area around North Newbald. On the site this sandy drift is at least 1 metre thick to the north of the existing quarry face, but no more than about 70 cm in thickness in the south east and south west corners. The sand is calcareous and slightly stony only where the limestone is relatively close to the surface.

Drainage

All the agricultural land is well drained (Wetness Class I).

B. SOIL PROPERTIES

The site contains one major soil type which is subdivided into areas with limestone at more than 100 cm depth and those in which limestone occurs at less than this. Topsoils in both subtypes are formed of fine sandy loam with a mean thickness of about 25 cm. Subsoils in the deeper areas north of the quarry face consist of loamy fine or medium sand to depth, sometimes with thin lenses and patches of clay loam. In the shallower areas in the south east and south west corners slightly stony calcareous loamy fine sand or fine sand subsoils overlie limestone at a depth of about 70 cm.

C. SOIL RESOURCES

The topsoil and subsoil resources on the site are shown on the accompanying maps along with soil depth information.

i. Topsoils

Unit T1

This unit covers the whole agricultural area and consists of weakly structured fine sandy loam with a mean thickness of 25 cm.

ii. Subsoils

Unit S1

This subsoil unit covers the whole area north of the present quarry face and consists of very weakly structured, almost loose, loamy fine or medium sand extending to a depth of at least 100 cm. Thin beds of clay loam occur in places, especially in the north east corner.

Unit S2

The subsoil in this unit consists of light or very light material, usually calcareous loamy fine sand or fine sand which passes into fragmented limestone at about 70 cm from the surface.

2. SOIL PROFILE DESCRIPTION

Sandstop Quarry, North Newbald

Well drained sandy soil, adjoining auger boring No 2.

Land Use:- derelict arable land

Gradient:- 0°

Horizons
(cm)

0-30 Brown (10YR 4/3) fine sandy loam; unmottled; stoneless; slightly moist; weakly developed fine subangular blocky structure breaking to single grain; medium packing density; very porous; moderately weak soil strength; slightly sticky and slightly plastic; common very fine fibrous roots; calcareous; abrupt smooth boundary.

30-70 Yellowish brown (10YR 5/8) loamy medium sand; unmottled; stoneless; very slightly moist; very weakly developed fine angular blocky to single grain structure; medium packing density; extremely porous; very weak to loose soil strength; non sticky and non plastic; few very fine fibrous roots; non calcareous; clear wavy boundary.

70-100 Yellowish brown (10YR 5/8) very fine sandy loam with common distinct medium light grey (10YR 7/2) mottles; stoneless; slightly moist; very weakly developed fine angular blocky structure; medium packing density; very porous; very weak soil strength; slightly sticky and slightly plastic; non calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

Grade 2 (0.9 ha)

The northern part of the site falls within this grade. Topsoils consist of fine sandy loam over similar or lighter subsoils. These are well drained soils which are very easily worked at most times of year. Available water assessments indicate that slight summer droughtiness is a limitation and this is the main restriction on ALC grade.

Subgrade 3a(0.2)

Two small areas at the south western and south eastern ends of the site are placed within this subgrade. Top and upper subsoils are similar to the Grade 2 area. The presence of limestone within 70 cm of the surface, however, increases the drought risk and for this reason these two areas are placed with subgrade 3a.

Urban (0.6)

This consists of the present derelict quarry and tipping area.

RPG Leeds
November 1989