STATEMENT OF PHYSICAL CHARACTERISTICS
AND
AGRICULTURAL LAND CLASSIFICATION
HALTWHISTLE (PLENMELLER)
PROPOSED EXTENSION TO SAND AND GRAVEL QUARRY
APRIL 1993

ADAS
Leeds Statutory Group

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SUMMARY

A Physical Characteristics and Agricultural Land Classification survey of 17.8 ha of land at Plenmeller was carried out in April 1993.

16.5 of this was in agricultural use, all of which falls within Subgrade 3b. Soil profiles are well drained falling in Wetness Class I. Topsoils and subsoils are light textured, typically of medium sandy loam or loamy medium sand and are moderately stony. Topsoil stoniness is the main limitation on ALC grade.

The remainder of the site is occupied by a small area (1.3 ha) of farm woodland.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED EXTENSION TO THE SAND AND GRAVEL QUARRY AT PLENMELLER, HALTWHISTLE, NORTHUMBERLAND

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site is located approximately 2 km south east of Haltwhistle, between the River South Tyne and Unthank Road, around National Grid Reference NY721635. Survey work was carried out in April 1993 when soils were examined by hand auger borings at 100 m intervals predetermined by the National Grid. One soil pit was dug to assess soil structure and to facilitate sampling for laboratory analysis. Topsoil content was assessed by sieving samples from three points across the site. One sample of topsoil stones was also analysed in the laboratory to evaluate stone volume by displacement. Land quality was assessed using methods described in "Agricultural Land Classification of England and Wales" (MAFF 1988).

1.2 Land Use and Relief

At the time of the survey, 92.7% of the site was in agricultural use as permanent pasture for sheep and dairy cows. The remainder consisted of a small area of farm woodland in the south-east of the site.

Site altitude varies from approximately 110 m to 120 m AOD. Surface micro relief is complex, with several shallow depressions (up to approximately 3 m depth) running across the site.

1.3 Climate

Grid Reference	: NY721635
Altitude	: 115 m
Accumulated Temperature above 0°C (January - June)	: 1249 day °C
Average Annual Rainfall (mm)	: 924
Climatic Grade	: 2
Field Capacity Days	: 230
Moisture Deficit (mm) Wheat	: 66
Moisture Deficit (mm) Potatoes	: 45

1.4 Geology, Soils and Drainage

The area is underlain by Carboniferous Upper Limestone Group deposits which are covered by stony fluvioglacial sands and gravels. Soil profiles are well drained, falling within Wetness Class I. Topsoils and subsoils are moderately stony and generally light textured, typically of medium sandy loam or loamy medium sand.

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:- Light textured moderately stony soils (Unit T1/S1)
(Full Profile Description, Table 1)

This soil formed on fluvioglacial sands and gravels occurs over the whole of the site.. It is characterised by moderately stony, light textured topsoils and subsoils.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs over the whole site. It is light textured (typically medium sandy loam) and moderately stony. Stone contents are variable, ranging up to approximately 30% small to large rounded and subrounded hardstones, but are more typically about 22%. This unit has a moderately developed medium to coarse subangular blocky structure. Median thickness is 35 cm.

(ii) Subsoils

Unit S1 covers the whole site. It is light textured consisting of moderately stony medium sandy loam or loamy medium sand. Stone content is variable, typically around 16 - 20% small to large rounded and subrounded hardstones. Mean thickness is 85 cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1 light textured moderately stony soil, T1/S1.

Profile Pit ! (Near Auger boring 14).

Slope:- 3° North
Land Use:- Permanent pasture
Weather:- Mild and overcast.

Depth cm	Horizon Description
0 - 20	Brown (7.5YR412) medium sandy loam; no mottles; moderately stony (30% small to medium rounded and subrounded hardstones); moderately developed medium to course subangular blocky structure; friable; moist porous; slightly sticky; slightly plastic; many fine fibrous roots; non-calcareous; smooth clear boundary.
20 - 100	Brown (7.5YR414) medium sandy loam; no mottles; moderately stony; (20% small to large rounded and sub-rounded hardstones); moderately developed coarse granular to fine subangular blocky structure; friable; moist; porous; moderately sticky; moderately plastic; common fine and very fine fibrous roots; non-calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

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

Grade/Subgrade	Hectare	Percentage of Total Area
1		
2		
3a		
3b	16.5	92.7
4		
5		
(Subtotal)	(16.5)	(92.7)
Urban		
Non Agricultural		
Woodland - Farm	1.3	7.3
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Subtotal)	(1.3)	(7.3)
TOTAL	17.8	100

3.1 Subgrade 3b

All agricultural land on the site falls within Subgrade 3b. Profiles are well drained, falling within Wetness Class I. Topsoils and subsoils are light textured, typically medium sandy loam topsoils over loamy medium sand subsoils and are moderately stony (approximately 18- 20% stones > 2 cm diameter). Topsoil stoniness is the main limitation on ALC grade.

3.2 Farm Woodland

This occurs on a small knoll in the south-east of the site.

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MAPS