MAFF Ministry of Agriculture Fisheries and Food

STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION BARTON QUARRY NORTH YORKSHIRE PROPOSED QUARRY EXTENSION FEBRUARY 1995

ADAS
Leeds Statutory Group

Job No:- 56/95
MAFF Ref:- EL 10641
Commission No: 1617
2FCS 10666

SUMMARY

A detailed Agricultural Land Classification and Statement of Physical Characteristics survey of the proposed extension to Barton Quarry was carried out in February 1995.

At the time of survey 2.8 ha of the 3.8 ha site were in agricultural use and all of this land falls in Grade 2. The soils are well drained and consist of medium-textured topsoils and subsoils to depth. The climate of the area and a slight topsoil workability limitation restrict this land to Grade 2. The remainder of the area surveyed consists of Urban land in the north, where the soils have already been removed in preparation for quarrying.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED QUARRY EXTENSION AT BARTON QUARRY, NORTH YORKSHIRE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

This site lies 2 km north of Scotch Corner, on the east side of the A1(M). Survey work was carried out in February 1995 when the soils were examined by hand auger borings at 100 m intervals predetermined by the National Grid. One soil pit was dug to allow a full profile description to be made. The 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, 74% of the site was sown to winter cereals with the remainder being Urban land adjoining the existing quarry in the north.

Site altitude varies from 110 m AOD in the centre to 114 m A.O.D. in the north-east and south-west and the land is gently sloping (around 2°) with a north-easterly or south-westerly aspect.

1.3 Climate

Grid Reference	: NZ 217 073
Altitude (m)	: 110
Accumulated Temperature above 0°C (January - June)	: 1262 day°C
Average Annual Rainfall (mm)	: 735
Climatic Grade	: 2
Field Capacity Days	: 185
Moisture Deficit (mm) Wheat	: 90
Moisture Deficit (mm) Potatoes	: 76

1.4 Geology, Soils and Drainage

The area is underlain by Carboniferous Limestone and overlain by deposits of medium-textured drift.

The soils are well drained (Wetness Class I) and typically consist of very slightly stony medium clay loam topsoils over very slightly to slightly stony medium clay loam subsoils. The soils correspond to the East Keswick 1 Association as mapped by the Soil Survey and Land Research Centre.

1.5 Soil Properties

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:- Deep medium textured soils (Unit T1/S1)
(Full Profile Description, Table 1)

This soil, formed on medium-textured drift, occurs in the centre and south-west of the site. It is characterised by being well drained with medium-textured topsoils overlying deep medium-textured subsoils.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs in the centre and south-west of the site. It is medium-textured, consisting of medium clay loam or, in places, medium silty clay loam, and very slightly stony, containing around 3% very small to medium subrounded and subangular sandstones and hard stones. This topsoil has a moderately developed medium subangular blocky structure and a median depth of 30 cm.

(ii) Subsoils

Unit S1 underlies Unit T1. It is medium-textured, consisting of medium clay loam, or less frequently, sandy clay loam. It is very slightly to slightly stony, containing 4-8%

very small to very large subangular and subrounded sandstones and very small to medium subrounded limestones. This subsoil has a moderately to strongly developed medium and coarse subangular blocky structure and a mean depth of 89 cm.

2. SOIL PROFILE DESCRIPTION

Table 1 *Deep medium-textured soil, T1/S1*

Profile Pit 1 (Near auger boring 3)

Slope	1° SW
Land Use:	Winter Cereals
Weather:	Mild and sunny after recent rain.

Depth cm	Horizon Description
0 - 27	Dark brown (10YR 3/3) medium clay loam; no mottles; very slightly stony, containing around 2% very small to medium subangular and subrounded sandstones and hard stones; moist; moderately developed medium subangular blocky structure; firm; moderately porous; many fine and very fine fibrous roots; moderately sticky; moderately plastic; non-calcareous; clear smooth boundary.
27 - 56	Brown (10YR 4/3) medium clay loam; no mottles; slightly stony, containing around 7% very small to very large subangular and subrounded sandstones and very small to medium subrounded limestones; moist; moderately developed medium and coarse subangular blocky structure; firm; slightly porous; common very fine fibrous roots; moderately sticky, moderately plastic; non-calcareous; gradual smooth boundary.

56 - 120	Greyish brown (10YR 5/2) medium clay loam; few indistinct dark yellowish brown (10YR 4/4) mottles; slightly stony, containing around 7% very small to very large subangular and subrounded sandstones and very small to medium subrounded limestones; moist; moderately to strongly developed coarse subangular blocky structure; firm; slightly porous; common very fine fibrous 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	2.8	73.7
3a		
3b		
4		
5		
(Sub total)	(2.8)	(73.7)
Urban	1.0	26.3
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(1.0)	(26.3)
TOTAL	3.8	100

3.1 Grade 2

All of the agricultural land on this site falls in Grade 2. The soils are well drained, falling in Wetness Class I, and typically consist of medium clay loam topsoils and subsoils to depth. The topsoils are very slightly stony (containing around 3% very small to medium sandstones and hard stones) while the subsoils are very slightly to slightly stony (containing 4 - 8% very small to very large sandstones). The ALC grade of this land is limited by the overall climate of the area and by a slight topsoil workability restriction.

3.2 Urban

This occurs in the north-east of the site, where the soils have already been removed prior to quarrying.

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MAPS