



STATEMENT OF PHYSICAL CHARACTERISTICS  
AND  
AGRICULTURAL LAND CLASSIFICATION  
LONGHOUGHTON QUARRY  
EXTENSION, NORTHUMBERLAND  
JANUARY 1995

ADAS  
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## SUMMARY

A detailed Statement of Physical Characteristics and Agricultural Land Classification survey of 8.5 ha of land west of Longhoughton, Northumberland was carried out in January 1995.

Soils on the site are shallow, stony and well drained. Whin Sill bedrock occurs at about 25 cm depth.

All the agricultural land on the site is Subgrade 3b (5.1 ha). Droughtiness, soil depth and stoniness limit ALC grade.

Non Agricultural (1.5 ha) and Urban (1.9 ha) occupy land associated with the former quarry workings on the site.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED QUARRY EXTENSION AT LONGHOUGHTON, NORTHUMBERLAND

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies about 1½ km west of Longhoughton and has a centroid grid reference of NU 225 152. Survey work was carried out in January 1995 when soils were examined by hand auger borings at 100m intervals at locations predetermined by the National Grid. One soil pit was dug to assess the soil in greater detail. 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 all the agricultural land on the site was in permanent pasture. The site also contains some disused quarry workings which were covered with gorse in places. Altitude ranges from 110m in the west to 100m in the north. Slopes are level to strongly sloping with variable aspect.

1.3 Climate

Grid Reference	: NU 225 152
Altitude (m)	: 105
Accumulated Temperature above 0°C (January - June)	: 1220 day °C
Average Annual Rainfall (mm)	: 704
Climatic Grade	: 2
Field Capacity Days	: 180
Moisture Deficit (mm) Wheat	: 84
Moisture Deficit (mm) Potatoes	: 67

#### 1.4 Geology, Soils and Drainage

Soils are all developed from weathering solid strata - the Whin Sill igneous intrusion which outcrops close to the surface on the site . Drift cover is absent.

Soils are shallow and moderately stony, typically a silt loam or medium silty clay loam over bedrock at about 25cm depth. Profiles are well drained, Wetness Class I.

#### 1.5 Soil Properties

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

- a) Soil Type 1:- Medium textured soils (Unit T1)  
(Full Profile Description, Table 1)

This shallow, stony soil occurs on all the agricultural land on this site. It is characterised by a medium textured moderately stony topsoil with a strongly developed structure. Bedrock outcrops at about 25cm depth. There is no subsoil.

The land associated with the old quarry workings contains a few soil mounds where soil appears to have been moved prior to quarry workings, but generally has no soil resources.

#### 1.6 Soil Resources

- (i) Topsoil

Unit T1 covers all the agricultural land. It is medium textured - medium silty clay loam or silt loam and moderately stony - typically 30% volume of hard stones. It has a strongly developed fine subangular blocky structure. Median unit thickness is 25cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1 Medium textured soil, T1

Profile Pit 1 (Near auger boring 6)

Slope:- 1° E  
Land Use:- Permanent Grass  
Weather:- Cool, sunny

Depth cm	Horizon Description
0-25	Dark reddish brown (5YR 3/2) silt loam, unmottled; 30% angular and subangular small to large hard stones; moist; strongly developed fine subangular blocky; very friable; slightly sticky; slightly plastic; moderately porous; abundant fine fibrous roots; non calcareous; abrupt smooth boundary
25+	Bedrock

### 3. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2		
3a		
3b	5.1	60
4		
5		
(Sub total)	(5.1)	(60)
Urban	1.9	22
Non Agricultural	1.5	18
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(3.4)	(40)
<b>TOTAL</b>	<u>8.5</u>	<u>100</u>

3.1 Subgrade 3b

All the agricultural land is Subgrade 3b. Soils are well drained (Wetness Class I) but stony, droughty and shallow. Soil depth, topsoil stone content and droughtiness limit this land to Subgrade 3b.

3.2 Non Agricultural

This includes the area of land associated with the former quarry, now covered with gorse.

3.3 Urban

This includes the former quarry.

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MAPS