STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION EGGBOROUGH SAND PIT, NORTH YORKSHIRE PROPOSED QUARRY EXTENSION APRIL 1993

ADAS
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SUMMARY

A Statement of Physical Characteristics and Agricultural Land Classification survey of 9.7 ha of land at Eggborough was carried out in March 1993.

2.3 ha of the agricultural land on the site falls in Subgrade 3a. Profiles are generally well drained and consist typically of loamy medium sand or medium sandy loam topsoils and upper subsoils overlying sandy clay loam or heavy clay loam lower subsoils. Moderate soil droughtiness limits the ALC grade of this land.

The remainder of the agricultural land (7.3 ha) falls in Subgrade 3b. Again profiles are well drained, typically consisting of loamy medium sand topsoils and upper subsoils overlying a range of subsoil textures. Soil droughtiness, particularly for shallow rooting crops, limits this land to Subgrade 3b.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED SAND PIT EXTENSION AT EGGBOROUGH, NORTH YORKSHIRE

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 10 Km south west of Selby town centre, between the village of Low Eggborough and the M62 motorway. Survey work was carried out in March 1993 when soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. Extra borings were made where necessary to refine grade boundaries and one soil pit was dug to allow a full profile description to be made and samples to be taken for laboratory analysis. Land quality was assessed 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).

1.2 Land Use and Relief

At the time of survey the north and west of the site had been sown to winter cereals. The field in the south east of the site had linseed straw from the previous year's crop. The site lies at an altitude of 10m AOD and is flat to very slightly sloping (0-1°) with undulating topography.

1.3 Climate

Grid Reference	: SE 569231
Altitude (m)	: 10
Accumulated Temperature above 0°C (January-June)	: 1405 day°C
Average Annual Rainfall (mm)	: 604
Climatic Grade	: 1
Field Capacity Days	: 126
Moisture Deficit (mm) Wheat	: 110
Moisture Deficit (mm) Potatoes	: 102

1.4 Geology, Soils and Drainage

The site is underlain by the Triassic Bunter Sandstone and overlain by glacial sand. In places deposits of glaciolacustrine clay occur at depth, particularly in the north and west of the site. The soils in the south and east are generally well drained (falling in Wetness Class I) and typically consist of light or very light textured topsoils and subsoils (medium sandy loam or loamy medium sand). The soils in the north and west of the site are very similar but medium to heavy textured horizons (typically sandy clay loam or heavy clay loam) occur at around 70cm depth.

1.5 Soil Profiles

One main soil type occurs on this site, a description of which is given below. Topsoil and subsoil resources are also shown on the accompanying maps along with soil thickness and volume information.

(a) Soil Type 1:- Light to very light textured soils with a medium to heavy textured lower subsoil occurring in places.
(Full profile description, Table 1)

This soil type has formed on deposits of glacial sand with, in places, deposits of glaciolacustrine clay at depth. It occurs over the whole site and it is characterised by deep well-drained profiles which are very slightly stony.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs over the whole site. It is light to very light textured, consisting of medium sandy loam or, more typically, loamy medium sand. It is very slightly stony (containing approximately 4% small, medium and large subrounded and rounded hard stones) and has a weakly developed medium subangular blocky structure. Median unit thickness is 30cm.

(ii) Subsoils

(a) Upper subsoils

Unit U1A occurs in the west and north east of the site. It is light to very light textured, consisting of very slightly stony loamy medium sand or medium sandy loam. It has a moderately developed coarse subangular and angular blocky structure and a mean unit thickness of 40cm.

Unit U1B occurs in the south and east of the site. It is the same as Unit U1A but is not underlain by a heavier textured lower subsoil. The mean unit thickness of Unit U1B is 70cm.

(b) Lower Subsoils

Unit S1 occurs in the west and north east of the site and underlies Unit U1A. It is medium to heavy textured, typically consisting of very slightly stony sandy clay loam or heavy clay loam. This unit has a weakly developed medium and coarse subangular blocky structure. Mean unit thickness is 30cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1:- Light to very light textured soil with a medium to heavy textured lower subsoil. T1/U1A/S1

Profile Pit 1 (Between auger borings 26 and 27)

Slope:- 0°
Land Use:- Winter wheat
Weather:- Bright and warm

Depth cm	Horizon Description
0-35	Very dark greyish brown (10YR3/2) loamy medium sand; no mottles; very slightly stony (approximately 3% small and medium subrounded and rounded hard stones); slightly moist; weakly developed medium subangular blocky structure; friable; extremely porous; common very fine, fine and medium fibrous roots; slightly sticky; slightly plastic; non-calcareous; abrupt smooth boundary.
35-65	Brown (10YR4/3) loamy medium sand; no mottles; very slightly stony (approximately 2% small and medium subrounded and rounded hard stones); slightly moist; moderately developed coarse subangular and angular blocky structure; friable; extremely porous; few fine fibrous and medium fleshy roots; slightly sticky; slightly plastic; non-calcareous; clear irregular boundary.

Depth cm	Horizon Description
65-100	Light yellowish brown (10YR6/4) sandy clay loam, becoming heavy clay loam below approximately 80cm; common fine and medium strong brown (7.5 YR4/6) mottles; very slightly stony (2% small and medium subrounded and rounded hard stones); moist; weakly developed medium and coarse subangular blocky structure; firm soil strength; slightly porous (<0.5% pores >0.5mm); few fine fibrous and medium fleshy roots; moderately sticky; moderately plastic; non-calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

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

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	2.3	23.7
3b	7.3	75.3
4		
5		
(Sub total)	(9.6)	(99.0)
Urban		
Non Agricultural	0.1	1.0
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(0.1)	(1.0)
TOTAL	9.7	100

2.1 Subgrade 3a

Subgrade 3a land occurs in two separate areas in the centre and north east of the site. Profiles are generally well drained (falling in Wetness Class I) and typically consist of loamy medium sand or medium sandy loam topsoils and upper subsoils overlying sandy clay loam or heavy clay loam lower subsoils. Both topsoils and subsoils are very slightly stony, containing 3-4% small to large hard stones. This soil is moderately droughty for both winter wheat and potatoes and it is this factor which limits the land to Subgrade 3a.

2.2 Subgrade 3b

Land in this subgrade covers most of the site. Profiles are well drained (falling in Wetness Class I) and typically consist of loamy medium sand topsoils overlying loamy medium sand upper subsoils and a range of lower subsoils which vary in texture from medium sand to sandy clay loam and heavy clay loam. The water holding capacity of these soils is low and shallow rooting crops such as potatoes may be subjected to severe drought stress during dry periods. Soil droughtiness is, thus, the factor limiting this land to Subgrade 3b.

2.3 Non Agricultural

This category consists of a small band of scrub in the centre of the site.

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MAPS