MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
WHITEWALL QUARRY EXTENSION
NORTON, NORTH YORKSHIRE
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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION WHITEHALL QUARRY EXTENSION, NORTON, NORTH YORKSHIRE

SUMMARY

2.9 ha of land immediately to the south of the existing Whitehall Quarry was surveyed in detail in November 1994. All the site is classified Subgrade 3a. Topsoils and subsoils are medium textured. Topsoils are very slightly stony and subsoil slightly to moderately stony. Soils are well drained and shallow (Wetness Class I) and the land is limited by droughtiness.

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The proposed quarry extension lies immediately to the south of the existing quarry workings at grid reference SE 791 692 which is about 2km south of Norton. The site was surveyed in detail in early November 1994 when soils were examined by hand auger borings at locations predetermined by the National Grid at a density of one boring per hectare. Additional borings were made to check and refine grade boundaries. Top and subsoils were sieved at each boring location and a profile pit dug to collect samples for laboratory analysis. Land quality assessments were made using the criteria 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 site was growing winter cereals. Slopes are level or gently sloping to the north west and the average altitude is 70m AOD.

1.3 Climate

Grid Reference	: SE 791 692
Altitude (m)	: 70
Accumulated Temperature above 0°C (January - June)	: 1311 day °C
Average Annual Rainfall (mm)	: 704
Climatic Grade	: 2
Field Capacity Days	: 174
Moisture Deficit (mm) Wheat	: 95
Moisture Deficit (mm) Potatoes	: 83

1.4 Geology, Soils and Drainage

Solid deposits of limestone are exposed within a metre of the surface on the Site. Drift Cover is absent. Soils are shallow and freely drained (Wetness Class I). Droughtiness however is limiting.

The Soil Survey and Land Research Centre (SSLRC) 1:250,000 scale map of the area shows the site to contain Aberford Association (SSLRC 1984).

1.5 Soil Properties

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

a) *Soil Type 1:- Medium textured soil (Unit T1/S1)*
(Full Profile Description, Table 1)

This soil formed on limestone and occurs over the whole site. It is characterised by a medium textured very slightly stony topsoil over a moderately stony subsoil. Bedrock is encountered on average at 50cm depth.

1.6 Soil Resources

(i) Topsoil

Unit T1 occurs over the whole site. It is medium textured usually a sandy clay loam and contains between 1% and 5% stones (limestones). It has a strongly developed fine subangular blocky structure and a mean depth of 25cm.

(ii) Subsoils

Unit S1. Again this unit covers the whole site. It is medium textured, either a medium clay loam or sandy clay loam. Stone content varies between 5% and 25% (limestone). The structure is strongly developed medium subangular blocky. The mean thickness of this unit is 25cm. Bedrock is found at 50cm depth.

2. SOIL PROFILE DESCRIPTIONS

Table 1 medium textured soil, T1/SI

Profile Pit 1 (Near auger boring 3)

Slope:- 1° NW
Land Use:- W Cereals
Weather:- Cloudy

Depth cm	Horizon	Description
0-26cm		Dark greyish brown (10YR 4/12) unmottled; sandy clay loam; very slightly stony (5% total stones) with small to medium limestones; moist; strongly developed fine subangular blocky; friable; many fine fibrous roots; slightly sticky; slightly plastic; calcareous; abrupt smooth boundary.
26-49cm		Reddish yellow (7.5 YR 6/6); unmottled; sandy clay loam; moderately stony (23% total stones) with small to medium limestones; moist; strongly developed medium subangular blocky; friable; common fine fibrous roots; moderately sticky; moderately plastic; 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	2.9	100
3b		
4		
5		
(Sub total)	(2.9)	(100)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(0)	(0)
TOTAL	2.9	100

3.1 Subgrade 3a

The whole site is included within this Subgrade. Top and subsoils are medium textured, typically sandy clay loam or medium clay loam. Profiles are well drained (Wetness Class I). However due to the shallowness of the soil and consequently a relatively low water holding capacity this land is limited to 3a by droughtiness.

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MAPS