STATEMENT OF PHYSICAL CHARACTERISTICS
AND
AGRICULTURAL LAND CLASSIFICATION

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PROPOSED SAND AND GRAVEL PIT

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1. STATEMENT OF PHYSICAL CHARACTERISTICS

A. GENERAL INTRODUCTION

The site is located around National Grid Reference NY 954 643, between the A69 and the River Tyne, 1½ km east of Hexham town centre. It covers an area of 30.2 hectares all of which is in agricultural use.

Survey work was carried out in September 1990 when soils were examined by hand auger borings at points predetermined by the National Grid. Detailed soil descriptions to provide information on soil structure were carried out at inspection pits located at representative points on the site.

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).

LAND USE

All land on the site is in arable use. Sewage sludge had recently been spread over parts of the site.

CLIMATE AND RELIEF

Salient climatic parameters at the site are as follows:-

Average Annual Rainfall (mm)		667
Accumulated Temperature Above 0°C (Jan-June)		1323
Field Capacity Days		177
Moisture Deficit (mm)	Wheat	95
	Potatoes	82

The above combination of rainfall and temperature restrict the site to a maximum ALC grade of 2. The summer moisture deficits of 95 mm for wheat and 82 mm for potatoes indicate that soils on this site are not significantly limited by droughtiness.

The site lies at an average altitude of about 40 m above ordnance datum. Relief is very gently undulating. Slopes rarely exceed 2° and do not restrict the use of agricultural machinery.

FLOODING

A slight risk of flooding exists because of the proximity of the River Tyne. Flood defences and controls are in operation, however, and ALC grades are not restricted by flood risk.

GEOLOGY SOILS AND DRAINAGE

Solid Carboniferous strata do not occur within 1 metre of the surface and soils are developed on drift deposits consisting of river terrace sands and gravels. The resultant soil consists largely of medium and fine sandy loam topsoils over similar textured subsoils to depth. Except for a few isolated gravelly patches, profiles are stoneless. In most places the underlying gravel deposit occurs at a depth of more than 1 metre. All profiles are unmottled, and freely drained, falling into Wetness Class I.

B. SOIL PROPERTIES

One distinct light textured soil type occurs across the entire site. Topsoil and subsoil resources are shown on the accompanying maps along with soil thickness and quantity information.

Soil Type 1: Deep coarse loamy soil.

This deep light textured soil covers the whole site (full description Table 1). Topsoils consist of weakly structured medium or fine sandy loam over similar medium or fine sandy loam and occasionally loamy medium sand subsoils. Gleying is absent and all profiles are extremely porous and freely drained.

Topsoils and subsoils are largely stoneless except in a few places where the underlying gravelly material occurs closer to the surface.

C. SOIL RESOURCES

Topsoil Unit T1)

This unit covers the whole site and consists entirely of medium or fine sandy loam which is usually stoneless. Structure is weakly developed medium subangular blocky. Mean thickness is 30 cm.

Subsoil (Unit S1)

This unit generally occurs to depth of 1 metre over most of the site. It consists of weakly developed coarse angular, porous, medium or fine sandy loam, or occasionally loamy medium sand material.

Mean thickness is 70 cm.

TABLE 1

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Profile Pit 1 (Near auger boring 17) Soil type 1:- Deep coarse loamy soil

Slope:- Level

Land Use:- Ploughed, arable stubble

Horizons (cm)	
0-30	Very dark greyish brown (10 YR 3/2) fine sandy loam; unmottled; stoneless; slightly moist; weakly developed medium subangular blocky structure; medium packing density; very porous; moderately weak soil strength; slightly sticky; moderately plastic; many very fine fibrous roots; non calcareous; clear smooth boundary.
30-105	Dark brown (10 YR 4/3) becoming (10 YR 3/3) when rubbed and wet; fine sandy loam; unmottled; stoneless; dry; weakly developed coarse angular blocky; very porous; hard; slightly sticky, moderately plastic; common very fine fibrous roots; non-calcareous; abrupt smooth boundary.
105+	Coarse sand and gravel.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades on the site are as follows:

Grade 2 (30.2 hectares, 100% of total area)

Grade 2 land covers the entire site. Topsoils consist of medium or fine sandy loam over medium or fine sandy loam or occasionally loamy medium sand subsoils. These freely drained (Wetness Class 1), unmottled and generally stoneless, deep sandy soils, are restricted to grade 2 only by the overriding climatic limitation which applies to the whole area.

Resource Planning Group
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